



**US Army Corps
of Engineers**
Mobile District

Prepared for
US Army Corps of Engineers
Mobile District
Mobile, Alabama

Prepared by
Tetra Tech, Inc.
November 2003



Final

Environmental Impact Statement for the Operation and Maintenance of

Lake Sidney Lanier, Georgia

Final Environmental Impact Statement For the Operation and Maintenance of Lake Sidney Lanier, Georgia

Prepared for:

US Army Corps of Engineers
Mobile District
Mobile, Alabama

Prepared by:

Tetra Tech, Inc.
November 2003

***FINAL
ENVIRONMENTAL IMPACT STATEMENT***

Lead Agency: Mobile District, U.S. Army Corps of Engineers

Title: Final Environmental Impact Statement (DEIS) for the Operation and Maintenance of Lake Sidney Lanier, Georgia

Designation: Final EIS

Proposed Action: Implement modifications to operation and maintenance activities at Lake Lanier, Georgia, including modifications to the Shoreline Management Plan

Affected Jurisdiction: Lake Sidney Lanier, Georgia, and the counties that affect the lake's watershed: Dawson, Forsyth, Lumpkin, Hall, and Gwinnett.

Point of Contact: Mr. Glen Coffee, Environment and Resources Branch, P.O. Box 2288, Mobile, Alabama 36628-0001; telephone 251-690-2729, E-mail: glendon.l.coffee@sam.usace.army.mil

Abstract: The purpose of this Final EIS is to analyze the potential environmental and socioeconomic effects of the U.S. Army Corps of Engineers (USACE) proposal to continue the ongoing operation and maintenance activities necessary for recreation, natural resources management, and shoreline management, and to implement specific improvements in these operation and maintenance programs to better manage the project on a sustainable basis. These activities will be performed within the context of operations to satisfy the flood control, hydropower generation, and navigation purposes of the Buford Dam project. The purpose of the proposed action is to accomplish congressionally authorized project purposes while balancing permitted private uses; community, social, and economic needs; and sound environmental stewardship. The proposed action reflects two levels of activity: (1) the minimal measures necessary for operation and maintenance of Lake Lanier to meet current USACE standards, and (2) proposed program improvements, which include a large array of actions designed to enhance the environmental quality of the project and to provide for the long-term use and environmental sustainability of project resources.

Review Comment Deadline: Comments must be received by December 23, 2003.

EXECUTIVE SUMMARY

INTRODUCTION

The US Army Corps of Engineers (USACE, Corps), Mobile District, manages the water and land areas at Lake Sidney Lanier (known as “Lake Lanier”) to ensure compliance with the specific Congressionally authorized purposes of hydropower generation, navigation, and flood control, and to fulfill additional purposes that arise from general statutory authority, including water supply, fish and wildlife management, and recreation. The proposed action for this Environmental Impact Statement (EIS) is the continued implementation of the ongoing operation and maintenance activities necessary for flood control, hydropower generation, recreation, natural resources management, and shoreline management, as well as the modification of specific operation and maintenance programs that are necessary to manage the Lake Lanier Project on a sustainable basis. The purpose of the proposed action is to accomplish Congressionally authorized project purposes in balance with permitted private uses; community, social, and economic needs; and sound environmental stewardship.

The need for the proposed action is to comply with the policy, set forth in Title 36 of the Code of Federal Regulations (CFR), Part 327, that natural, cultural, and developed resources of projects are to be managed in the public interest, providing the public with safe and healthful recreational opportunities while protecting and enhancing resources. A second need for the action lies in the challenge to protect and enhance resources, which is posed by the project’s exceptional popularity as a residential and recreational venue. Development along the periphery of the lake and the annual volume of recreation have increased steadily since the project was completed in 1956. Current levels of public use stress environmental resources, degrade water quality, cause erosion and siltation, and diminish aesthetic qualities. The proposed action is needed to maintain the quality of the project’s resources in the future as the increasing land use changes, recreational demands, and water supply needs pose challenges to the management of the lake.

The USACE, specifically the Lake Lanier Project Management Office (PMO), is responsible for evaluating the operation and maintenance activities for Lake Lanier. The objective of this EIS is to update and expand upon the project actions outlined in the original EIS prepared in 1974, and to update the environmental, social, and economic changes that have occurred in the project’s environmental setting. The evaluation of project actions includes the entire range of project operation and maintenance activities for the lake and government-owned lands surrounding the

lake, within the framework of the varying lake levels that could result from any future alternative operational plan.

The EIS explains projected conditions under which the lake will continue to be operated and maintained into the reasonably foreseeable future. All project activities performed at the lake are considered in the impact evaluations. In addition, the results of specific investigations conducted to lay the foundation for updating Lake Lanier's Shoreline Management Plan (SMP) are considered in this EIS so that this document can serve the NEPA document needs for the SMP.

On April 24, 2001, the USACE published in the *Federal Register* a Notice of Intent to prepare a Draft EIS to address the full range of activities performed to operate and maintain Lake Lanier.¹ Through the Lake Lanier PMO, the USACE solicited the observations and advice of numerous state and local agencies, regional and local interest groups, and individuals to identify issues of concern regarding preservation and protection of the lake's resources. The USACE conducted a public scoping meeting to solicit input from interested agencies and the public regarding the range of issues and reasonable alternatives that should be considered in the EIS. In addition, the USACE hosted four focus groups to obtain the views of stakeholders with readily identifiable interests in the condition of the lake (lake area residents, August 17, 2001; recreational users, August 20, 2001; business owners and operators, August 21, 2001; and environmental organizations, August 22, 2001). The USACE also solicited comments by e-mail through its Web site at <http://www.usacelakelaniereis.net>.

SETTING

The Lake Lanier Project was authorized by the Rivers and Harbors Act of July 24, 1946. The multiple-purpose water resources development project is operated by and under the jurisdiction of the USACE.

Buford Dam is at river mile 348.3 on the Chattahoochee River in Gwinnett and Forsyth Counties, Georgia, about 35 miles northeast of Atlanta and 4.5 miles northwest of the town of Buford, Georgia. Lake Lanier extends up the Chattahoochee and Chestatee Rivers and lies within Gwinnett, Forsyth, Hall, Dawson, and Lumpkin Counties. The dam controls an area of 1,040 square miles on the southern slope of the Blue Ridge Mountains.

¹ *Fed. Reg.* 66(79): 20639, April 24, 2001.

Located in the upper reaches of the Piedmont Plateau, Lake Lanier covers 47,182 acres at an elevation of 1,085 feet above mean sea level (msl) (maximum storage capacity), providing for storage of 2,554,000 acre-feet of water.² At full conservation pool (normal level, 1,071 feet msl), the lake covers 39,038 acres, has a perimeter shoreline of 693 miles, and provides for storage of 1,957,000 acre-feet of water. During drought periods, the lake may be as low as 1,035 feet msl and cover 22,442 acres, with a for storage of 867,600 acre-feet of water that is capable of releasing enough water to maintain minimum river flow downstream. Of the project's 17,744 acres above full power pool, 2,360 acres are open and the remainder is forested by pines, oaks, hickories, elm, sweet bay, ash, sycamore, persimmon, dogwood, and other trees.

As measured by recreational visitor counts, Lake Lanier is one of the Corps of Engineers' most popular water resources development projects. It lies within reasonable driving distance of Atlanta, a city that has grown substantially in the past few decades. Residential development and commercial growth at the project's periphery have been equally substantial.

ALTERNATIVES

The Corps has identified as principal alternatives³ for detailed analysis the No Action Alternative and the Preferred Alternative. Both focus management actions on shoreline management activities, recreation, fish and wildlife, timber management, real estate, and water quality within the context of the larger water management scenarios that are conducted to accomplish the hydropower generation, navigation, and water supply project purposes of Lake Lanier. The development of selected management activities embedded in these two principal alternatives for the maintenance of Lake Lanier involved a screening analysis of resource-specific management alternatives. The screening analysis involved the use of accepted standards, guidelines, and policies (e.g., USDA/NRCS *National Soils Handbook*; USEPA *Lake and Reservoir Restoration Guidance*; USEPA *Protecting Natural Wetlands*; *A Guide to Stormwater Best Management Practices*), when available, as well as best professional judgment, to identify management practices for achieving Lake Lanier's management objectives. The outcome of the screening analysis led to the development of the proposed action (Preferred Alternative). Obviously, an infinite number of permutations of specific management activities, and hence of additional alternatives, are possible. Consistent with the intent of NEPA, this process focused on

² An acre-foot is the volume of a liquid (water) covering 1 acre to a depth of 1 foot, or approximately 326,000 gallons.

³ The term *principal alternatives* as used to identify the alternatives selected for detailed analysis in this EIS includes the two "shoreline use permitting" alternatives identified in Section 2.3.1.

considering a reasonable range of resource-specific management alternatives and using those alternatives to develop a plan that could be implemented in the foreseeable future. It then dropped from detailed analysis management alternatives deemed to be infeasible. Programmatic operation and management alternatives that were considered during the screening process but not analyzed in detail are described in the EIS. Application of the screening process in developing the proposed action (adoption of the management activities contained in the Preferred Alternative) eliminated the need to define and evaluate hypothetical alternatives that could not, or would not, be implemented. As a result, the EIS formally addresses the two principal alternatives, the Preferred Alternative and the No Action Alternative.

Alternative 1: No Action Alternative. The No Action Alternative serves as a baseline against which the impacts of the proposed action can be evaluated. Council on Environmental Quality (CEQ) regulations prescribe inclusion of the No Action Alternative. Under this alternative, the Mobile District would make no changes in its existing operation and maintenance activities at Lake Lanier and would not update the existing SMP. No new management actions would be adopted, and no existing management activities would be modified. Shoreline allocations, actions on shoreline use permit applications, and administration of permits would continue as at present, including continued noncompliance with Engineer Regulation (ER) 1130-2-406. The total number of additional private boat docks that could be permitted under this alternative is 16,734, for an eventual total of 25,327 docks. Activities under the Lake Lanier Master Plan that guides orderly development of project resources in accordance with established laws, regulations, and policies and the Operational Management Plan that outlines the operation and maintenance of Lake Lanier would continue unchanged. The No Action Alternative is evaluated in detail in this EIS.

Alternative 2: Preferred Alternative. The Preferred Alternative (the proposed action) reflects two levels of activity: (1) the minimal measures necessary for operation and maintenance of Lake Lanier to meet current USACE standards and (2) proposed program improvements, which include a large array of actions designed to enhance the environmental qualities of the project and to provide for long-term use and environmental sustainability of project resources. The proposed improvements to current ongoing operation and maintenance programs are summarized in Table ES-1.

**Table ES-1
Proposed Program Improvements to Operation and Management Activities at Lake Lanier**

Operation and Maintenance Category	Proposed Program Improvements
<i>Environmental Resources</i>	
Fisheries and Wildlife	Coordinating with Georgia DNR to establish a proactive deer management program. The program should include periodic harvesting using discreet methods (e.g., bowhunting) to reduce competition and improve the condition of the herd.
Shoreline Management	<p>Vegetation</p> <p>Maintaining a vegetative (forested) shoreline buffer consisting of native woody shrubs and trees (understory and overstory) along all shoreline allocation zones, excluding Prohibited Areas. Limited underbrushing may be authorized in conjunction with Shoreline Use Permit/Licenses.</p> <p>Improving shoreline vegetation through additional planting of native species.</p> <p>Allowing for the revocation of Shoreline Use Permits (private boat dock permits) for major violations of the permit conditions, including destruction of public property and removal of vegetation.</p> <p>Approving or renewing Specified Acts Permits when work is for the purpose of wildlife habitat enhancement or forest stand improvement. All work plans are required to be supported by written landscape proposals that detail species selection and placement.</p> <p>Requiring all open areas where grass mowing has not been previously authorized under the existing Shoreline Use Permits to be restored naturally, revegetated by the permittee or at the Corps's discretion.</p> <p>Because grass does not provide a diverse quality vegetative buffer, it is project policy to restore grassed mowing areas to a more natural state when not maintained. When permitted areas are not maintained and woody vegetation has reestablished itself, this portion of the permit will not be renewed. During changes of ownerships minimization of permitted mowed areas will be encouraged to help protect the lake's water quality, aesthetics, and wildlife habitat.</p> <p>Allocating budget resources to provide for vigorous enforcement of prohibitions against unauthorized removal of vegetation.</p> <p>Private Boat Docks</p> <p>Implementing new Shoreline Use Permitting Policy. Policy changes include:</p> <ul style="list-style-type: none"> • 50 percent utilization of LDAs per ER 1130-2-406. • Total additional private boat docks = 2,022. • Potential total private boat docks = 10,615. <p>Requiring that the adjacent private property for which a new boat dock is proposed must have a minimum of 82 feet of private land adjoining public property (50-foot buffer between docks plus maximum allowable dock width of 32 feet) and provide not less than a 6-foot depth at the end of the dock at elevation 1,071 feet msl. This is to ensure that there is sufficient space and frontage for the placement of docks.</p> <p>Requiring the use of community docks in all new residential developments. Requests that do not meet the guidance described in Section 15.1, Eligibility Requirements of the SMP, can be further evaluated based on their environmental benefits and public interest. If site conditions prohibit the use of community dock, the Operations Manager may permit a variance for the use of private individual docks.</p> <p>Allowing communities that install courtesy docks rather than private docks to build a private ramp within the community for ready access by residents.</p>

**Table ES-1
Proposed Program Improvements to Operation and Management Activities at Lake Lanier**

Operation and Maintenance Category	Proposed Program Improvements
	<p>Encouraging existing private dock permittees to convert to community docks followed by rezoning of the shoreline from LDA to Protected Area.</p> <p>Implementing vigorous inspection and enforcement of private and community boat dock maintenance standards.</p>
Shoreline Management (continued)	<p>Providing that Shoreline Use Permits for private or community boat docks are ineligible for renewal (for a period of 1 year) in the event corrective actions are not taken effectively or in a timely manner.</p> <p>Boat Dock Usage</p> <p>Requiring that the length of a vessel allowed at a private dock will be determined by the length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the docks ability to safely moor and protect from storm damage must be stored in marina facilities.</p> <p>Requiring the mooring of boats in boat slips and prohibiting the mooring of boats to other boats.</p> <p>Prohibiting the use of boat slips to accommodate boats or personal watercraft (e.g., Jet Skis, Wave Runners) having mufflers above the water line. State law stipulates that mufflers must be at, or below, the waterline.</p>
Island Management	<p>Encouraging day uses (e.g., fishing, sunbathing, wading, hiking, swimming, birdwatching, and picnicking).</p> <p>Establishing the islands as wildlife conservation areas through vegetation, timber stand, habitat and wildlife management activities.</p> <p>Explore the establishment of archery deer hunting to control over abundant deer populations on the islands.</p> <p>Establishing an Adopt-An-Island program, or something similar, as a source of volunteer labor and/or funding for shoreline protection and stabilization activities. Islands that become highly eroded have the potential to become navigation and safety concerns.</p>
Nonnative Plant Management	<p>Developing programs to provide better control of invasive and noxious species (e.g., kudzu, English ivy, and poison ivy) by encouraging adjacent owners', partners', and volunteers' efforts and providing educational and outreach programs to inform the public about desirable and undesirable plant species.</p>
Fire Management	<p align="center">Continue ongoing operations—no improvements necessary.</p>
Erosion Management	<p>Requiring that permittees requesting fixed structures on the shoreline, such as steps, install shoreline stabilization measures when renewing or applying for a new Shoreline Use Permit or USACE outgrant. This measure is necessary to protect such structures from becoming unsafe due to erosion.</p> <p>Allowing applicants for real estate outgrants to mitigate effects of their use of the shoreline by constructing erosion control measures at locations other than the sites impacted by the outgrants.</p>
Water Quality	<p>Requiring permittees during renewal and change of owner inspections of authorized facilities to identify the location of septic system that are located on public property above elevation 1,085 feet msl. If present the property owner must provide certification from the county health department that the system is functioning properly. County Health Department officials can provide this certification upon request. In addition, all septic tanks below 1,085 feet msl on public property will be removed.</p>
Endangered Species	<p align="center">Continue ongoing operations—no improvements necessary.</p>
Wetlands	<p align="center">Continue ongoing operations—no improvements necessary.</p>

**Table ES-1
Proposed Program Improvements to Operation and Management Activities at Lake Lanier**

Operation and Maintenance Category	Proposed Program Improvements
Sections 10/404 Permitting	<p>Regional Permits for Shoreline Protection Discontinuing the use of sea walls or bulkheads and authorizing riprap, or biostabilization only. Maintenance costs for seawalls/bulkheads can become too high for individual homeowners to assume. As a result many seawalls and bulkheads installed by homeowners have failed.</p> <hr/> <p>Allowing sea walls or bulkheads only in locations where private property falls below the 1,071-foot msl elevation.</p> <hr/> <p>Requesting the revision of regional authority to allow an increase in the linear foot distance of shoreline protection. This approach would increase the length of shoreline that is protected from further erosion.</p> <hr/> <p>Dredging A silt removal plan will be required from the permittee and must include a cross-section with dimensions illustrating current and final slope, as well as quantity of silt and depths after work is complete. The plan must describe the method in which excavated material is to be removed and the location where the silt will be relocated. However, the removal of hardpan or creating significant negative impacts on public property will not be allowed. Requests for dredging will be reviewed on an individual basis and approved if the public interest is protected.</p> <hr/> <p>Requesting the revision of regional authority to allow an increase in the cubic yardage of silt removal to a total of 2,500 cubic yards of silt per permit. Currently, a person may be eligible to receive three permits for the removal of 500 cubic yards of silt per permit, or a total of 1,500 cubic yards.</p>
Forest Management	Continue ongoing operations—no improvements necessary.
Pollution Abatement	Prior to Shoreline Use Permit renewal, owners will be encouraged to replace beaded Styrofoam with encapsulated flotation materials for continued use of the boat dock.
NEPA	Continue ongoing operations—no improvements necessary.
Cultural and Historic Resources	Continue ongoing operations—no improvements necessary.
Recreation	
Campground Operations	Converting campground sites to day use sites in the southern portion of the lake and developing new campground sites in the northern portion of the lake. Relocated and/or renovated camping sites will be provided in existing recreational areas. Planning for these will be pursued as funding permits.
Environmental Education	Establishing an Environmental Education Center to facilitate educational, environmental, watchable wildlife, and public outreach initiatives.
Partnerships	Continue ongoing operations—no improvements necessary.
Dam Safety	Continue ongoing operations—no improvements necessary.
Day Use Park Operations	<p>Expanding boat ramp parking capacity 1,698, which is the maximum allowed by the 1987 Master Plan.</p> <hr/> <p>Leasing recreational areas where public use is low. Although all recreational areas could be considered for outgranting, sites most likely to be leased in the near term are listed in Table 2-9.</p> <hr/> <p>Modernizing of recreational sites that have substantial investments in infrastructure (e.g., waterborne toilets, showers, boat ramps, picnic facilities, playgrounds).</p>

**Table ES-1
Proposed Program Improvements to Operation and Management Activities at Lake Lanier**

Operation and Maintenance Category	Proposed Program Improvements
Day Use Park Operations (continued)	Increasing the number of locations and facilities suitable for bank fishing to accommodate the many recreational users that do not have access to boats.
	Giving preference to funding the development of the northern portion of the lake (above Brown's Bridge) and shifting emphasis from boating-related activities and facilities (e.g., ramps) to lake-related activities (e.g., swimming, use of beaches) and facilities (campgrounds, picnic areas, and beaches). The goal is to decrease the intensity of use, crowding, and associated impacts in the southern portion of the lake.
	Establishing additional boat launch facilities in the northern portion of the lake, but only to offset the number of launch facilities that are expected to be closed in the southern parts of the lake. The overall objective is to maintain, but not exceed, the maximum number of parking spaces at boat ramps (1,698) described in the Master Plan.
	Establishing sites in the northern portion of the lake to be used exclusively for bank fishing.
	Establishing a take-out site at Belton Bridge Park for passive recreation (e.g., rafting, kayaking, canoeing).
	Establishing additional foot trails in forested areas and on the points of Protected Areas for expanding nonconsumptive uses such as the watchable wildlife program.
	Evaluating the potential for building a hardened bike trail without increasing adverse collateral impacts.
Emergency Management	Continue ongoing operations—no improvements necessary.
Security	Continue ongoing operations—no improvements necessary.
Sign Program	Continue ongoing operations—no improvements necessary.
Navigation Aids	Continue ongoing operations—no improvements necessary.
Water Safety	Continue ongoing operations—no improvements necessary.
Watchable Wildlife	Continue ongoing operations—no improvements necessary.
Recycling	Continue ongoing operations—no improvements necessary.
Special Events	Closing the Clark's Bridge area to boat traffic on an as-needed basis to accommodate major rowing events, such as regional or national competitions, sponsored by the Olympic Rowing Center.
Spill Prevention, Control, and Countermeasures Plan	Continue ongoing operations—no improvements necessary.
Planning	
Landscape Architecture	Continue ongoing operations—no improvements necessary.
Management	
Special Interest Groups	Continue ongoing operations—no improvements necessary.
Real Estate Activities	
Boundary Management	Continue ongoing operations—no improvements necessary.
Outgrants	Allowing commercial marinas to continue operations in accordance with their approved Master Plans.

**Table ES-1
Proposed Program Improvements to Operation and Management Activities at Lake Lanier**

Operation and Maintenance Category	Proposed Program Improvements
	Pursuing the development of a facility to supply marina services (e.g., fuel, supplies, slips, restaurant, etc.) to meet users needs on the Chestatee River.
	Allowing applicants for real estate outgrants to mitigate effects of their use of the shoreline by constructing mitigation measures at locations other than the sites impacted by the outgrants.

The current operation and management activities and the proposed improvements reflect public and agency input, as well as the best professional judgment of the Corps Project Management Office at Lake Lanier based on extensive operational experience. Taken together, the activities that constitute the proposed action attempt to achieve a balance between serving present needs and preserving and protecting Lake Lanier's resources for future generations. The sustainability of Lake Lanier rests on well-informed management actions. Given the extent of management activities that fall under operation and management at Lake Lanier, an infinite number of permutations of specific management alternatives are possible. The development of these improvements considered a reasonable range of individual management alternatives for each group of management activities (recreation, natural resources, and the like), and an overall plan was developed from the individual resource management scenarios.

One of the proposed program improvements included in the Preferred Alternative is a change in the shoreline use permitting policy that reflects the tremendous growth of these permits and the demands this has placed on the resources and facilities of Lake Lanier. As a result of the *Private Boat Dock Carrying Capacity Study*, the Corps has elected to include *Scenario 2: Average Dock Spacing, 50 Percent Dock Installation Density, Complete Compliance with ER 1130-2-406* as part of the Preferred Alternative. The total number of additional private boat docks that could be permitted under this scenario is 2,022, for a potential total of 10,615. It includes reducing the number of additional docks based on the number of excess docks currently located in overdeveloped Limited Developed Areas (LDAs). Therefore, this is the only scenario that fully complies with the provisions of ER 1130-2-406.

CONCLUSIONS

Direct, indirect, and cumulative environmental and socioeconomic effects that would likely occur upon implementation of the two alternatives were analyzed. Cumulative effects were analyzed

taking into account past, present, and reasonably foreseeable future actions in the Lake Lanier area. A summary of the environmental and socioeconomic effects is presented below and in Table ES-2 and Table ES-3.

No Action Alternative. The No Action Alternative would lead to a significant, long-term, direct adverse effect on the aesthetics of the lake. Continuing to implement the current private boat dock permitting policy would allow the addition of 16,734 private boat docks to the lake along LDAs, which would result in the lake having a total of 25,327 private boat docks along its shoreline. That would equate to one private dock for every 74 feet of LDA shoreline. Such a dramatic change in boat dock density would reduce public safety at the lake by limiting the space available for navigation in many coves and along many stretches of shoreline. It would also reduce the potential for other lake users to recreate on project lands located above the lake level. Based on comments received from the Scoping Meeting for the EIS, permitting such a high density of private docks would also be controversial among nearby residents, recreational users of the lake, and environmental organizations.

Other aspects of the No Action Alternative would lead to reduced shoreline vegetation, more shoreline erosion, decreased wildlife habitat along the mainland and island shorelines, increased number of boats stored on the lake at private boat docks, and water pollution problems. Over the 20-year period between baseline conditions (2000) and 2020 (the period considered in the EIS), an increase in demand for facilities and visitation to the lake would lead to greater boater and visitor density in the southern part of the lake. The Corps would respond to these changes under the No Action Alternative by developing more recreational facilities in the southern part of the lake, which would result in more boating traffic on that part of the lake.

Under the No Action Alternative, minor additional demands would be placed on infrastructure resources—landfill capacity; road infrastructure; potable water supplies; wastewater treatment capabilities; storm drainage; solid waste disposal facilities; and police, fire, and rescue services—but these effects would generally be dwarfed in comparison to the demands placed on these

**Table ES-2
Summary of Environmental and Socioeconomic Effects**

Resource Area	Effects Under the No Action Alternative	Effects Under the Preferred Alternative
Lake Lanier Watershed	Minor degradation of water quality due to sedimentation, bacteria, and petroleum compounds.	Some improvement to water quality due to reduced sedimentation, less bacterial pollution, and less Styrofoam from dock floatation.
Groundwater	No effects.	Minor improvements due to the required vegetative shoreline buffer and better public maintenance practices for septic systems.
Land Use, Land Cover, and Land Use Controls	Degradation of vegetative cover and habitats along the shoreline and on the islands.	More dense vegetative cover on shorelines, and ecological improvements to island habitats.
Infrastructure	Minor increased demand for utilities and infrastructure.	Minor increased demand for utilities and infrastructure.
Socioeconomics	Minor stimulation of the local economy.	Negligible effects.
Visual and Aesthetic Resources	Significant deterioration in the aesthetic quality of the lake's shoreline due to private docks.	Significant preservation of the lake's aesthetic quality due to limiting the number of private boat docks on the lake's shoreline.
Recreation and Recreational Facilities	Increased crowding at recreation facilities on the southern lake and increased boating density on the southern lake.	Redistribution of lake use and recreational facilities across the lake and more opportunities for all types of recreational activities.
Geology and Soils	Minor increases in shoreline and soil erosion.	Reduced shoreline erosion and sediment in the lake.
Ecological Systems	Reduced vegetation and wildlife habitat along the shoreline and on the islands, more exotic and nuisance plant species.	Improved island and mainland vegetative cover, healthier and more diverse wildlife populations, more native vegetation and less nuisance plants.
Cultural Resources	Minor losses of cultural and historic resources on Corps property.	Reduced likelihood of disturbance of cultural and historic resources on Corps property.
Air Quality	Minor, localized increases in air pollution from boats and automobiles.	Reduced likelihood of localized increases in automobile and boat emissions.
Hazardous and Toxic Substances	Negligible increases in gas and oil spills in parking lots and from boats.	Minor increases in gas and oil spills in parking lots and from boats.
Noise	Potentially more noise from boats in the southern part of the lake and reaching shoreline residents.	Reduction in noise to shoreline residents due to more vegetation and no increase in noise from boats.

**Table ES-3.
Alternatives Impacts Comparison Analysis**

Resource Areas	No Action Alternative		Preferred Alternative	
	Direct Effects	Indirect Effects	Direct Effects	Indirect Effects
Lake Lanier Water Resources		○		○
Land Use, Land Cover, & Land Use Controls	⊖	⊖	⊖	⊖
Infrastructure		⊖		⊖
Socioeconomics	⊖	⊖	⊖	⊖
Visual and Aesthetic Resources	⊖		⊕	
Recreation & Recreational Facilities	⊖	⊕	⊕	
Geology & Soils		⊖		⊖
Ecological Systems	⊖	⊖	⊖	⊕
Cultural Resources	⊖	⊖	⊖	⊖
Air Quality		⊖		⊖
Hazardous and Toxic Substances & Pollution		⊖		⊕
Noise		⊖	⊕	⊕

Impacts Legend

-  Long-term Effect
-  Minor to Negligible Effect
-  Beneficial Effect
-  Short-term Effect
-  Major to Moderate Effect
-  Adverse Effect
-  Significant Effect

Examples:

-  Long-term negligible/minor adverse effects
-  Short- and long-term major/moderate adverse effects
-  Short- and long-term moderate/major adverse & long-term significant beneficial effects
-  No effects

resources by normal growth and development within the greater Atlanta area. The region's economy would not be affected by the No Action Alternative unless the lake level dropped to a level at which the Corps would suspend issuing permits for boat docks or visitation at the lake was affected, but these economic effects would be small in the context of the regional economy.

The No Action Alternative would have only minor effects on the resource areas of air quality, cultural resources, noise, and hazardous and toxic substances. Table ES-2 and Table ES-3 present a summary of the environmental and socioeconomic consequences of the No Action Alternative for each resource area. No violations of federal, state, and local laws would be expected to occur if the No Action Alternative was implemented.

Preferred Alternative. Adopting the Preferred Alternative would have a significant, long-term, direct beneficial effect on the lake. The lake would have 14,712 fewer docks along LDAs under the Preferred Alternative than it would under the No Action Alternative. The total of 10,615 private docks that could be permitted on the lake under the Preferred Alternative would increase the number of docks by only 2,022 more than the lake had in 2000. Whereas, under the No Action Alternative the lake would have an equivalent density of a dock every 74 feet of LDA shoreline, under the Preferred Alternative LDAs would have an equivalent density of a dock every 176 feet. In addition to the aesthetic benefits of a less cluttered shoreline, fewer docks would allow for better navigation in coves and along the shoreline, better public safety, and greater public access to the shoreline.

The Preferred Alternative is a response by the Corps to the significantly changed environment around Lake Lanier. Explosive growth has occurred in the Greater Metropolitan Atlanta region, and Lake Lanier managers see a need to improve the management of the lake to respond to this growth and the pressure it creates on the lake's resources. The Preferred Alternative includes improvements to the Corps's operation and management program that would protect vegetative communities and wildlife habitats along the lake's shoreline, reduce the amount of Styrofoam and boat dock debris on the shoreline, decrease shoreline erosion, and maintain and enhance island habitats for wildlife and recreational enjoyment. Project staff would modernize the heavily used recreational facilities on the lake and create additional recreational facilities to encourage redistribution of boating and recreational pressure from the southern part of the lake to the northern part. This redistribution could reduce boating density and crowding at recreational facilities in the southern portion of the lake.

The impacts on infrastructure, air quality, cultural resources, noise, and hazardous and toxic pollution under the Preferred Alternative would be minimal. Table ES-2 and Table ES-3 present a summary of the environmental and socioeconomic consequences of the Preferred Alternative for each resource area. No violations of federal, state, or local laws would be expected to occur if the Preferred Alternative was implemented.

ISSUES TO BE RESOLVED

No issues related to the proposed action remain unresolved.

CONTENTS

EXECUTIVE SUMMARY	ES-1
SECTION 1.0: PURPOSE AND NEED	1-1
1.1 Introduction.....	1-1
1.2 USACE Management Guidelines and Regulatory Authority	1-2
1.3 Purpose and Need	1-8
1.4 Scope.....	1-9
1.5 Regulatory Framework	1-10
1.6 Public Involvement.....	1-11
1.6.1 Public Scoping Summary.....	1-14
1.6.2 Focus Group Summary	1-17
1.6.3 Public and Agency Review and Comment	1-19
1.7 Relevant Public Comments Addressed in the EIS	1-20
1.8 Issues not Addressed in the EIS.....	1-23
SECTION 2.0: PROPOSED ACTION AND ALTERNATIVES	2-1
2.1 Introduction.....	2-1
2.2 Proposed Action.....	2-1
2.2.1 Operation and Maintenance Activities	2-2
2.2.1.1 Environmental Resources.....	2-2
2.2.1.2 Recreation.....	2-24
2.2.1.3 Planning.....	2-40
2.2.1.4 Real Estate Activities	2-41
2.3 Alternatives	2-46
2.3.1 Alternatives Considered But Not Carried Forward	2-47
2.3.2 Alternatives Selected for Detailed Analysis.....	2-49
2.3.2.1 Alternative 1: No Action Alternative	2-50
2.3.2.2 Alternative 2: Preferred Alternative	2-51
SECTION 3.0: AFFECTED ENVIRONMENT	3-1
3.1 Introduction.....	3-1
3.1.1 Regional Geographic Setting and Location	3-1
3.1.2 Overview of Lake Lanier	3-2
3.1.3 Climate.....	3-6
3.2 Land Use, Land Cover, and Land Use Controls	3-8
3.2.1 Land Use/Land Cover	3-9
3.2.1.1 Lake Lanier Shoreline	3-9
3.2.1.2 Adjacent Private Land.....	3-9
3.2.1.3 Watershed.....	3-9
3.2.2 Land Use Controls	3-11
3.2.2.1 Lake Lanier Project Land.....	3-11
3.2.2.2 Adjacent Private Land.....	3-12
3.2.2.3 Watershed Land	3-12
3.3 Lake Lanier Water Resources.....	3-12
3.3.1 Watershed Characterization	3-12
3.3.1.1 Location and Description	3-12
3.3.1.2 Lake Lanier	3-13
3.3.1.3 Tributaries	3-13
3.3.1.4 Topography	3-15
3.3.1.5 Flows and Exchanges.....	3-15

	3.3.1.6	Water Quality Standards and 303(d) Listed Waters.....	3-15
	3.3.1.7	Subwatersheds.....	3-17
	3.3.2	Hydrogeology/Groundwater	3-18
	3.3.3	Water Quality.....	3-19
	3.3.3.1	Pollutant Loadings to the Lake	3-19
	3.3.3.2	Historic In-lake Water Quality	3-24
	3.3.3.3	Current In-lake Water Quality	3-24
3.4		Infrastructure.....	3-26
	3.4.1	Shoreline Structures	3-26
	3.4.2	Traffic and Transportation	3-26
	3.4.3	Potable Water Supply.....	3-27
	3.4.4	Wastewater Treatment	3-28
	3.4.5	On-site Wastewater Treatment Systems	3-28
	3.4.6	Public Safety	3-29
	3.4.7	Employee Safety	3-30
	3.4.8	Utilities.....	3-30
3.5		Socioeconomics	3-30
	3.5.1	Economic Development.....	3-30
	3.5.2	Demographics	3-33
	3.5.3	Housing	3-33
	3.5.4	Quality of Life.....	3-34
	3.5.4.1	Law Enforcement and Fire Protection Services.....	3-34
	3.5.4.2	Medical Services	3-35
	3.5.4.3	Recreation and Shopping	3-35
	3.5.4.4	Schools	3-36
	3.5.5	Environmental Justice	3-37
	3.5.6	Protection of Children.....	3-38
3.6		Visual and Aesthetic Resources.....	3-39
	3.6.1	Lake Lanier	3-40
	3.6.2	Scenic Attractiveness	3-40
	3.6.3	Scenic Integrity	3-41
	3.6.4	Landscape Visibility.....	3-51
3.7		Recreation and Recreational Facilities.....	3-53
	3.7.1	Visitation to Lake Lanier	3-54
	3.7.2	Lake Lanier Recreational Facilities	3-55
	3.7.3	Lake Lanier Boating Capacity	3-55
	3.7.4	Boating Accident Analysis and Reports	3-57
3.8		Geology.....	3-57
	3.8.1	Soils.....	3-58
3.9		Ecological Systems.....	3-59
	3.9.1	Vegetative Communities	3-59
	3.9.1.1	Riparian Forests.....	3-59
	3.9.1.2	Pine Forests	3-60
	3.9.1.3	Hardwood-Pine Mixed Forest	3-60
	3.9.1.4	Nonforested Land.....	3-60
	3.9.2	Wildlife	3-61
	3.9.3	Sensitive Species	3-62
	3.9.3.1	Sensitive Plant Species.....	3-63
	3.9.3.2	Sensitive Animal Species	3-63
	3.9.4	Sensitive Habitats	3-64
	3.9.5	Wetlands	3-65

3.10	Cultural Resources	3-68
3.10.1	Native American Resources	3-68
3.10.2	Prehistoric Period Resources	3-70
3.10.3	Historic Period Resources	3-70
3.10.4	Historic Architectural Resources	3-70
3.11	Air Quality	3-70
3.12	Hazardous and Toxic Substances and Pollution	3-72
3.13	Noise	3-73
SECTION 4.0: ENVIRONMENTAL AND SOCIOECONOMIC CONSEQUENCES		4-1
4.1	Introduction	4-1
4.2	Proposed Alternatives	4-5
4.2.1	Lake Lanier Water Resources	4-7
4.2.1.1	No Action Alternative	4-8
4.2.1.2	Preferred Alternative	4-9
4.2.2	Land Use, Land Cover, and Land Use Controls	4-11
4.2.2.1	No Action Alternative	4-11
4.2.2.2	Preferred Alternative	4-12
4.2.3	Infrastructure	4-13
4.2.3.1	No Action Alternative	4-13
4.2.3.2	Preferred Alternative	4-15
4.2.4	Socioeconomic Conditions	4-16
4.2.4.1	No Action Alternative	4-16
4.2.4.2	Preferred Alternative	4-18
4.2.5	Visual and Aesthetic Resources	4-19
4.2.5.1	No Action Alternative	4-19
4.2.5.2	Preferred Alternative	4-24
4.2.6	Recreation and Recreational Facilities	4-30
4.2.6.1	No Action Alternative	4-30
4.2.6.2	Preferred Alternative	4-33
4.2.7	Geology and Soils	4-37
4.2.7.1	No Action Alternative	4-37
4.2.7.2	Preferred Alternative	4-38
4.2.8	Ecological Systems	4-38
4.2.8.1	No Action Alternative	4-38
4.2.8.2	Preferred Alternative	4-39
4.2.9	Cultural Resources	4-41
4.2.9.1	No Action Alternative	4-41
4.2.9.2	Preferred Alternative	4-41
4.2.10	Air Quality	4-43
4.2.10.1	No Action Alternative	4-43
4.2.10.2	Preferred Alternative	4-43
4.2.11	Hazardous and Toxic Substances and Pollution	4-43
4.2.11.1	No Action Alternative	4-43
4.2.11.2	Preferred Alternative	4-44
4.2.12	Noise	4-44
4.2.12.1	No Action Alternative	4-44
4.2.12.2	Preferred Alternative	4-44
4.2.13	Summary of Effects	4-45
4.2.13.1	No Action Alternative	4-45
4.2.13.2	Preferred Alternative	4-47

4.3	Cumulative Effects	4-49
4.4	Mitigation Summary	4-50
4.5	Unavoidable Adverse Effects	4-51
4.6	Irreversible or Irrecoverable Commitments of Resources.....	4-51
4.7	Short-term Uses of the Environment and Maintenance and Enhancement of Long-term Productivity.....	4-52
SECTION 5.0: LIST OF REVIEWERS AND PREPARERS		5-1
SECTION 6.0: REFERENCES.....		6-1
SECTION 7.0: PERSONS CONSULTED		7-1
SECTION 8.0: GLOSSARY		8-1
SECTION 9.0: DISTRIBUTION LIST		9-1
APPENDICES		
Appendix A	REMI Model and Socioeconomic Impacts.....	A-1
Appendix B	Comments Listed in the Lake Sidney Lanier Final Scoping Report	B-1
Appendix C	Comments and Responses to the Comments on the Draft EIS.....	C-1
Appendix D	Georgia Department of Natural Resources Protected Species Correspondence	D-1
Appendix E	Private Boat Dock Carrying Capacity Study	E-1
Appendix F	Lake Lanier Shoreline Management Plan	F-1
Appendix G	Georgia State Water Quality Standards and 303(d) Listed Waters	G-1
Appendix H	NPDES Permitted Point Sources and Mines	H-1
Appendix I	Modeling Methodologies and Assumptions	I-1
Appendix J	Historic Water Quality Summary Data	J-1
Appendix K	Water Quality Analysis and Trends.....	K-1
Appendix L	Sensitive Plant Species Known from the Vicinity of Lake Lanier	L-1
Appendix M	Sensitive Animal Species Known from the Vicinity of Lake Lanier	M-1
Appendix N	Acronyms and Abbreviations	N-1
LIST OF TABLES		
Table ES-1:	Proposed Program Improvements to Operation and Management Activities at Lake Lanier	ES-5
Table ES-2:	Summary of Environmental and Socioeconomic Effects	ES-11
Table ES-3:	Alternatives Impacts Comparison Summary	ES-12
Table 1-1:	Decision-Making Authorities	1-12
Table 1-2:	O&M Issues Raised During Scoping.....	1-15
Table 1-3:	Issues Expressed by Each Focus Group	1-19
Table 2-1:	O&M Programs at Lake Lanier	2-3
Table 2-2:	Fish and Wildlife Management Work Objectives	2-4
Table 2-3:	History of Dredging Permit Issuance (1995-2001)	2-16
Table 2-4:	Summary of Compartment Land and Water Acreage	2-17
Table 2-5:	Forest Resources Inventory and Treatment Schedule	2-20
Table 2-6:	Timber Harvest Summary, Fiscal Year 1996–2002	2-22
Table 2-7:	Actions Proposed in the Operational Management Plan as Part of Campground Operations.....	2-27
Table 2-8:	Actions Proposed in the Operational Management Plan as Part of Day Use Park Operations	2-29
Table 2-9:	Recreational Sites Being Considered for Leasing	2-31

Table 2-10:	Major Outgrants/Leases at Lake Lanier	2-43
Table 2-11:	Potential Lease Areas at Lake Lanier	2-44
Table 2-12:	Summary of Future Dock Permitting Scenarios	2-50
Table 2-13:	Proposed Program Improvements to O&M Activities at Lake Lanier	2-51
Table 3-1:	Lake Lanier Features as of 2001	3-3
Table 3-2:	Lake Lanier Shoreline Allocations	3-7
Table 3-3:	Shoreline Allocation by County	3-7
Table 3-4:	Lake Lanier Watershed Land Use Distribution by Zone	3-11
Table 3-5:	USGS Flow Stations in the Lake Lanier Watershed	3-17
Table 3-6:	Daily and Monthly Mean Statistics on USGS Flow Stations	3-17
Table 3-7:	Municipal and Industrial Groundwater Withdrawal Permit Holders near Lake Lanier	3-19
Table 3-8:	Annual Average Loads by Zone for Nitrogen, Phosphorus, Erosion and Runoff	3-21
Table 3-9:	Water Pollution Control Plant Discharge Locations in the Lake Lanier Watershed	3-22
Table 3-10:	Historical (1974–1979) Water Quality Stations in the Lake Lanier Watershed	3-24
Table 3-11:	STORET and NWISWeb Water Quality Stations in the Lake Lanier Watershed	3-25
Table 3-12:	Water Withdrawals at Lake Lanier	3-27
Table 3-13:	Lake Lanier ROI Employment by Industry	3-31
Table 3-14:	Labor Force and Unemployment Rates	3-32
Table 3-15:	Population Changes for the ROI and Georgia	3-33
Table 3-16:	Selected Population Characteristics for the ROI	3-34
Table 3-17:	Selected Housing Characteristics for the ROI	3-34
Table 3-18:	Fire Services in the ROI	3-35
Table 3-19:	Hospitals in the ROI	3-35
Table 3-20:	Schools in the ROI	3-36
Table 3-21:	Race, Ethnicity, and Poverty Status for the ROI, Georgia, and the United States for the Year 2000	3-38
Table 3-22:	Scenic Attractiveness of Water- and Land-Based Sites	3-41
Table 3-23:	Scenic Attractiveness Class Definitions	3-41
Table 3-24:	Scenic Integrity of Water- and Land-Based Sites	3-45
Table 3-25:	Scenic Integrity Definitions	3-45
Table 3-26:	Acreage of Lake from Which Boat Docks Are Clearly Visible	3-53
Table 3-27:	Corps Dock Permits and Marina Slips in Georgia and on Lake Lanier	3-53
Table 3-28:	Georgia's Ranking among Corps Projects (1996 data)	3-54
Table 3-29:	Annual Visitation to Lake Lanier	3-54
Table 3-30:	Distribution of Visitation to Lake Lanier	3-54
Table 3-31:	Slips Available at Lake Lanier Concessions	3-55
Table 3-32:	Recreational Facilities Distribution	3-55
Table 3-33:	Facilities on Lake Lanier in 1984 and 2001	3-56
Table 3-34:	Lake Lanier Wetlands	3-66
Table 3-35:	Historic Resources Located in the Project Area	3-68
Table 3-36:	National Ambient Air Quality Standards (Primary)	3-71
Table 3-37:	Sound Levels of Various Sources	3-74
Table 4-1:	Principles of Cumulative Effects Analysis	4-2
Table 4-2:	Anticipated Effects on Land Cover Under the Preferred Alternative	4-14
Table 4-3:	Summary of Results: Employment, GRP, and Population Decreases from Baseline Conditions by 2020	4-17

Table 4-4:	Anticipated Effects on Aesthetics and Visual Resources Under the No Action Alternative.....	4-20
Table 4-5:	Acreage of Lake From Which Boat Docks Would Be Clearly Visible	4-24
Table 4-6:	Anticipated Effects on Aesthetics and Visual Resources Under the Preferred Alternative	4-25
Table 4-7:	Anticipated Effects on Recreation and Recreational Resources Under the No Action Alternative.....	4-31
Table 4-8:	Anticipated Effects on Recreation and Recreational Resources Under the Preferred Alternative	4-34
Table 4-9:	Anticipated Effects on Ecological Systems Under the No Action Alternative	4-40
Table 4-10:	Anticipated Effects on Ecological Systems Under the Preferred Alternative ..	4-42
Table 4-11:	Summary of Environmental and Socioeconomic Effects	4-46
Table 4-12:	Alternatives Impacts Comparison Analysis.....	4-48

LIST OF FIGURES

Figure 1-1:	Project Location	1-3
Figure 2-1:	Shoreline Management Administrative Areas	2-12
Figure 2-2:	Natural Resource Compartments	2-19
Figure 2-3:	Timber Harvest Value Summary, FY 1996–2002	2-21
Figure 2-4:	Parks and Recreation Areas	2-25
Figure 3-1:	Shoreline Allocation	3-4
Figure 3-2:	Lake Lanier Watershed Land Use.....	3-10
Figure 3-3:	Lake Lanier Watershed	3-14
Figure 3-4:	Slopes Along LDA Shoreline	3-16
Figure 3-5:	Distinctive Scenic Attractiveness	3-42
Figure 3-6:	Typical Scenic Attractiveness.....	3-43
Figure 3-7:	Indistinctive Scenic Attractiveness	3-44
Figure 3-8:	Very High Scenic Integrity	3-46
Figure 3-9:	High Scenic Integrity	3-47
Figure 3-10:	Moderate Scenic Integrity.....	3-48
Figure 3-11:	Low Scenic Integrity.....	3-49
Figure 3-12:	Very Low Scenic Integrity.....	3-50
Figure 3-13:	Growth in the Number of Boat Docks from 1985 to 2001	3-51
Figure 3-14:	Existing Boat Dock Viewsheds	3-52
Figure 3-15:	Wetlands in the Vicinity of Lake Lanier.....	3-67
Figure 4-1:	Potential and Existing Boat Dock Viewsheds Under the No Action Alternative.....	4-23
Figure 4-2:	Potential and Existing Boat Dock Viewsheds Under the Preferred Alternative.....	4-29
Figure 4-3:	Comparison of Existing Landscape Visibility to Landscape Visibility Under the No Action Alternative and Preferred Alternative	4-31

SECTION 1.0

PURPOSE AND NEED

1.1 INTRODUCTION

This Environmental Impact Statement (EIS) has been prepared to analyze the potential environmental effects of a U.S. Army Corps of Engineers (USACE) proposal for Lake Sidney Lanier in Georgia. The proposal involves continuing the ongoing operation and maintenance (O&M) activities necessary for flood control, hydropower generation, water supply, recreation, natural resources management (fish, wildlife, forest, etc.), and shoreline management, as well as implementing improvements of specific O&M programs to better manage the project on a sustainable basis. The purpose of the proposed action is to accomplish the specific congressionally authorized and general statutory project purposes while balancing permitted private uses; community, social, and economic needs; and sound environmental stewardship.

In 1946 Congress authorized a development program and directed the Corps to design and build a series of dams and lakes along the Chattahoochee River. The Chattahoochee River starts in northern Georgia, flows southward along the Alabama and Georgia state line, then joins the Flint River at the Florida state line to form the Apalachicola River, and eventually empties into the Gulf of Mexico. The Buford Dam multiple-purpose project, which formed Lake Lanier, was authorized by the Rivers and Harbors Act (July 24, 1946, Public Law 525) and was completed in 1956.

The authorized plan called for the construction of five dams along the Chattahoochee River. Buford Dam was to be located the farthest upstream in the headwaters area. Construction of Buford Dam and Lake Lanier began in 1950 when some 58,000 acres of land were acquired for the project. For the lake's 693 miles of mainland shoreline, workers cleared 14,000 acres of forest. During this process buildings along the shoreline were removed, and in some cases gravesites were relocated to areas away from the lake. Some buildings, trees, and other structures that would be covered with many feet of water were left standing and remain underwater today.

Construction of Buford Dam and three smaller adjacent dams, called saddle dikes, began in 1953. The dams were built of earth. The main dam is 192 feet high and 2,360 feet long. The total length of the saddle dike system is 6,600 feet. On the west side of the main dam, the powerhouse was constructed in a depression excavated from solid rock. Completed in 1956, the powerhouse

contains the machinery necessary to produce electricity and to regulate the flow of water released from the lake back into the Chattahoochee River. Although construction of Buford Dam and Lake Lanier was essentially completed in 1956, it took 2 more years for the lake to fill with water. Once the lake was full, the initial authorized purposes—power production, navigation, and flood control—could be fully realized. The lake was officially designated as Lake Sidney Lanier by Public Law 56-457 on March 29, 1956. It was named after a poet born in Macon, Georgia, in 1842.

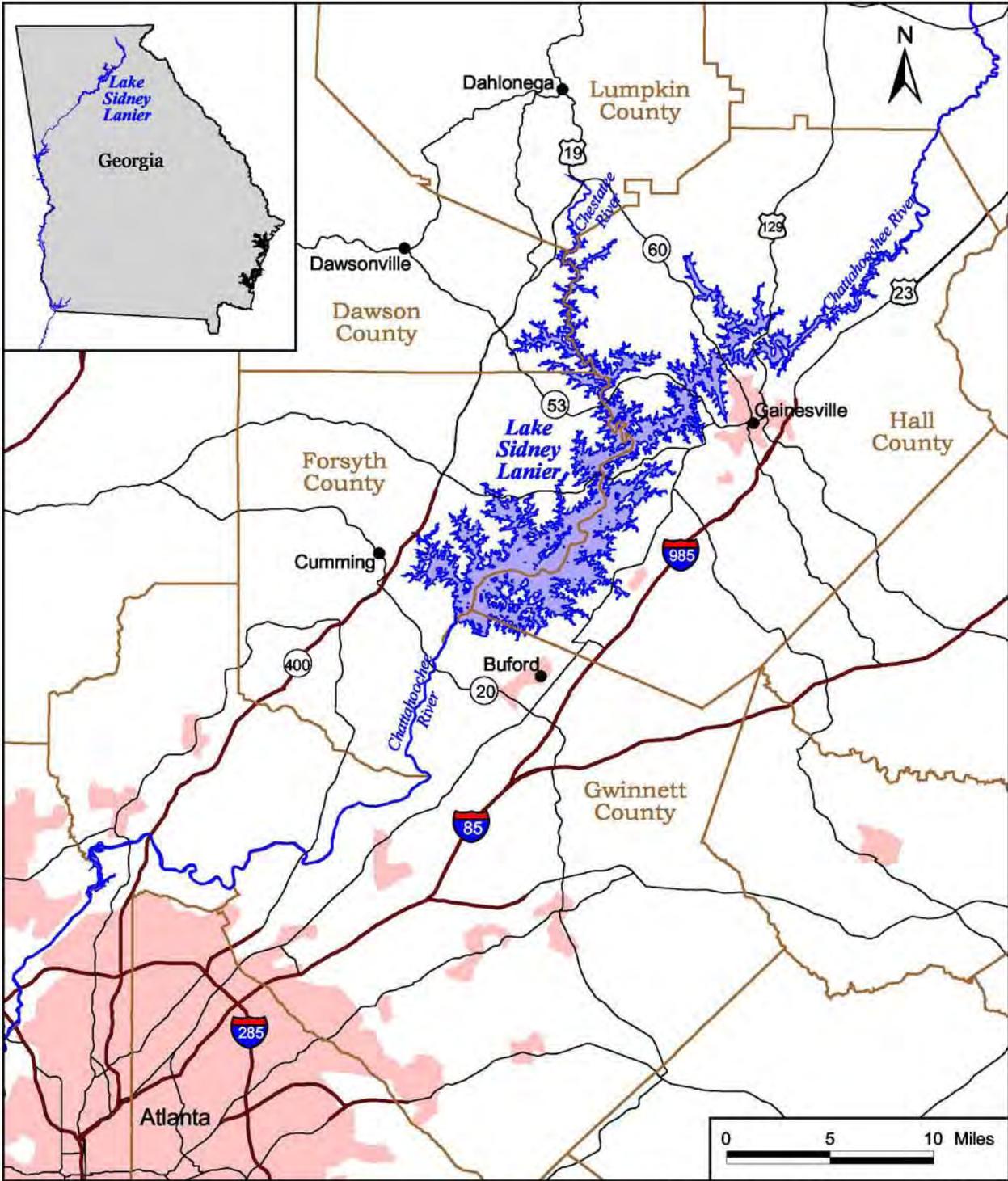
Buford Dam is at river mile 348.3 on the Chattahoochee River in Gwinnett and Forsyth Counties, Georgia, about 35 miles northeast of Atlanta and 4.5 miles northwest of the town of Buford, Georgia (Figure 1-1). Lake Sidney Lanier (known as “Lake Lanier”) extends up the Chattahoochee and Chestatee Rivers and lies within Gwinnett, Forsyth, Hall, Dawson, and Lumpkin Counties. The dam controls an area of 1,040 square miles on the southern slope of the Blue Ridge Mountains. At full conservation pool (1,071 feet mean sea level [msl]), the lake covers 39,038 acres and has a perimeter shoreline of 693 miles.

1.2 USACE MANAGEMENT GUIDELINES AND REGULATORY AUTHORITY

The Mobile District’s O&M of Lake Lanier derives from numerous legislative and regulatory authorities. This section summarizes the principal references that guide management of Lake Lanier.

Engineering Pamphlet (EP) 1165-2-1, *Digest of Water Resources Policies and Authorities*, July 30, 1999, conveniently assembles many of the principles and policies for operation and management of water resource development projects, especially as they pertain to various aspects of the USACE’s responsibilities for stewardship of resources. The following is an excerpt from EP 1165-2-1 (Chapter 11, Part 1):

- a. **Management Objectives.** The developed and natural resources at Civil Works projects are the public property of both present and future generations. Corps resources management activity is directed toward the continued enjoyment and maximum sustained use by the public of lands, waters, forests, other vegetative cover, and associated recreational resources, consistent with their aesthetic and biological values, and to allow such other new and innovative uses of the project that are not detrimental thereto . . . Maintenance and administration of recreation areas,



- LEGEND**
- Highway
 - Primary Road
 - County Boundary
 - River/Water

Project Location

Figure 1-1

where they remain under Corps jurisdiction, is part of the overall management objective to preserve and protect the quality of project resources. Major considerations, in addition to management of recreation facilities, include:

- (1) Promote environmental sustainability of the project and its resources.
- (2) Protection of project visitors and employees.
- (3) Conservation and protection of project resources, including enforcement of land use requirements to prevent conflict between uses.
- (4) Prevention of visual and physical encroachments upon project lands and waters.
- (5) Preservation and enhancement of the aesthetic integrity of banks and shorelines and retention of access for public use.
- (6) Prevention and elimination of unauthorized structures and habitation on project lands or on the water surface.
- (7) Compatibility between recreation uses and equipment employed in recreation activity and established water quality standards.
- (8) Environmental improvement through vegetative cover management.
- (9) Interim use of project lands for appropriate agricultural practices to optimize recreation and fish and wildlife benefits.
- (10) Monitoring of public recreation use and recreation technology being used to insure that management practices and future recreation developments are consistent with discernible public preferences and needs.
- (11) Encouragement of local officials to adopt and enforce zoning and building codes to: control private developments adjacent to any project reservation; and to avoid resultant problems in water pollution from septic tank drain fields or sewage disposal, visual pollution due to poor siting or design, solid waste disposal on public areas, or use of project roads for access to private property.

b. **Visitor Centers.** It is the policy of the Corps to plan, develop, manage and operate visitor centers at water resource development projects. Visitor centers educate and inform the public with regard to the history and mission of the Corps, its role in water resources development, the project, its purposes, benefits and costs. Visitor centers are further operated to ensure the public is provided with the information necessary for the safe use and enjoyment of Corps projects (citing Engineer Regulation [ER] 1130-2-550, *Recreation Operations and Maintenance Policies*, November 15, 1996).

c. **Public Access.** Appropriate access to the project will be provided for the general public except in areas that are restricted for security or safety reasons (citing ER 1130-2-550, *Recreation Operations and Maintenance Policies*, November 15, 1996).

d. **Shoreline Management Policy.** It is the policy of the Corps to protect and manage shorelines of all Civil Works water resource development projects under Corps jurisdiction in a manner that will promote the safe and healthful use of these shorelines by the public while maintaining environmental safeguards to ensure a quality resource for use by the public. The objective of all management actions will be to achieve a balance between permitted private uses and resource protection for general public use. Public pedestrian access to and exit from these shorelines shall be preserved. Corps management practices are directed toward gaining the maximum benefit for the general public (citing ER 1130-2-406, *Shoreline Management at Civil Works Projects*, May 28, 1999).

e. **General Use of Public Recreation Areas.** Generally, public use areas on Civil Works projects are available for use by all members of the general public on a first-come, first-served basis. Corps operated group camping, picnicking and shelter areas may be managed on a reservation system (citing ER 1130-2-550, *Recreation Operations and Maintenance Policies*, November 15, 1996).

f. **Use Fees.** 16 United States Code 4601, as amended, provides that fair and equitable fees will be assessed the users of specialized sites, facilities, equipment or services provided at substantial Federal expense. Use fees are charged for the use of single user unit campsites, group use campsites, developed day use facilities, special facilities (e.g., group picnic shelters, amphitheatres, multipurpose courts, etc.), special event permits, and reservation services. Fees are charged for the use of

certain boat launching ramps and designated, developed swimming beaches in Corps operated day use recreation areas. Fees are not charged for drinking water, wayside exhibits, roads, scenic drives, overlook sites, picnic tables, toilet facilities, surface water areas, undeveloped or lightly developed shore land, or general visitor information. (citing ER 1130-2-550, *Recreation Operations and Maintenance Policies*, November 15, 1996).

g. **Law Enforcement.** States, local governments, and Federal law enforcement agencies retain statutory authority and responsibility to enforce the law at Civil Works projects. Section 120 of Public Law 94-587, as amended, authorizes the Chief of Engineers to enter into agreements with states and their political subdivisions for the purpose of obtaining increased law enforcement services at projects (citing ER 1130-2-550, *Recreation Operations and Maintenance Policies*, November 15, 1996, USACE Supplement to Army Regulation [AR] 190-29).

h. **Forest Management.** Public Law 86-717 requires that projects be developed and maintained to encourage, promote, and assure adequate and dependable future resources, including supplies of forest products. Multiple-use forest management, including sustained yield timber production, should be maintained unless a reasonable determination is made that such a program is incompatible with recreation, conservation, or other beneficial uses of the land, and whether it would yield the maximum benefit and improve such areas (citing ER 1130-2-540, *Environmental Stewardship Operations and Maintenance Policies*, November 15, 1996).

i. **Wildlife and Fisheries Management.** Section 3 of the Fish and Wildlife Coordination Act (Public Law 85-624) provides for the use of Civil Works projects for conservation, maintenance and management of fish and wildlife resources and wildlife habitat. This is accomplished through licensing of lands and water to state wildlife agencies or by cooperative agreement with the Secretary of the Interior under terms of a General Plan (citing ER 1130-2-540, *Environmental Stewardship Operations and Maintenance Policies*, November 15, 1996). At Lake Lanier, the management of fish and wildlife habitat is conducted by the project.

j. **Sanitation and Pollution Control.** Sanitation for public use of Corps projects will be in accord with all federal, state, and local laws. Solid waste disposal and the control of air and water pollution will be in accordance with Executive Order 12088 on prevention, control, and abatement of air and water pollution at federal facilities. All potable water at Civil Works projects will meet or exceed the minimum standards prescribed by the Safe Drinking Water Act (citing ER 200-2-3, *Environmental Compliance Policies*, October 30, 1996).

k. **Soil Erosion.** Erosion of project lands will be controlled as practicable to prevent land despoilment, improve project aesthetic appeal and extend the project life through reduced siltation.

l. **Distribution of Rental Receipts.** Under Section 7 of the Flood Control Act of 1941 (Public Law 77-228), as amended, the Corps shall pay 75 percent of the annual rental receipts from the leasing of project lands under its jurisdiction to the state in which the leased properties are located.

m. **Private Exclusive Use.** Water and land areas at Corps projects are maintained for the benefit of the general public. Since the early 1960s, the permanent siting of floating cabins, cottages and non-transient mobile homes and trailers for private exclusive use at project areas has been discouraged. However, Section 6 of Public Law 97-140 established a moratorium until 31 December 1989 on enforced removal of certain existing private exclusive use type structures and Section 1134 of the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662) extended the moratorium, indefinitely, for all such leased or permitted structures that existed on 17 November 1986 (date of the Act) if certain conditions (detailed in the Act) are met.

At Lake Lanier, provisions under the real estate leasing authority do grant, under law, privileges for private exclusive use of Government real property to certain leaseholders. Historically, these exclusive use leases have been for private club sites (USACE, 1999). The leases provide for exclusive use only above the flood control pool. All land lying between the flood control pool and the conservation or operating pools was delineated as limited or non-exclusive use areas. No major permanent structure construction is allowed outside the exclusive use areas.

Construction in the exclusive areas is primarily to provide for lake access (walkways, boat ramps, boat docks, etc.). Although public access to the shoreline is allowed, it rarely occurs in these areas (USACE, 1999). At Lake Lanier, the Real Estate Division has issued leases for private recreation purposes, which contain some acreage for exclusive use by various clubs.

A real estate instrument covers all commercial development activities, as well as activities by individuals and other groups that are not covered above and involve grade, cuts, fills, and other changes in land form or land-based support facilities and will be covered by a lease, license or other legal grant.

1.3 PURPOSE AND NEED

The USACE,¹ Mobile District, manages the water and land areas at Lake Lanier to ensure compliance with specific congressionally authorized hydropower generation, navigation, and flood control purposes, as well as to provide water supply, fish and wildlife conservation, and recreational benefits to the public. The Mobile District is preparing this EIS to evaluate the O&M program (primarily directed toward recreation, stewardship of natural resources, and shoreline management) for the lake; to analyze proposed modifications to the O&M activities; and to update the Shoreline Management Plan (SMP)² at Lake Lanier. The purpose of the proposed action is to accomplish the specific congressionally authorized and general statutory project purposes in balance with permitted private uses; community, social, and economic needs; and sound environmental stewardship of managed resources.

The proposed action is needed to comply with the policy, set forth in Title 36 of the Code of Federal Regulations (CFR), Part 327, that natural, cultural, and developed resources of projects are to be managed in the public interest, providing the public with safe and healthful recreational opportunities while protecting and enhancing resources. A second need for action lies in the challenge to protect and enhance resources that is posed by the project's exceptional popularity as a residential and recreational venue. Development along the periphery of the lake and the annual volume of recreation have increased steadily since the project was completed in 1956. Current use levels stress environmental resources, degrade water quality, cause erosion and siltation, and diminish aesthetic qualities. The proposed action is needed to avoid an irreversible decline in the

¹The terms *Corps*, *USACE*, and *Mobile District* are used interchangeably throughout this document.

²Management of the Lake Lanier shoreline currently occurs under a Lakeshore Management Plan. Consistent with revised Corps of Engineers terminology, the amended plan is referred to as a Shoreline Management Plan.

quality of the project's resources in the future as the increasing land use changes, recreational demands, and water supply needs pose challenges to the management of the lake.

1.4 SCOPE

The USACE is responsible for evaluating the O&M activities for Lake Lanier. The objective of this EIS is to update and expand upon the project actions outlined in the original EIS prepared in 1974. The evaluation of project actions includes the entire range of project O&M activities for the lake and government-owned lands surrounding the lake, within the framework of varying lake levels that could result from future water management strategies that might be developed for the Apalachicola-Chattahoochee-Flint Basin. However, this EIS does not attempt to predict the water allocation decisions or evaluate the effects on Lake Lanier that would be caused by various water allocation scenarios. Water level management strategies will be analyzed in a separate National Environmental Policy Act (NEPA) process conducted after the states of Alabama, Georgia, and Florida agree on a water allocation formula.

This EIS also updates environmental, social, and economic changes that have occurred in the project's environmental setting since the 1974 EIS. In addition, it evaluates the project O&M activities within the range of potential water management scenarios.

This EIS explains projected conditions under which the lake will continue to be operated and maintained into the reasonably foreseeable future. All project activities performed at the lake are considered in the impact evaluations. In addition, the results of specific investigations conducted to lay the foundation for updating Lake Lanier's SMP are also considered in this EIS so that this document can serve the NEPA document needs for the SMP.

The 1974 EIS recognized the trend toward increasing development of neighboring private lands around the lake, along with the demands that would be placed on the lake's resources to accommodate the explosive population growth. As of 1974 the Corps had issued permits for approximately 2,500 private docks. This number had increased to about 6,500 docks by the time the last SMP update was prepared in 1987. By August 2001 the number of permits issued for private docks had increased to 8,348. Based on permitting activities that occurred during the 9-year period between 1991 and 2000, it is anticipated that about 175 new permits could be issued each year into the immediate future, with the potential number of total permits eventually exceeding 25,000. At this level of growth, permitted boat docks, concessions, and club sites could cover approximately 354 miles (or 47 percent) of Lake Lanier's public shoreline by 2045.

The combination of private boat docks, commercial marinas, dry storage, and boat ramps contributes to the more than 25,000 boats that can appear on Lake Lanier at any given time, even though all boats are not necessarily in use at once. A 1985 study indicated that project waters at that time were overused on occasion by 71 percent. Because the level of recreational use has increased since 1985, the level of boating overuse also has intensified.

An interdisciplinary team was used to identify and analyze the beneficial and adverse effects likely to occur as a result of implementing the proposed action (see Section 2.2). The baseline against which the effects were measured is the Lake Lanier environment in 2001. The 2001 baseline is described in Section 3.0. Direct, indirect, and cumulative effects of the alternatives considered to implement the proposed action are discussed in Section 4.0. Methodologies employed to assess potential environmental and sociological impacts on the human and natural environment from implementing the proposed action and alternatives included several environmental impact assessment methods such as interviews, visual reconnaissance, modeling, mapping and geographic information system (GIS) assessment, boat dock carrying capacity analysis, trends analysis, and social impact analysis. Socioeconomic effects were assessed using the Regional Economic Models, Inc. (REMI) model. The REMI model is a structural model that examines the effects on the local economy and demographics that policy initiatives or external events might cause. A detailed discussion of methodologies is provided in Section 4.1, and the REMI model is discussed in Appendix A. The consequences of implementing the proposed action are discussed in Section 4.3. Mitigation measures are summarized in Section 4.4.

The resource areas and conditions relevant to the proposed action addressed in the EIS are watershed hydrogeology, groundwater, and water quality; land use, land cover, and land use controls; infrastructure; socioeconomic conditions; visual and aesthetic resources; recreational facilities; geology; biological resources; cultural resources; air quality; hazardous and toxic substances; and noise. The EIS also addresses irreversible and irretrievable commitments of resources, adverse impacts that cannot be avoided, short-term uses of the environment, and maintenance and enhancement of long-term productivity.

1.5 REGULATORY FRAMEWORK

The Record of Decision (ROD) is a concise public document issued at the completion of an EIS. The ROD identifies the findings and conclusions reached by the USACE in making its decision for the proposed action. It summarizes the major issues and considerations, describes the

potential effects, documents the decision, and identifies necessary steps (mitigation measures) to lessen the effects (if any) on the environment.

Decision-making and issuance of the ROD by the Division Engineer, Mobile District will occur within the framework of several laws, regulations, and Executive Orders (EOs). Some of these authorities pertain directly to USACE management of water resource development projects. Others establish regulatory compliance standards for environmental resources or provide guidance for management planning of environmental resources. Reliance on these authorities results in effective project management and sound environmental stewardship. Statutory authorities relevant to this EIS are described in Table 1-1.

1.6 PUBLIC INVOLVEMENT

Public participation in the NEPA process encourages open communication between the Corps and the public and promotes better decision-making. All persons who have a potential interest in the proposed action, including minority, low-income, disadvantaged, and American Indian groups, have been urged to participate in the environmental impact analysis process.

Council on Environmental Quality (CEQ) Regulations and ER 200-2-2 provide for five major aspects of public participation during preparation of an EIS: publication in the *Federal Register* of a Notice of Intent to prepare an EIS, scoping, observation of a 45-day public review period for the Draft EIS, convening of a public meeting on the Draft EIS, and release of the Final EIS accompanied by a 30-day public review period. For the proposed action at Lake Lanier, each occasion represents an opportunity for the Mobile District to share information with the public and for the public to offer comments concerning the proposed action and the Mobile District's evaluation in the EIS of the effects of the O&M program.

On April 24, 2001, the USACE published in the *Federal Register* a Notice of Intent to prepare a Draft EIS to address the full range of activities performed to operate and maintain Lake Lanier.³ Through the Lanier Project Management Office (PMO), the USACE solicited the observations and advice of numerous state and local agencies, regional and local interest groups, and individuals to identify issues of concern regarding preservation and protection of the lake's resources. The USACE conducted a public scoping meeting to solicit input from interested

³ *Fed. Reg.* 66(79): 20639, April 24, 2001.

**Table 1-1
Decision-Making Authorities**

Applicable Authority	Summary
Rules and Regulations Governing Public Use of Water Resource Development Projects Administered by the Chief of Engineers. 36 CFR Part 327	Requires preparation of an SMP for each Corps project where private shoreline use is allowed. The Plan must honor past commitments. It will be reviewed at least once every 5 years and revised as necessary. Shoreline uses that do not interfere with authorized project purposes, pose public safety concerns, violate local norms, or result in significant environmental effects should be allowed unless the public participation process identifies problems in these areas. If sufficient demand exists, consideration should be given to revising the shoreline allocations (e.g. increases or decreases).
The Rivers and Harbors Act of 1894, as amended and supplemented (33 U.S.C. 1)	Under Section 301, provides that storage may be included for present and future municipal or industrial water supply in Corps or Bureau of Reclamation projects.
Flood Control Act, 1936	Requires the federal government to improve or participate in the improvement of navigable waters or their tributaries, including watersheds thereof, for flood-control purposes if the benefits are in excess of the estimated costs, and if the lives and social security of people are otherwise adversely affected.
1944 Flood Control Act, as amended, 16 U.S.C. 460d	Authorizes the Corps of Engineers to construct, maintain, and operate public park and recreational facilities at water resource development projects.
Archeological and Historical Preservation Act, 16 U.S.C. 469	Requires federal agencies to identify and recover data from archeological sites threatened by their actions.
Archeological Resources Protection Act, 16 U.S.C. 470aa-470ll	Requires permits and provides for civil and criminal penalties for persons disturbing archeological resources on federal and tribal land without a permit.
The Clean Water Act, 33 U.S.C. 1344 <i>et seq.</i> ; also known as the Federal Water Pollution Control Act of 1972	Protects, restores, and enhances the quality of the nation's waters. Prohibits discharges without a permit for any actions affecting "waters of the United States," including wetlands, and has strict liability for discharges of petroleum.
Clean Air Act, 42 U.S.C. 7401	Requires agencies to comply with state air quality standards set in State Implementation Plans.
Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 9601-9675	Requires reporting of releases and cleanup of releases of hazardous substances; also assigns liability for cleanup.
Emergency Wetlands Resources Act of 1986, 16 U.S.C. 3901-3932	Promotes the conservation of wetlands to maintain the public benefits they provide, and to fulfill international obligations contained in various migratory bird treaties and conventions.
Endangered Species Act, 16 U.S.C. 1531	Requires consultation with the U.S. Fish and Wildlife Service (USFWS) to ensure that actions do not jeopardize threatened or endangered species or their critical habitat.
Fish and Wildlife Coordination Act	Requires consultation with the USFWS on actions affecting stream modifications.
Fish and Wildlife Conservation Act, 16 U.S.C. 2901	Encourages all federal departments and agencies to use their statutory and administrative authority, to the maximum extent practicable and consistent with each agency's statutory responsibilities, to conserve and promote conservation of nongame fish and wildlife and their habitats.
Federal Facility Compliance Act, 42 U.S.C. 6901	Requires federal facilities to comply with state and local environmental laws, as well as federal environmental laws.
Federal Water Project Recreation Act of 1965; Public Law 89-72, July 9, 1965, 79 Stat. 213; 16 U.S.C. 4601-12 <i>et seq.</i> , as amended	Requires federal agencies to consider potential outdoor recreational opportunities and fish and wildlife enhancement when planning navigation, flood control, reclamation, hydroelectric, or multipurpose water resource projects.

**Table 1-1
Decision-Making Authorities**

Applicable Authority	Summary
Federal Land Policy and Management Act of 1976, 43 U.S.C. 1701-1784	Provides for the management of public lands that will protect the quality of scientific, scenic, historic, ecologic, environmental, air and atmospheric, water resource, and archeological values, that, where appropriate, will preserve and protect certain public lands in their natural condition.
Migratory Bird Treaty Act, 16 U.S.C. 701-719c	Decreed that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected.
The National Historic Preservation Act, 16 U.S.C. 470 <i>et seq.</i>	Requires agencies to identify historic properties subject to effect by their actions, and to consult with the State Historic Preservation Officer and others about alternatives and mitigation.
The National Environmental Policy Act, Public Law 91-190	Requires agencies to consider impacts on the human environment from proposed actions and document environmental impacts during project planning.
Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901-6992k	Regulates the collection, storage, transport, and disposal of hazardous and solid waste and regulates underground storage tanks.
Water Resources Development Act of 1986, 33 U.S.C. 2201-2330, November 17, 1986, as amended 1988, 1990, 1992, 1995, and 1996, Public Law 99-662	Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the nation's water resources infrastructure.
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001	Provides for cooperation with state and local constituents for the purpose of preventing erosion, floodwater, and sediment damages in the watersheds of the rivers and streams of the United States and furthering the conservation, development, utilization, and disposal of water and the conservation and utilization of land thereby preserving, protecting, and improving the nation's land and water resources and the quality of the environment.
Water Pollution Control Act Amendments of 1961, Public Law 87-88	Requires federal agencies to consider, during the planning for any reservoir, storage to regulate streamflow for the purpose of water quality control.
EO 11988: Floodplain Management	Directs all federal agencies to avoid, if possible, development and other activities in the 100-year base floodplain. Where the base floodplain cannot be avoided, special considerations and studies for new facilities and structures are needed. Design and siting are to be based on scientific, engineering, and architectural studies; consideration of human life, natural processes, and cultural resources; and the planned lifespan of the project. Federal agencies are required to reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by floodplains in carrying out agency responsibility.
EO 11990: Protection of Wetlands	Directs all federal agencies to avoid, if possible, adverse effects on wetlands and to preserve and enhance the natural and beneficial values of wetlands. Each agency must avoid undertaking or assisting in wetland construction projects unless the head of the agency determines that there is no practicable alternative to such construction and that the proposed action includes measures to minimize harm.
EO 12088: Federal Compliance with Pollution Control Standards	Delegates responsibility to the head of each executive agency for ensuring that all necessary actions are taken for the prevention, control, and abatement of environmental pollution. This order gives the U.S. Environmental Protection Agency (EPA) authority to conduct reviews and inspections to monitor federal facility compliance with pollution control standards.

**Table 1-1
Decision-Making Authorities**

Applicable Authority	Summary
EO 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	Requires each federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.
EO 13045: Protection of Children from Environmental Health Risks and Safety Risks	Requires each federal agency to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.
EO 13175: Consultation and Coordination with Indian Tribal Governments	In formulating or implementing policies that have tribal implications, requires agencies to consult with tribal officials regarding the need for federal standards and any alternatives that would limit the scope of federal standards or otherwise preserve the prerogatives and authority of Indian tribes.

agencies and the public regarding the range of issues and reasonable alternatives that should be considered in the EIS. Thirteen separate notices were published in various local newspapers announcing the meeting's time and location. In addition, numerous local radio and television stations provided advance information about the meeting. The meeting was held open-house style on August 16, 2001, from 8:00 a.m. to 9:00 p.m. Display booths were used to allow the public to identify issues and concerns they believe should be addressed in the EIS. The booths addressed specific resource topics such as water quality, fish and wildlife management, recreation, management of project lands, and boat docks. In addition, the USACE hosted four focus groups to obtain the views of stakeholders with readily identifiable interests in the condition of the lake (lake area residents on August 17; recreational users on August 20; business owners and operators on August 21; and environmental organizations on August 22). The USACE also solicited comments by e-mail through its Web site at <http://www.usacelakelaniereis.net>.

1.6.1 Public Scoping Summary

The scoping process resulted in the submission of comments from 124 individuals and organizations. Comments of a similar nature were grouped by subject matter into 14 broad categories. Listed in Table 1-2 are the issues addressed in the comments and the number of comments received regarding each issue. The issues are ranked by number of comments received. Refer to Appendix B of this EIS or Appendix H of the Final Scoping Report for a complete listing of the comments received by category.

Table 1-2
Operation and Maintenance Issues Raised During Scoping

Issue	Number of Comments Received	Issue	Number of Comments Received
Water Quality	110	Management Activities	48
Shoreline Management	107	Watershed Management	17
Private Boat Docks	96	Water Safety	16
Water Management	76	Real Estate	12
Recreation	72	Drinking Water Supply	11
Boats	70	Wildlife and Vegetation	11
Commercial Activities	61	Aesthetics	8

Water Quality. Sewage discharges from wastewater treatment facilities are a major concern primarily because people are concerned about the safety of their drinking water. Forty-one comments were received related to concerns about treated and untreated sewage. Many comments expressed concern about potential increases in treated sewage that would be discharged into Lake Lanier from the proposed Gwinnett County Wastewater Treatment Plant. The public strongly believes that the Corps should not grant Gwinnett County an easement for this proposed expansion. Nine commenters indicated that Lake Lanier should be held to higher water quality protection standards. Others would like to see an increase in the frequency of water monitoring or an improvement in the type of monitoring carried out at Lake Lanier.

Shoreline Management. Erosion, sedimentation and siltation, dredging, and consistent enforcement of shoreline regulations were the major concerns raised related to shoreline management activities. Commenters were interested in learning about what they could do to prevent erosion and protect the environment. Many commenters expressed support for an increase in the cubic yardage of silt allowed to be removed under current dredging permits. In addition, several would like to see land-based dredging allowed because open-water dredging is too expensive. Some suggested fining landowners whose dredging activities disturb shoreline vegetation.

Boat Docks. A total of 96 comments related to boat dock issues were received. Comments were primarily related to the vast number of docks along Lake Lanier's shoreline and to the lack of dock maintenance, which result in pollution from Styrofoam and wood debris. Nonencapsulated foam from deteriorating boat docks was a major concern. Eleven specific comments expressed concern about docks being too close together. Six comments were supportive of the current lake management activities relating to docks, such as the way the Corps manages boat dock maintenance. Some people expressed concern about the lack of accessibility to private boat

docks during full pool because of the limitation on the length of access structures. Others support using community docks, see the need to relax some restrictions, or favor allowing more permits to build docks.

Water Management. Most of the comments related to water management indicated concern about the water level at the lake being too low and opposition to releasing water to float barges downstream.

Recreation. Most of the comments (16) supported current recreation management activities. Recreation benefits, year-round increased access to the lake, and support for increased permit fees each received six comments. Five commenters supported more park maintenance and improvement of existing facilities.

Boats. Six primary issues of concern related to boats were expressed. Fifteen comments noted concern about noise from boat engines and boats with open exhaust systems. Environmental impacts from large boats and their wakes on the lake's shoreline and the operation of personal watercraft such as Jet Skis were also major concerns. Many residents believe that personal watercraft pose threats to human safety and cause noise pollution. Other comments centered around increasing the no-wake zones to prevent erosion, establishing speed limits for all watercraft, overcrowding of boats on the lake, and various other issues.

Commercial Activities. Twelve issues related to commercial activities were identified from the comments received. Six specific issues received the most comments. Of those, stringent regulation of commercial activities such as boat rental locations and limitation of marina expansion were the primary issues of concern. Seven commenters favored limiting development of commercial operations on the lake because of aesthetic, pollution, or boat traffic concerns, whereas 15 commenters would like to see an increase in development on the lake. Specifically, those commenters would like to see an increase in the number of restaurants and other businesses allowed on the lake. Others (six) believe that the current level of commercial activities allowed on the lake is sufficient.

Management Activities. Forty-eight issues were identified. Most of the comments (12) expressed support for how the Corps currently manages the lake. Several commenters were especially pleased with the way natural and cultural resources are managed. Seven comments mentioned a desire for meetings to update the public on the progress of the EIS. Refer to Appendix H of the Final Scoping Report for the remaining comments and specific concerns.

Watershed Management. Seventeen comments related to watershed management issues were identified. Four comments expressed concern about commercial pollution. Three mentioned reorganizing the watersheds that make up Lake Lanier and establishing a homeowners' or business owners' forum (similar to a watershed alliance) for each watershed. The forum could promote public education and implement shoreline cleanup. Two comments each supported more monitoring and removal of sediment and silt. Refer to Appendix H of the Final Scoping Report for the remaining comments and specific concerns.

Water Safety. Sixteen comments related to water safety were received. Five commenters expressed concern regarding underwater hazards; three commenters each mentioned the need for universal signage to accommodate multilingual lake users, support for fewer boats on the lake, and more boater safety outreach. Refer to Appendix H of the Final Scoping Report for the remaining comments and specific concerns.

Real Estate. Twelve comments were received. Ten comments indicated that less development would improve the lake's water quality and protect the natural environment. Refer to Appendix H of the Final Scoping Report for the remaining comments and specific concerns.

Drinking Water Supply. Eleven comments were received. Five commenters believe that the lake should be operated to sustain the availability of water to the metropolitan Atlanta area. Refer to Appendix H of the Final Scoping Report for the remaining comments and specific concerns related to drinking water.

Wildlife and Vegetation. Eleven comments were received. Six comments supported controlled or no hunting on the lake. The remaining comments supported more stringent buffer regulations and the protection of native wildlife and vegetation species.

Aesthetics. Eight comments were received. Five comments indicated the need to improve the lake's appearance, two comments indicated concern regarding current lake management activities, and one comment supported protecting the quality of the lake because of the economic benefits derived from it and the need to preserve the lake's beauty.

1.6.2 Focus Group Summary

In addition to holding a public scoping meeting, the USACE invited select groups of individuals to attend specific focus group meetings at the Lanier PMO. The purpose of the focus group meetings was to gather information on the issues of concern from individuals in select interest

groups. The four interest groups—lake-area residents, recreational users, business owners and operators, and environmental organizations—were chosen because they were readily identified as having a stake and interest in Lake Lanier. The randomly selected participants were drawn from an initial list of 405 people (206 lake-area residents, 133 recreational users, 42 business owners and operators [representing 26 businesses], and 24 representatives of 20 environmental organizations), provided by the Lanier PMO. This initial list of 405 potential focus group participants was created by randomly selecting persons from four separate mailing lists, as described below.

- **Lake-area residents** (August 17, 2001). Using a database of 8,348 persons holding shoreline use permits with the Corps at Lake Lanier, 204 residents who live within 5 miles of the lake were randomly selected to be contacted by phone and asked to participate in the Lake-area Residents Focus Group Meeting. Of the 204 residents with whom the Corps attempted to make contact, only 72 successful phone contacts were made. Out of the 72 contacted, 15 agreed to attend the focus group meeting; but only 9 attended.
- **Recreational users** (August 20, 2001). Participants were randomly selected from a database of 2,173 annual recreation pass holders from 2000 to 2001 provided by the Corps. The Corps attempted to contact 133 randomly selected persons by phone from the database. Of those 133 attempted contacts, only 78 recreational lake users were successfully contacted. Of those 78 contacts, 14 agreed to attend the focus group meeting, but only 8 attended.
- **Business owners and operators** (August 21, 2001). Participants were selected from a database of owners and operators of businesses dependent on Lake Lanier provided by the Corps. Of the 42 business owners and operators contacted, 17 agreed to attend the focus group meeting; however, only 10 attended.
- **Environmental organizations** (August 22, 2001). Participants were selected from a database of environmental organizations provided by the Corps. Of 24 representatives (representing 20 organizations) contacted, 7 agreed to attend. Although only five persons, representing five organizations, actually attended, they expressed the belief that each of them represented thousands of members of their respective organizations.

Each group was asked to list what they value about the lake and the issues facing Lake Lanier. The issues expressed by each group are listed in Table 1-3. The issues and concerns expressed by the audiences fit into one or more of the subject areas listed in Table 1-2 and Section 1.6.1.

1.6.3 Public and Agency Review and Comment

On November 8, 2002, the USACE published in the *Federal Register* a Notice of Availability for the public release of the Draft Environmental Impact Statement (DEIS) for the operation and maintenance of Lake Lanier.⁴ The public, and local, state and federal agencies were provided a 45-day period to review and comment on the DEIS. Initially, the comment period was to end on December 23, 2002, but was extended to January 6, 2003 to allow more time to respond during the holiday season.

In addition, a public meeting for receiving comments was held on November 25, 2002, in the Continuing Education Building at Gainesville College. Thirteen separate notices were published in various local newspapers announcing the meeting's time and location. In addition, numerous

**Table 1-3
Issues Expressed by Each Focus Group**

Focus Group	Issue	
Lake-area Residents	Aesthetics Economics	Drinking water supply Quality of life
Recreational Lake Users	Clean water High water levels Wildlife and fish habitat Visual/Aesthetics Recreation	Safety (fewer wave runners) Power generation (makes for less fossil fuel use) Meeting place for friends and family
Business Owners and Operators	Jobs Economic opportunity Pristine quality of lake Land values (property) Water quality Water supply (levels)	Recreational opportunity Occupancy rate of slips Spiritual quality Fishing (opportunity and quality) Customer satisfaction
Environmental Organizations	Water quality Water supply (drinking water) Wildlife habitat Aquatic habitat Maintaining optimum streamflow (upstream and downstream)	Aesthetics Tree cover: lowers lake temperature, cleans the air, reduces noise, and blocks light pollution Maintaining native flora and fauna More efficient use of water

local radio and television stations provided advance information about the meeting. Similar to the public scoping meeting, the meeting was open-house style with display booths that addressed specific resource topics such as water quality, fish and wildlife management, recreation, management of project lands, and boat docks. The USACE also solicited comments by e-mail through its Web site at <http://www.usacelakelaniereis.net>. The comments received and the corresponding responses are provided in Appendix C.

1.7 RELEVANT PUBLIC COMMENTS ADDRESSED IN THE EIS

As a result of the scoping process, numerous issues were determined to be relevant to the EIS. They are addressed under the following resource areas in the EIS:

- **Land use and land cover.** *Land use* refers to human use of the land for economic production (residential, commercial, industrial, recreational, or other purposes) and for natural resource protection. *Land cover*, an important attribute of land use, describes what is physically on the ground. The increasingly burdensome demands from land use changes placed on Lake Lanier's resources threaten the Corps's ability to manage the lake's land uses on a sustainable basis. The EIS analyzes the effects that existing and future land uses such as residential and commercial uses have or will have on the lake's resources. The EIS considers existing and future development, population growth, zoning regulations, and other issues related to how the land surrounding the lake is used.
- **Aesthetics and visual resources.** Visual and aesthetic resources are the natural resources, landforms, vegetation, and man-made structures in the environment that contribute to the overall beauty of Lake Lanier. Dilapidated boat docks, inoperable or abandoned vessels, eroding shorelines adjacent to campgrounds, and otherwise unsightly property or lands contribute to the lessening of the aesthetic quality of the lake's visual resources. The EIS analyzes activities affecting the aesthetic quality of Lake Lanier, as well as actions that could improve the scenic attractiveness of the lake. It considers landscape visibility; shoreline vegetation; the number, location, and condition of public and private boat docks; and other structures or conditions that might affect the scenic beauty of the lake.

⁴ *Fed. Reg.* 67(211): 66385, October 31, 2002.

- ***Recreation and recreational facilities.*** The EIS analyzes the impacts associated with various recreational activities occurring at Lake Lanier, such as camping, park use, and water sports. The EIS also considers the O&M of recreational facilities, law enforcement and security, and visitation management. A separate study was undertaken to determine the private boat dock carrying capacity of Lake Lanier. The findings of that study have been incorporated into the EIS.
- ***Noise.*** In terms of the EIS, noise impacts would generally be considered an indirect effect resulting from Lake Lanier management activities. The EIS analyzes noise-related impacts resulting from the use of heavy equipment, O&M of the dam, or other noise-generating activities carried out by the Corps. In addition, the EIS considers the cumulative impacts associated with the private use of boats or personal watercraft on the lake.
- ***Geology and soils.*** This resource area considers the environmental aspects of stratigraphy, topography, soils and sediments, engineering properties of the materials, seismic hazards, slope stability, earthworks, mineral resources, unique landforms, and geological conditions that influence O&M activities at the lake or that influence contaminant distribution and migration or groundwater resources. The EIS includes an analysis of the effect of lake and shoreline activities on shoreline erosion and the vegetative buffer zones that surround the lake.
- ***Water resources.*** Analysis in this resource area includes surface water entering Lake Lanier, the hydrogeology of the lake, groundwater entering or exiting the lake, and the Lake Lanier watershed and its floodplain. Analysis was conducted for potential pollutant loads to Lake Lanier from watershed runoff, point source discharges into the lake, septic systems in close proximity to the lake, and boating activities on the lake.
- ***Ecological systems.*** NEPA requires that analyses conducted for an EIS consider ecological information. Direct and indirect impacts that result in the loss of native vegetation, populations or species of fish and wildlife, sensitive species, and sensitive habitats must be considered for any action involving disturbance of areas of natural vegetation. The EIS considers hunting (waterfowl and deer), federally listed threatened or endangered species on the project property, nonnative plant and animal management, and wetland areas.

-
- ***Infrastructure systems, utilities, and traffic and transportation systems.*** This resource area includes the following:
 - Utility analysis related to recreational site infrastructure (e.g., camping facilities, boat ramps), dam, and other maintenance facilities, including potable water treatment and distribution; sewer collection and treatment, including septic systems and other on-site wastewater treatment systems; storm water collection and discharge; electricity; natural gas; solid waste; and telecommunication systems.
 - Transportation resource analysis, which considers road networks, traffic, and congestion; parking facilities at boat ramps, campsites, and parks; road improvements; and road maintenance.
 - ***Hazardous and toxic substances and pollution.*** This resource area analyzes hazardous materials management, hazardous waste management as it relates to the Corps's management activities, concession activities, and the indirect impacts of public activities allowed on the lake, such as power boating. The EIS considers the effects of potential hazardous spill areas such as marinas and boat ramps and leaking oil and fuel from watercraft.
 - ***Socioeconomic condition.*** Socioeconomics comprise the social, economic, and demographic characteristics of a region. The socioeconomic analysis updates the social and economic changes that have occurred in the region since the 1974 EIS was prepared. The existence of the lake and its proximity to the city of Atlanta are strong economic stimulants for the area around the lake, generating tourism dollars and home sales. Historical data (including population, employment, income, and gross regional product) are provided to describe the regional growth that has occurred over the 25 years since the 1974 EIS was completed. Correlations between the lake and economic and population growth are identified. The historical data provide a frame of reference for determining the significance of any effects on the socioeconomic environment expected as a result of continuing the implementation of the O&M program at Lake Lanier. A regional economic model, the REMI model, was used to assess any potential effects the proposed program improvements to the Lake Lanier O&M program might have on the regional economy. The economic model generates a forecast that simulates the expected long-term growth of the region of influence (ROI) based on past and current trends and

conditions. Environmental justice and protection of children are also addressed, in accordance with Executive Orders 12898 and 13045.

1.8 ISSUES NOT ADDRESSED IN THE EIS

Several issues identified in the scoping process were not analyzed in this EIS. Listed below are those issues and the rationale explaining why they were not considered.

- **Noise from personal watercraft.** The operation of boats and personal watercraft is regulated by state and local agencies and is beyond the scope of the activities managed by the USACE. The Noise Control Act of 1972 (Public Law 92-574) requires the federal government to set and enforce uniform noise control standards for various noise-generating equipment and activities; however, the control of environmental or community noise, such as that found at Lake Lanier, is left to state and local agencies. Therefore, the EIS does not address the direct impacts of noise from boats or personal watercraft.
- **Water levels/water releases.** In 1992 the states of Alabama, Georgia, and Florida and the USACE entered into the Apalachicola-Chattahoochee-Flint River Basin Compact to develop a formula for allocating surface water in the basin. Efforts to negotiate an allocation formula under that compact are ongoing. Among the various potential outcomes could be a decision controlling the amount of water to be stored seasonally at Lake Lanier and the circumstances under which water would be released. This EIS does not attempt to predict the allocation decisions or evaluate the effects on Lake Lanier that would be caused by various allocation scenarios. Water levels will be analyzed in a separate NEPA process conducted after the three states agree on a water allocation formula.
- **Navigation and hydropower.** Navigation and hydropower are both Congressionally mandated purposes of Lake Lanier. Although several commenters believe that the USACE should not be involved in these activities, the elimination of such activities is not analyzed in the EIS because they are congressionally mandated. Further, the future EIS directed at evaluating water control scenarios will consider hydropower generation and navigation needs.

- ***Barge traffic.*** The amount of barge traffic allowed on the Chattahoochee River is not regulated by the USACE. In addition, the regulation of water levels necessary for barge traffic will be analyzed in a separate NEPA process to be conducted after Georgia, Florida, and Alabama agree on a water allocation formula. Therefore, the issue of barge traffic is not analyzed in this EIS.
- ***Atlanta's sewage dilution needs.*** Water releases necessary to dilute the sewage released by the city of Atlanta into the Chattahoochee River will be analyzed in a separate NEPA process after Georgia, Florida, and Alabama agree on a water allocation formula.
- ***Lake protection and environmental education.*** Some residents believe that area schools should create more curricula related to protecting and improving the lake environment. Because the Georgia Board of Education regulates school curricula, this issue is not evaluated in the EIS.

SECTION 2.0

PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

Section 2.0 presents the Mobile District's proposal to continue implementation of the O&M activities at Lake Lanier with some improvements, including an update of the SMP for the lake. It also discusses alternatives to the District's proposed action, as well as the No Action Alternative.

Section 2.2 provides detailed information on the proposed action, which consists of two elements. The first element (existing program) represents those ongoing O&M activities that will not change. Examples include powerhouse operations, hydropower generation, water releases, and flood control measures. The second element (proposed improvements) includes actions in specific programs that are proposed for modification from their current form to enhance a user's outdoor recreational experience; to improve conservation, protection, and enhancement of the area's natural resources; and to ensure the long-term sustainability of project resources. The implementation of these two elements taken as a whole constitutes the proposed O&M program at Lake Lanier and the Mobile District's Preferred Alternative. Section 2.3 provides information on alternatives considered, including the No Action Alternative.

2.2 THE PROPOSED ACTION

Buford Dam and Lake Lanier were constructed in the 1950s before the passage of NEPA and the requirement that federal projects be analyzed in an EIS. Therefore, the proposed action for the 1974 EIS was the continuation of O&M of the existing multipurpose dam and reservoir, which provided for flood control, regulation of stream flow for navigation, hydroelectric power generation, and the incidental benefits of recreation and water supply. The alternative analysis in the 1974 EIS addressed only the discontinuation of O&M and the environmental impacts of the loss of benefits from flood control, power generation, low-flow augmentation, and to a minimal extent, recreation.

The proposed action for this new EIS is to continue the activities necessary for the sustained O&M of Lake Lanier. In addition to the activities related to the congressionally authorized purposes, the USACE is responsible for preserving and protecting resources at water resources development projects under its jurisdiction. Since the 1974 EIS was written, the greater Atlanta

metropolis and the five counties surrounding Lake Lanier have experienced tremendous growth and land use changes. Lake Lanier's popularity has grown accordingly as the public continues to recognize the value of the recreational opportunities the lake offers. To address the increased pressures on the lake's resources, the Corps has identified the need to modify some of the O&M activities to improve the management of recreational resources, the shoreline, and natural resources. The actions these improvements comprise are also part of the proposed action.

To summarize, the proposed action for this EIS includes the ongoing O&M activities conducted for recreation, natural resources management, and shoreline management and the modified activities of specific O&M programs that are necessary to manage the project on a sustainable basis.

The current O&M activities and the proposed improvements are summarized in Table 2-1 and described in detail in Section 2.2.1.

2.2.1 Operation and Maintenance Activities

The primary O&M activities conducted at Lake Lanier can be divided into six categories. Table 2-1 lists these primary categories and the individual programs each category comprises. A number of programs are primarily administrative in nature, and performing them results in little or no environmental or socioeconomic impact on the resources of Lake Lanier. These programs are noted in Table 2-1, and they are not evaluated in the impact analysis in Section 4.0.

The following discussions provide detailed descriptions of the O&M activities composing the proposed action identified in Table 2-1 that are not administrative in nature and have the potential to generate environmental impacts. These discussions include activities that are considered ongoing operations and would continue unchanged, as well as the proposed modified activities. (A table of proposed program improvements to the O&M activities at Lake Lanier is provided at the end of this section in Table 2-13.)

2.2.1.1 Environmental Resources

Fisheries and Wildlife. (Existing Program) The Georgia Department of Natural Resources (DNR) has primary responsibility for managing fish and wildlife on Lake Lanier. The Corps coordinates management activities with DNR to maintain acceptable fish and wildlife populations. The Corps's planned 5-year (1999–2003) work objectives for fish and wildlife management activities at Lake Lanier are listed in Table 2-2.

**Table 2-1
O&M Programs at Lake Lanier**

Category	Programs	Improvements Proposed
<i>Environmental Resources</i>	Fisheries and Wildlife	✓
	Shoreline Management	✓
	Island Management	✓
	Nonnative Plant Management	✓
	Fire Management	
	Erosion Management	✓
	Water Quality	✓
	Endangered Species	
	Wetlands	
	Sections 10/404 Permitting	✓
	Forest Management	
	Pollution Abatement	✓
	National Environmental Policy Act (NEPA)	
	Cultural and Historic Resources	
<i>Recreation</i>	Campground Operations	✓
	Environmental Education	✓
	Partnerships	
	Cost Sharing ¹	
	VERS (Visitor estimation) ¹	
	Dam Safety	
	Day Park Operations	✓
	Emergency Management	
	Security	
	Sign Program	
	Navigation Aids	
	Visitor Assistance ¹	
	Visitor Center Management ¹	
	Visitor Safety ¹	
	Water Safety	
	Watchable Wildlife	
	Recycling	
	Special Events	✓
	Spill Prevention, Control, and Countermeasures Plan	
	<i>Contract Administration</i>	Construction and Inspection
Dam Maintenance		
Pesticide Tracking		
<i>Planning</i>	Americans with Disabilities Act (Universal Access) ¹	
	Design and Engineering ¹	
	Operational Management Plan (OMP) Work Planning ¹	
	Geographic Information Systems (GIS) ¹	
	ERGO - Environmental Review Guide for Operations	
	Landscape Architecture	
	Master Planning ¹	

**Table 2-1
O&M Programs at Lake Lanier**

Category	Programs	Improvements Proposed
Management	Policy Setting ¹	
	Project Management ¹	
	Congressional Interest ¹	
	Program Direction ¹	
	Interagency Liaison ¹	
	Special Interest Groups	
Real Estate Activities	Boundary Management	
	Outgrants	
	Compliance ¹	
	Easements, Encroachments, Flowage Easements ¹	
	Leases ¹	
	REMIS (Real Estate Management Information System) ¹	
	Licenses ¹	
	Rights-of-Entry ¹	
	Rights-of-Way ¹	

¹ O&M activities that are primarily administrative or planning in nature and have little or no environmental/socioeconomic effect on the resources. These actions are not evaluated in the EIS.

**Table 2-2
Fish and Wildlife Management Work Objectives**

Work Objective	Volunteer Effort¹	Location
Maintain bluebird boxes	✓	Shady Grove, Bald Ridge, Buford Dam, West Bank, Bolding Mill, Buford Dam Area
Install bluebird boxes		Nix Bridge, War Hill
Maintain wood duck boxes		Two Mile Creek, Four Mile Creeks, Yellow Creek
Install wood duck boxes		Thompson Creek, Limestone Creek, Sardis Creek, East Fork/Little River, on creeks of Upper Chattahoochee, Balus Creek, Flat Creeks
Maintain bat boxes		Sawnee, Bald Ridge, Shady Grove, Tidwell, Young Deer, Duckett Mill, Bolding Mill, Shoal Creek, Chestnut Ridge
Install/maintain bat boxes		Toto and Thompson Creek
Maintain fish shelters	✓	Bald Ridge, West Bank, Two Mile Creek, Six Mile Creek, Charleston Park, at jetties off Duckett Mill, War Hill, Toto Creek, Thompson Creek, Sardis Creek, Lanier Point, Holly Parks, Little River, Buford Dam, Shoal Creek Parks, Burton Mill, Van Pugh
Create new fish shelters	✓	Locations to be decided
Establish food plots		Timber staging areas, in emergency spillway, if required
Replant	✓	Liberty Point
Seed shoreline		Sardis Creek Area
Maintain deer feeder		Buford Dam Park
Maintain neotropical bird program	✓	Maintain edge and brush habitat throughout Corps' property, primarily in Protected Areas
Monitor spring fish spawning/lake level		Lake level is monitored at the powerhouse

¹ Indicates that volunteers participate in these activities.

The Corps's primary goal in fisheries management is to maintain an acceptable fish habitat capable of supporting a diverse sport fishery on a sustained-yield basis. An additional goal is to enhance fishing opportunities. These goals are accomplished by DNR's sampling and stocking, as well as a cooperative effort between DNR and the Corps to create fish attractors and shelters. The locations of fish shelters maintained by the Corps are listed in Table 2-2.

The Corps and DNR also conduct a cooperative monitoring program during the fish spawning season (March through late May/early June). Lake Lanier personnel monitor surface water temperatures near the Lake Lanier Project Management Office and Gainesville marina, and they report these temperatures to DNR. When surface water temperatures reach suitable levels for black bass spawning (low 60s to low 70s in degrees Fahrenheit [°F]), DNR personnel monitor various locations on the lake during spawning. Spawning activities are reported to the Corps, and the Corps attempts to maintain stable lake levels to the extent possible until DNR indicates that spawning has ended.

Georgia DNR management activities include regularly conducting creel surveys, fish community sampling, fish tissue sampling for contaminants analysis, investigating fish kills, improving fish habitat, and conducting water quality tests.

The Corps's overall goal for wildlife management at Lake Lanier is to develop, improve, and maintain a diverse environment that provides habitat for many native wildlife species. Most habitat management and manipulation are accomplished through the forest management program (see below). The Corps also provides artificial habitats (e.g., nesting boxes), plants food plots, and replants or seeds areas that need revegetation (Table 2-2). With limited hunting allowed, nonconsumptive uses of the resource such as bird and wildlife watching, photography, and nature study are common.

DNR conducts annual goose counts, regulates hunting seasons, and assists with nuisance abatement when necessary. The Corps conducts scare tactics to disperse geese away from high activity areas. The summer 2000 Canada goose population estimate of 1,700 on Lake Lanier was below the stated minimum target level of 2,000, which is deemed unacceptable due to nuisance problems that can occur when goose numbers exceed this level.

Wildlife nest structures including wood duck and bluebird boxes are maintained annually on Lake Lanier. Lake Lanier personnel also capture and remove domestic nonnative waterfowl that crossbreed with native species, producing hybrid domestic species. For example, muscovy ducks

and domestic geese have been known to breed with wild individuals, producing hybrids of the species. Because Georgia DNR has no regulatory authority over the control of domestic species, Lake Lanier personnel must remove these species to prevent their proliferation.

The Corps and DNR share the responsibilities of migratory bird management. A future goal is to participate in the Partners in Flight Neotropical Migratory Bird Count. In addition, for the past 2 years, Lake Lanier has been submitting nest attempt data to “The Birdhouse Network,” a study that the Cornell Laboratory of Ornithology is conducting.

Hunting on Lake Lanier is limited because of the lake’s high density of residential housing on the shoreline and the potential for conflict between hunters and other lake users. The only hunting permitted at Lake Lanier is waterfowl, small game, turkey and archery deer hunting in Don Carter State Park along the Chattahoochee River.

Waterfowl hunting for Canada geese and ducks is allowed during the state hunting season. All state and federal waterfowl regulations apply on Lake Lanier (see Late Season Migratory Bird Regulations). Waterfowl hunting is allowed in the following campgrounds, which are closed on a seasonal basis: Shoal Creek, Chestnut Ridge, Old Federal, Duckett Mill, Bolding Mill, War Hill, Shady Grove, Sawnee, and River Forks. Waterfowl hunting is allowed in the seasonally closed portion of the following day-use recreation areas: War Hill, Keith’s Bridge, Long Hollow, Six Mile, Athens Park, Lumpkin County Park, and Bethel Park. Hunting areas are subject to change based on Corps and Georgia DNR recommendations.

Lake Lanier has licensed 513.5 acres to Georgia DNR to manage as wildlife habitat. Hunting is permitted in the area known as the Lula Tract. Georgia DNR also leases the 274.5-acre Corps property that is contiguous to the state-owned Don Carter State Park. Both areas are north of Gainesville along the upper Chattahoochee River.

Proposed Improvements:

Measures the PMO would take to maintain acceptable fish and wildlife populations include coordinating with Georgia DNR to establish a proactive deer management program. The program should include periodic harvesting using discreet methods (e.g., bowhunting) to reduce competition and improve the condition of the herd.

Endangered Species. The U.S. Fish and Wildlife Service (USFWS) has identified federally listed endangered or threatened species that exist or might occur on project property, and the

Georgia DNR has identified state-protected species that are listed as endangered, threatened, or a species of concern in Georgia. (See Section 3.0 for species listings and descriptions and Appendix D for agency correspondence.) Protection of federally listed species and their habitat is required by the Endangered Species Act (ESA). Likewise, the protection of Georgia's protected species is required under state law and is applicable to project natural resource activities.

Each year Lake Lanier personnel conduct a bald eagle survey in support of Georgia DNR's recovery efforts. In addition, Lake Lanier personnel survey for threatened and endangered species before conducting any land-disturbing activities or before any lease is issued.

Nonnative Plant Management. (Existing Program) The spread of kudzu (*Pueraria lobata*) on project lands significantly limits desirable plant diversity and infringes on other natural resources. The Corps's maintenance contractor conducts a limited effort to control kudzu using chemical controls (spraying). However, the Corps plans to expand this effort at some point in the future to include limited controlled burns when appropriate. In addition, the Corps requires adjacent landowners to remove nonnative plantings from public property. Adjacent landowners may be permitted to remove kudzu under a Specified Acts Permit provided they follow specified guidelines.

Aquatic plant communities play an important role in water quality and are also key food and cover requisites for many fish and wildlife species. As a natural part of the ecosystem, aquatic plants are usually a positive factor. However, many exotic plants have the potential to cause serious problems if their spread and growth are unchecked. The exotic aquatic plants of greatest concern are the following:

- Hydrilla (*Hydrilla verticillata*)
- Eurasian watermilfoil (*Myriophyllum spicatum*)
- Brazillian elodea (*Egeria densa*)
- Alligator-weed (*Alternanthera philoxeroides*)
- Water hyacinth (*Eichornia crassipes*)

Currently there are no known infestations of these aquatic species at Lake Lanier (Lovely, 2002, personal communication). Management activities are concentrated on maintaining surveillance for pest species and promoting employee training.

Proposed Improvements:

Measures the PMO would take to manage nonnative populations include developing programs to provide better control of invasive and noxious species (e.g., kudzu, English ivy, poison ivy) by encouraging adjacent owners', partners' (i.e., various businesses and special interest groups) and volunteers' efforts and providing educational and outreach programs to inform the public about desirable and undesirable plant species.

Fire Management. In accordance with a cooperative agreement with the Mobile and Savannah Districts, the Georgia Forestry Commission cooperates in the suppression of all fires occurring on, or adjacent to, the Corps's property. Each of the adjacent five County Fire Departments also cooperates in the suppression of wildfires. With respect to local county assistance, Hall and Forsyth Counties are most frequently contacted for wildfire suppression. In preparation for fire fighting, the Corps maintains a cache of hand tools and heavy equipment.

Erosion Management. (Existing Program) Soil erosion from off-site locations in the watershed surrounding Lake Lanier is the most prevalent environmental problem (USACE, 1999). The two major types of soil erosion occurring at Lanier are surface erosion and shoreline erosion. Surface erosion occurs during heavy rains in areas where the type and quantity of vegetation are insufficient to hold the soils in place. Shrubs, bushes, and trees hold soils in place, whereas grasses do not. Shoreline erosion occurs as a result of wave and water action along the shoreline.

Current management actions to deal with erosion focus largely on preventing or minimizing erosion at priority sites (recreation and operational areas), implementing erosion control practices, authorizing private landowners to implement erosion control practices, and enforcing regulations. The overall goal of soil erosion management at Lake Lanier is to minimize soil deposition into the lake from fee and adjoining property as well as possible within the project's manpower and budget limitations. A secondary goal is to implement bank stabilization measures on areas that are especially sensitive or have recreational and cultural significance. Erosion control measures implemented by Lake Lanier include maintaining a vegetated/forested shoreline buffer, planting native trees and shrubs in denuded areas, and where necessary, stabilizing the shoreline with riprap. Lake Lanier staff members also present periodic soil erosion control seminars to the interested public. Several miles of riprap have been placed along the lake's shorelines by homeowners who live along the lake and have attended the seminars. The riprap was placed, and paid for, solely by the homeowners.

Proposed Improvements:

Measures the PMO would take to reduce erosion and to enhance the shoreline's sustainability include the following:

- (1) Requiring that permittees requesting fixed structures on the shoreline, such as steps, install shoreline stabilization measures when renewing or applying for a new Shoreline Use Permit or USACE outgrant. This measure is necessary to protect such structures from becoming unsafe due to erosion.
- (2) Allowing applicants for real estate outgrants to mitigate effects of their use of the shoreline by constructing mitigation measures at locations other than the sites impacted by the outgrants.

Water Quality. (Existing Program) Georgia DNR and the U.S. Environmental Protection Agency (EPA) share the responsibility of maintaining water quality at the Lanier project. The Corps is not responsible for maintaining water quality.

Water quality management includes monitoring water quality on Lake Lanier as well as on the Chattahoochee River below Buford Dam. Georgia DNR's Environmental Protection Division (EPD) has the primary responsibility to monitor water quality on Lake Lanier. The DNR conducts water quality tests at a fixed point just north of Buford Dam. Because of the presence of a large goose population on the lake, however, the Corps conducts water sampling of the 23 public beach areas throughout the recreation season to test for fecal coliform bacteria. To date, no beaches have had to be closed because of the presence of high concentrations of fecal coliform bacteria.

The Corps also monitors water quality in the tailwaters below Buford Dam through the use of a monitor installed on the Chattahoochee River. Project personnel conduct weekly water quality checks and forward the results to the District's Planning Division.

The lack of dissolved oxygen in tailwaters is a major concern during the autumn months. The Chattahoochee River below Buford Dam is a year-round trout stream that sports both wild and stocked fish. Georgia DNR operates a trout hatchery using water withdrawn from the river. Historically, fish kills have occurred in the DNR trout hatchery due to low levels of dissolved oxygen released from Buford Dam. As part of the major rehabilitation of the powerhouse, two new computerized water quality probes have been installed to monitor water quality before the

water enters the turbines and after the water is released into the river. This new computerized system will allow project and Mobile District personnel to monitor water quality parameters, particularly dissolved oxygen, from a remote location. Rehabilitation of the three powerhouse turbines also will include a turbine venting system to increase dissolved oxygen concentrations in the released waters.

Proposed Improvements:

Measures the PMO would take to preserve and improve water quality include the following:

- Requiring permittees during renewal and change of owner inspections of authorized facilities to identify the location of septic system that are located on public property above elevation 1,085 feet msl. Systems located on public property above elevation 1,085 msl may remain, but require inspection and certification that the system is functioning properly. County Health Department officials can provide this certification upon request. All septic tanks below 1,085 feet msl on public property must be removed.

Wetlands. The limited wetlands on and around Lake Lanier (see Section 3.9.5) provide natural biological functions, including food chain production, and general habitat for aquatic and terrestrial species for nesting, spawning, rearing, and resting sites. They also improve water quality. The 1988 SMP indicates that because of the scarcity of wetlands in northern Georgia, Lake Lanier's wetlands should be preserved to promote the region's ecological integrity. To maintain wetlands, the Corps will not issue a permit that involves general or specific use or alteration of wetlands unless concurrence is gained from the USFWS and the Georgia DNR.

Shoreline Management. (Existing Program) ER 1130-2-406 directs shoreline management at all USACE civil works projects. Each project is required to develop an SMP that is unique to that specific project. The Lake Lanier Lakeshore Management Plan (LMP; name has since been changed to Shoreline Management Plan, or SMP) was originally approved in 1979 and last revised in January 1988. This EIS serves as the NEPA documentation for the updated SMP. The Draft Final 2003 *Shoreline Management Plan* will not become final until approved by the South Atlantic Division Commander following the signature of the Record of Decision by the South Atlantic Division Commander for this EIS.

As of August 2001, 8,348 Shoreline Use Permits/Licenses (permits) had been issued authorizing more than 25,000 items (e.g., private boat docks, electrical lines, water lines, pump houses, and

well houses) on public property to adjacent landowners. The average number of new permits issued annually over the past 9 years (1992–2001) is 171. There have been an average of 400 changes of ownership and 125 modifications to existing floating facilities per year over the past 5 years.

The lake is divided into four areas, each of which is assigned to a Corps ranger to administer SMP actions. Each ranger is assigned responsibility for approximately 2,100 permits, 152 miles of boundary line, and 173 miles of shoreline (Figure 2-1).

The Shoreline Management administrative staff mails 400 to 500 pieces of correspondence each month. Mailings include Renewal Notices and permits, Change of Ownership notices, New Permits, Modifications to Permits, Exhibit E Deficiency Notices, and Warning/Citation Notices.

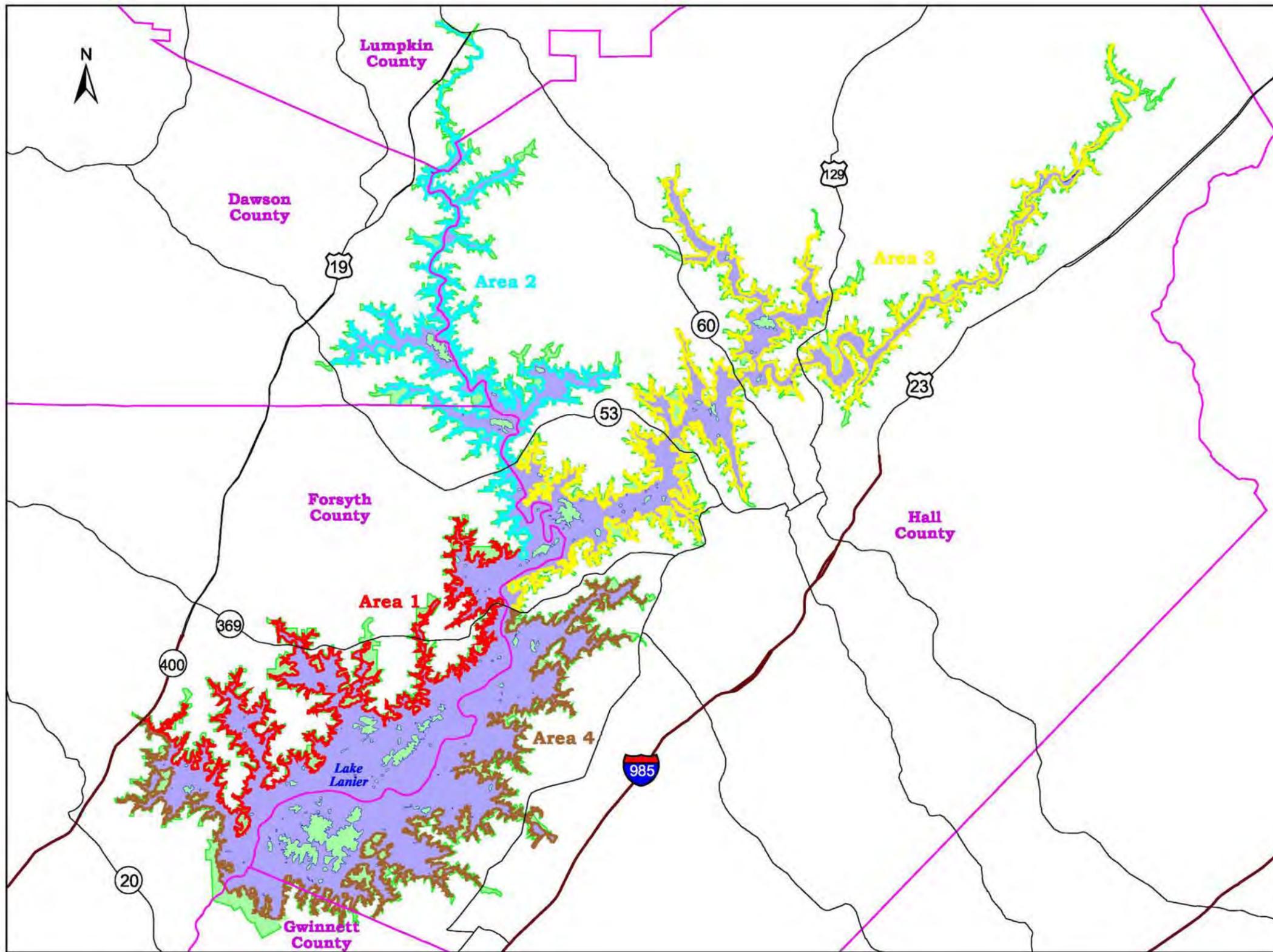
The Shoreline Management information desk fields 30 to 40 telephone calls per day, answering inquiries ranging from requests for boundary data to requests for area ranger appointments.

Proposed Improvements:

Improvements to the SMP are proposed in the following areas:

(1) Vegetation. Measures the PMO would take to conserve and enhance the shoreline vegetation include the following:

- Maintaining a vegetative (forested) shoreline buffer consisting of native woody shrubs and trees (understory and overstory) along all shoreline allocation zones, excluding Prohibited Areas. Limited underbrushing may be authorized in conjunction with Shoreline Use Permit/Licenses.
- Improving shoreline vegetation through additional planting of native species.
- Allowing for the revocation of Shoreline Use Permits (private boat dock permits) for major violations of the permit conditions, including destruction of public property and removal of vegetation.



LEGEND
Shoreline Management Administrative Areas
Area 1
Area 2
Area 3
Area 4
Corps Boundary

0 1.5 3 Miles

Shoreline Management Administrative Areas

Figure 2-1

Source: USACE Mobile District, 2001.

- Approving or renewing Specified Acts Permits when work is for the purpose of wildlife habitat enhancement or forest stand improvement. All work plans are required to be supported by written landscape proposals that detail species selection and placement.
- Requiring all open areas where grass mowing has not been previously authorized under existing Shoreline Use Permits to be restored naturally, revegetated by the permittee or at the Corps's discretion.
- Because grass does not provide a diverse quality vegetative buffer, it is project policy to restore grassed mowing areas to a more natural state when not maintained. When permitted areas are not maintained and woody vegetation has reestablished itself, this portion of the permit will not be renewed. During changes of ownerships minimization of permitted mowed areas will be encouraged to help protect the lake's water quality, aesthetics, and wildlife habitat.
- Allocating budget resources to provide for vigorous enforcement of prohibitions against unauthorized removal of vegetation.

(2) Private Boat Docks. Measures the PMO would take in the updated SMP with respect to the number of private boat docks include the following:

- Implementing new Shoreline Use Permitting Policy. Policy changes include:
 - 50 percent utilization of Limited Development Areas (LDAs) per ER 1130-2-406.
 - Total additional private boat docks = 2,022.
 - Potential total private boat docks = 10,615.
- Requiring that the adjacent private property for which a new boat dock is proposed must have a minimum of 82 feet of private land adjoining public property (50-foot buffer between docks plus maximum allowable dock width of 32 feet) and provide not less than a 6-foot depth at the end of the dock at elevation 1,071 feet msl. This is to ensure that there is sufficient space and frontage for the placement of docks.

- Requiring the use of community docks in all new residential developments. Requests that do not meet the guidance described in Section 15.1, Eligibility Requirements of the SMP, can be further evaluated based on their environmental benefits and public interest. If site conditions prohibit the use of a community dock, the Operations Manager may permit a variance for the use of private individual docks.
- Allowing communities that install courtesy docks rather than private docks to build a private ramp within the community for ready access by residents.
- Encouraging existing private dock permittees to convert to community docks followed by rezoning of the shoreline from LDA to Protected Area.
- Implementing more vigorous inspection and enforcement of private and community boat dock maintenance standards.
- Providing that Shoreline Use Permits for private or community boat docks are ineligible for renewal (for a period of 1 year) in the event corrective actions are not taken effectively or in a timely manner.

(3) Boat Dock Usage. Measures the PMO would take to manage the use of docks and to maintain safe and navigable waterways, particularly in coves, include the following:

- Requiring that the length of a vessel allowed at a private dock will be determined by the length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the docks ability to safely moor and protect from storm damage must be stored in marina facilities.
- Requiring the mooring of boats in boat slips and prohibiting the mooring of boats to other boats.
- Prohibiting the use of boat slips to accommodate boats or personal watercraft (e.g., Jet Skis, Wave Runners) having mufflers above the water line. State law stipulates that mufflers must be at, or below, the waterline.

Island Management. Measures the PMO would take to manage the abundant number of islands in Lake Lanier include the following:

- (1) Encouraging day uses (e.g., fishing, sunbathing, wading, hiking, swimming, birdwatching, and picnicking).
- (2) Establishing the islands as wildlife conservation areas through vegetation, timber stand, habitat and wildlife management activities.
- (3) Explore the establishment of archery deer hunting to control over abundant deer populations on the islands.
- (4) Establishing an Adopt-An-Island program, or something similar, as a source of volunteer labor and/or funding for shoreline protection and stabilization activities on the islands. Islands that become highly eroded have the potential to become navigation and safety concerns.

Sections 10 and 404. Regulatory permitting is completed pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act of 1977. Typically permits are issued for shoreline stabilization and dredging activities that are performed by adjacent landowners and are characterized as minor in nature. Regional permits may be issued to each adjacent landowner when requested. However, new work must be reviewed to ensure that it is consistent and compatible with previous work performed nearby under past permits. Lake Lanier is under the Savannah District's regulatory jurisdiction. The Savannah District Engineer has issued 16 regional permits to Lake Lanier that can be issued at the project level for minor activities, such as dredging for silt removal and bank stabilization activities (e.g., riprapping).

Individual and nationwide permits are used to authorize projects that exceed the regional permit limitations. These activities include large-scale dredging projects undertaken by a single entity that exceed 1,500 cubic yards of material and structures that require dredging or shoreline stabilization that exceeds the Regional Permit's limitations. Individual and nationwide permits require coordination with the North Area Section Office of the Savannah Regulatory Functions Branch. Preconstruction meetings often identify potential controversy and allow the applicant to anticipate potential impacts. All applications for work on Corps property must be forwarded through the Lake Lanier Operations Manager for recommendation. Table 2-3 provides the number of dredging permits issued by the Lake Lanier Project Management Office since 1995.

**Table 2-3
History of Dredging Permit Issuance (1995–2001)**

Year	Number of Permits Issued	Cubic Yards of Silt Removed
1995	5	3,000
1996	10 (estimated)	9,050
1997	13	10,050
1998	43	33,219
1999	75	32,229
2000	28	15,900
2001	17	7,904
TOTAL	191	111,352

Under the dredging policy in place before 1999, the Corps experienced an exceptionally high number of permit violations of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The most frequent violations of permit conditions were the prohibited removal of hardpan material (permits allow removal of alluvial soils only); not maintaining positive waterflow, thereby creating a ponding effect in coves; and destruction of the environment while gaining access to public property. After 1999 the Corps changed the dredging policy to disallow the use of equipment having the capability of dredging hardpan material. This requirement significantly increased the cost of dredging, thereby resulting in a decreased number of permit applications.

Proposed Improvements:

The PMO will implement the following actions to improve the permitting process.

(1) Regional Permits for Shoreline Protection

- Discontinuing the use of sea walls or bulkheads and requiring riprap or biostabilization only. Maintenance costs for seawalls or bulkheads can become too costly for individual homeowners to assume. As a result many seawalls and bulkheads installed by homeowners have failed.
- Allowing seawalls or bulkheads only in locations where private property falls below the 1,071-foot msl elevation.
- Requesting the revision of regional authority to allow an increase in the linear foot distance of shoreline protection. This approach would increase the length of shoreline that is protected from further erosion.

(2) Dredging

- A silt removal plan will be required from the permittee and must include a cross-section with dimensions illustrating current and final slope, as well as quantity of silt and depths after work is complete. The plan must describe the method in which excavated material is to be removed and the location where the silt will be relocated. However, the removal of hardpan or creating significant negative impacts on public property will not be allowed. Requests for dredging will be reviewed on an individual basis and approved if the public interest is protected.
- Requesting the revision of regional authority to allow an increase in the cubic yardage of silt removal to a total of 2,500 cubic yards of silt per permit. Currently, a person may be eligible to receive three permits for the removal of 500 cubic yards of silt per permit, or a total of 1,500 cubic yards.

Forest Management. The management goals for forested lands on Civil Works Water Resource Projects are outlined in Public Law 86-717, and these prescribe that project lands be managed for multiple benefits in such ways that the productivity and value of the land are maintained for future use. Timber, wildlife habitat, air and water quality, soil, aesthetics, and outdoor recreation activities are the benefits for which project lands are managed.

Forest management on Lake Lanier is driven by multiple-use concepts. To improve planning, facilitate implementation, and enhance evaluation of the natural resource management plan, project lands are divided into 10 compartments (Figure 2-2 and Table 2-4). Accessibility, geographic location, and drainage patterns were considered in establishing compartment boundaries.

**Table 2-4
Summary of Compartment Land and Water Acreage**

Compartment Number	Land Acreage	Water Acreage
1	2,661	5,157
2	1,961	7,854
3	2,643	4,653
4	1,122	1,681
5	763	1,024
6	1,835	3,136
7	1,224	3,597
8	1,243	1,494
9	1,244	4,390
10	3,048	6,052
TOTAL	17,744	39,038

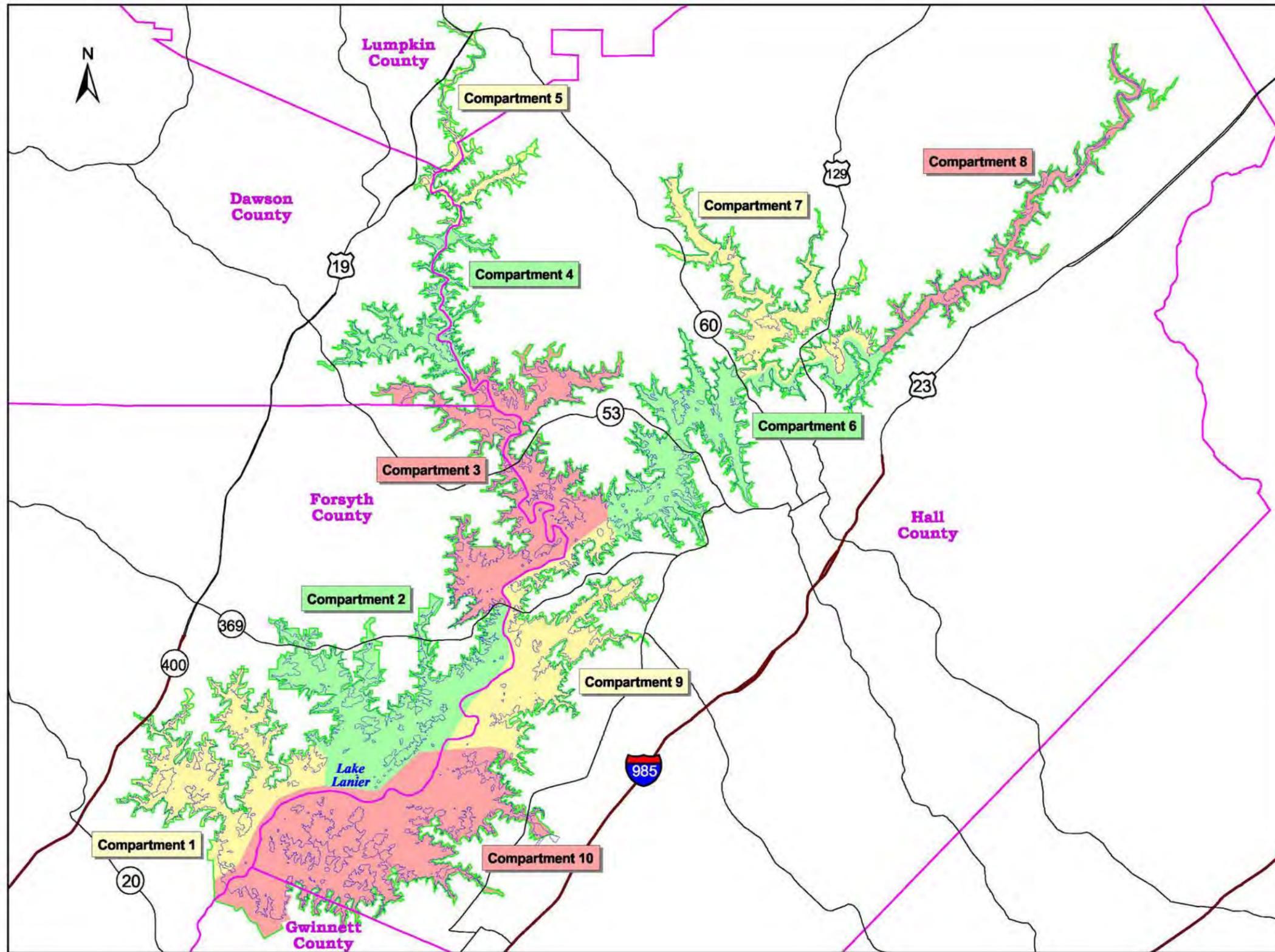
Fulfillment of a multiple-use concept at Lake Lanier led to the development of specific goals based on land use allocations identified in the 1988 SMP (see Shoreline Management for explanation).

In **Limited Development Areas (LDAs)**, the basic forest management goal is to develop and maintain a healthy, vigorously growing, uneven-aged forest that provides sustained public use while conserving most natural resources values. LDAs may be planted with native shrubs and trees under the proper circumstances, especially in situations where environmental degradation is occurring. Planting in LDAs is done primarily by adjacent landowners under permit from the PMO. The cutting of dead or diseased trees that pose a threat to persons or property can be authorized in these areas by permit. Clearing to obtain scenic vistas or to establish lawns is not permitted. Removal of forest humus is also prohibited because it causes sheet erosion, root damage, and soil compaction.

In **Protected Areas**, the primary goal is to maintain a healthy stand of native trees that provide multiple resource benefits on a sustained-yield basis. Management practices focus on providing protection from fire, insects, disease, and other threats. Protected Areas are planted with pine and hardwood seedlings to maintain reasonably stocked conditions and to protect the ground surface from erosion. Because of the age of most forests and the prevalence of pine and pine-hardwood at Lake Lanier, pine and pine-hardwood stands are the most intensely managed forests. Selective thinning of pine in these stands is a common treatment and strategy for attaining the above goal.

Public Recreation Areas are managed to provide and maintain a healthy, vigorously growing forest capable of sustained recreational use. They are planted with pine or hardwood, but hardwoods are preferred for their aesthetic qualities and wildlife benefits. Pine plantings are useful for rapidly reclaiming previously unforested areas and providing forest diversity. Areas designated for public recreation but not yet developed for such use are managed for multiple use similar to that of Protected Areas.

Every 2 years, forestry prescriptions (management activities) are completed for 2 of the 10 compartments. These prescriptions, usually for tracts of predominantly pine timber, are limited by factors such as access, recreational use, and the mere small size of many timber tracts. The schedule for forest resources inventory and treatment, which are conducted on a 10-year cycle, is provided in Table 2-5. This schedule is subject to modification based on the need to harvest trees infested with the southern pine beetle (*Dendroctonus frontalis*).



Natural Resource Compartments

Figure 2-2

Source: USACE Mobile District, 2001.

**Table 2-5
Forest Resources Inventory and Treatment Schedule**

Compartment	Last Treatment	Inventory Year	Next Treatment Year	Burning Schedule
1	2000	2009	2010	N/A ¹
2	2000	2009	2010	N/A
3	1992	2001	2002	N/A
4	1992	2001	2002	N/A
5	1994	2003	2004	1995
6	1994	2003	2004	N/A
7	1996	2005	2006	N/A
8	1996	2005	2006	1997
9	1998	2007	2008	N/A
10	1998	2007	2008	N/A

¹N/A means not applicable for burn (hardwood stands are not burned).

Thinning prescriptions are the main method used to maintain healthy and vigorous residual stands of timber. Responses to pine beetle infestations and hazardous trees also account for removal of many trees around the lake or their placement as fish habitat.

Lake Lanier will continue to use thinning to reduce the basal area of pine stands to 60 to 80 square feet per acre to maintain vigorous growth of trees and minimize the risk of mortality due to the southern pine beetle. Infested pine trees are harvested when possible. If not possible, pine beetle damage is limited by cutting a buffer of live pine trees around the active infestation.

The Corps also conducts commercial timber sales for recreation and lease area renovations or expansions, and to limit the damage of pine beetle infestations. Timber sales are the responsibility of the District Forester, who is stationed at Fort McClellan, Alabama. Lake Lanier personnel assist the District Forester with preparation of forest prescriptions and timber sales. Timber sales are preceded by the PMO's completion of a Timber Availability Memorandum, which is forwarded to the Mobile District Office. The Timber Availability Memorandum provides the following information:

- Location of the tract to be harvested.
- Name and address of the bidder(s).
- Total amount and type of timber to be harvested (e.g., tons of pine pulpwood or pine sawtimber).
- Reason for the timber sale (pine beetle infestation).

- Whether the harvest will occur within 300 feet of a known cultural or historic resource site.
- Results of endangered species survey.
- Whether the action is a normal silvicultural practice, meets state Best Management Practices (BMPs), or requires a state water quality certification.
- Whether mitigation lands are involved.

Following review of the Timber Availability Memorandum, the Mobile District forwards an Environmental Approval Memorandum to the Project for the conduct of the timber sale. Local Authority timber sales are completed by Lake Lanier personnel and are authorized for emergency sales (normally small pine beetle infestations) with a limit of \$5,000 per sale.

Figure 2-3 shows the revenue for timber harvest on Lake Lanier from 1996 to the present. No timber harvests were conducted in 1999, and data for fiscal year (FY) 2001 are incomplete.

Detailed timber harvest information is provided in Table 2-6. It should be noted that the yearly values of timber harvests are subject to fluctuations due to a variety of factors affecting market conditions, including widespread southern pine beetle infestations.

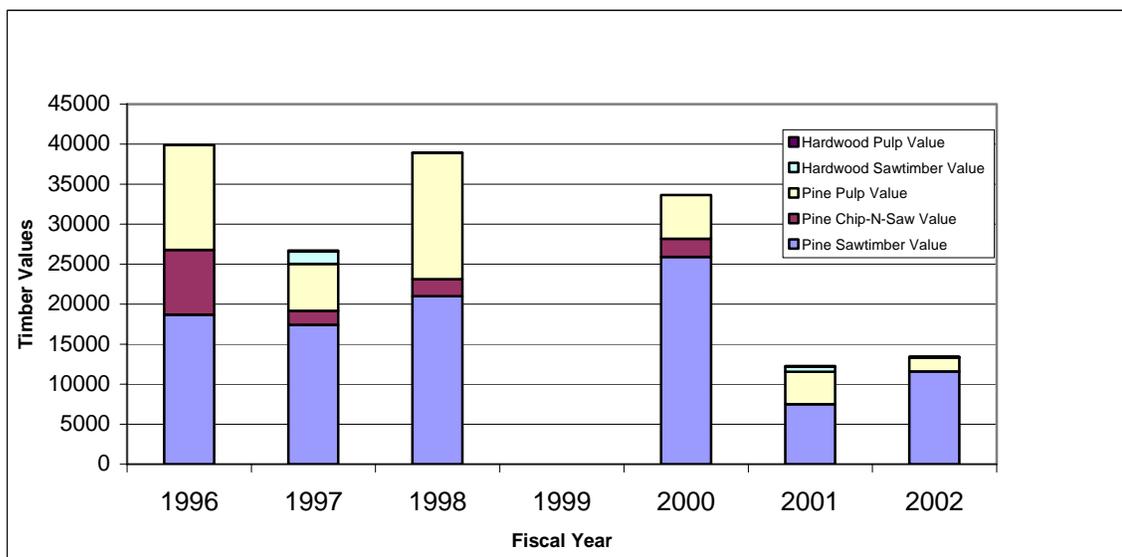


Figure 2-3. Timber Harvest Value Summary, FY 1996–2002.

**Table 2-6
Timber Harvest Summary, Fiscal Year 1996–2002**

Fiscal Year	Pine Sawtimber Volume (tons)	Pine Sawtimber Volume (MBF)	Pine Sawtimber Volume (cords)	Pine Chip-N-Saw Volume (tons)	Pine Pulp Volume (tons)	Pine Pulp Volume (cords)	Hardwood Sawtimber Volume (tons)	Hardwood Pulp Volume (tons)	Hardwood Pulp Volume (cords)
1996	916.34			584.76	3324.87	318.27			
1997	1489.05			191.82	1256.65	121.14	175.34	77.96	
1998	1274.82		5.1	112.92	2402.56	89.66			4
1999									
2000	1118.04			151.60	1048.59				
2001	379.71	2.762			799.58	20.43	77.07	47.61	
2002	753.08				491.97		5.00	7.00	

Fiscal Year	Pine Sawtimber Value	Pine Chip-N-Saw Value	Pine Pulp Value	Hardwood Sawtimber Value	Hardwood Pulp Value	Total Value
1996	\$18,699.28	\$8,093.40	\$13,114.65			\$39,907
1997	\$17,431.77	\$1,736.04	\$5,851.60	\$1,551.02	\$140.33	\$26,711
1998	\$20,996.86	\$2,110.47	\$15,785.57		\$32.00	\$38,925
1999						\$0.00
2000	\$25,916.14	\$2,266.33	\$5,452.65			\$33,635
2001	\$7,483.85		\$4,072.33	635.83	\$95.22	\$12,287
2002	\$11,595.17		\$1,739.41	\$75.00	\$35.00	\$13,445

Specific work objectives identified in the current Operational Management Plan (OMP) 5-year work plan for forest management include the following:

- Planting hardwoods at Sawnee, Tidwell, and Bald Ridge Parks.
- Thinning in protected and recreation areas, as well as at Sunrise Cove Marina, Gwinnett, Lanier, and East Bank Parks.

Pollution Abatement. Each year abandoned property, such as boats, structures, docks, and general debris, is found on public property. Although these items are usually removed by the O&M contractor, it is the responsibility of the adjacent landowners to remove these items to remain in compliance with their permits.

Proposed Improvements:

Measures the PMO will take to reduce pollution and possible deleterious effects on waterfowl from the ingestion of algae-coated Styrofoam beads include: Prior to Shoreline Use Permit renewal, owners will be encouraged to replace beaded Styrofoam with encapsulated flotation materials for continued use of the boat dock.

National Environmental Policy Act. The National Environmental Policy Act of 1969 (NEPA) requires the completion of an environmental assessment (EA) or environmental impact statement (EIS) depending on the significance of the impacts expected to occur from implementation of the proposed action. CEQ regulation requires agencies to supplement draft or final EISs if:

- (1) The agency makes substantial changes to its proposed action not covered in the EIS.
- (2) Significant new circumstances or information bearing on the issues arises after completion of the EIS.

The original EIS for Lake Lanier was completed in December 1974. The first SMP was completed in 1977 and updated in 1988. The proposed update of the SMP, updates of other project plans (such as forest management plans), and intense regional development that has altered the environmental setting are considered significant new circumstances potentially affecting resources at Lake Lanier. This EIS is being prepared to address the circumstances that have occurred since the 1974 EIS. The final EIS will be completed before the updated SMP. The

EIS will address environmental, socioeconomic, and other applicable issues facing the lake that have an impact on its operation.

Cultural Historic Resources. Lake Lanier has an approved Historic Properties Management Plan (HPMP), dated April 1997, detailing the location and characteristics of each significant Historic Resource Site. The plan was prepared under provisions of ER 1130-2-438 and a number of acts, executive orders, CFR Notices, ERs, and guidance letters. Previous historic resources investigations occurred in the late 1930s, 1950, 1978, and 1987.

As a result of consultation with the Georgia State Historic Preservation Officer (SHPO), it was determined that all project lands with a high potential for historic properties have been surveyed, with the exception of isolated tracts along the upper Chattahoochee and Chestatee Rivers.

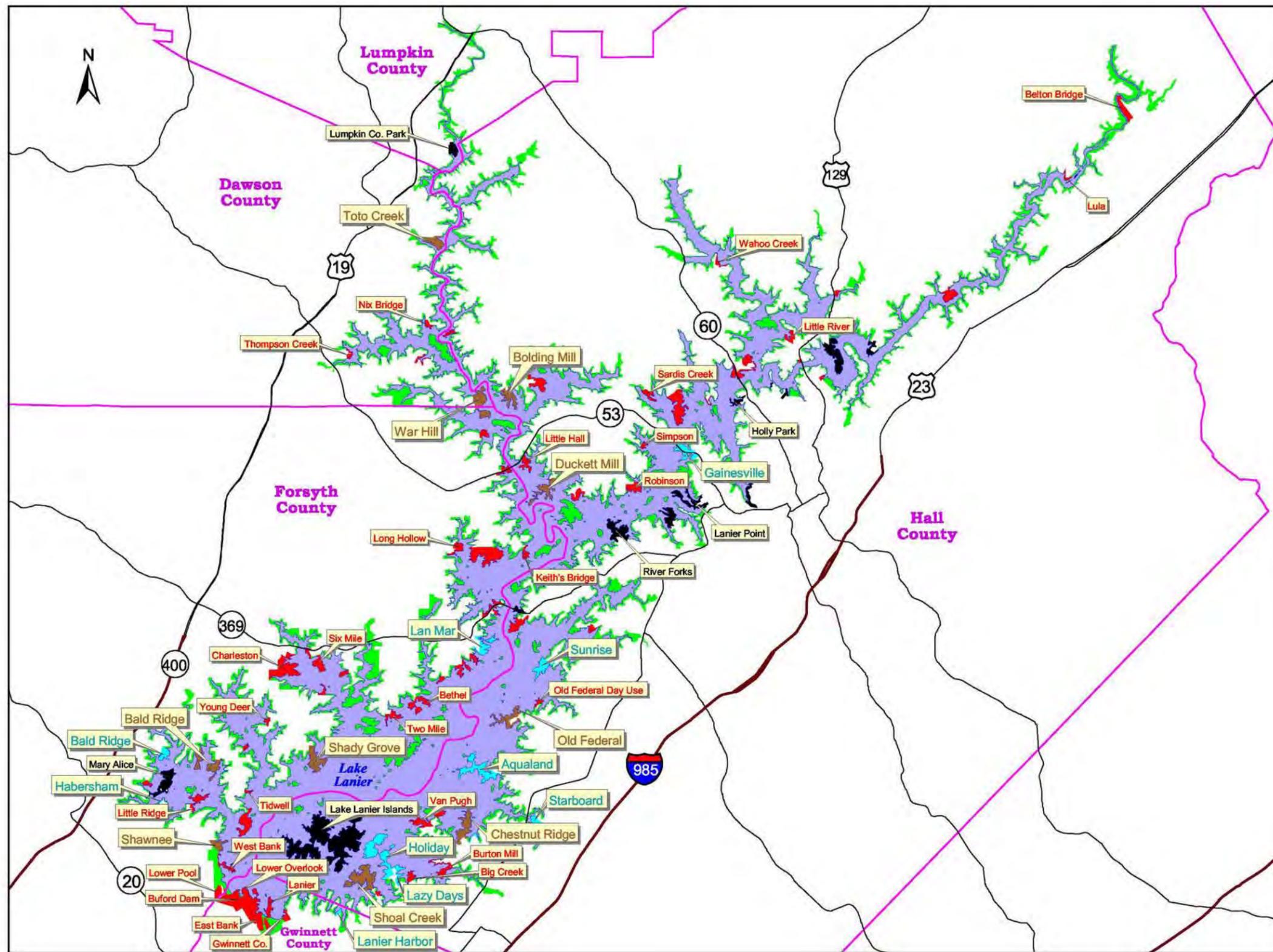
Data recovery was conducted at several prehistoric archeological sites prior to the impoundment creating the lake. Historic resource surveys of Lake Lanier have identified seven historic properties within the federal government property. Since passage of the National Historic Preservation Act in 1966, data recovery has been conducted at two prehistoric sites that were determined eligible for the National Register of Historic Places. The National Register eligibility of five historic properties remains to be determined.

The HPMP calls for routine inspections by designated project staff and an annual inspection by the District Office. In addition, the HPMP requires coordination with the District Office when historic resource sites occur within a 300-foot perimeter of potential work areas. Recreational archeology is not allowed on project property with the exception of limited metal detector use in designated swim areas that have been granted cultural clearance.

2.2.1.2 Recreation

Campground Operations. The Campground Management Program at Lake Lanier includes all aspects of managing 10 recreation areas with 786 individual campsites and 4 group camping areas (Figure 2-4). Of these 10 parks, 8 are operated with contract park attendants, and the remaining 2 are operated with park hosts and self-pay vaults. Campgrounds are usually open from February through November. During FY 2001, some \$751,000 in revenue was collected in this program.

At Lake Lanier 8 of the 10 Corps campgrounds, or about 60 percent of Lake Lanier's 786 campsites, are run on the National Recreation Reservation Service (NRRS), a cooperative program between the Corps and the National Forest Service to provide "one-stop shopping" for

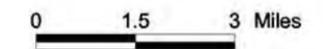


LEGEND

Park Type*

- Corps Day Use Park
- Campground
- Marina
- Other Park (State, County, City, etc.)
- Other Corps Property
- County Boundary

*Only parks referenced in the text are labeled.



Parks and Recreation Areas

Figure 2-4

Sources: USACE Mobile District, 2002; 2001; 1988.

camping reservations. Daily Arrival Reports (DAR) are used to convey reservation information to the campgrounds.

Contract park attendants are selected through a bidding process. Annual contracts are used without the option to renew. Lake Lanier awards 16 campground park attendant contracts each year, costing about \$135,000 annually.

Table 2-7 lists specific projects and activities that Lake Lanier expects to conduct at the campgrounds through FY 2003.

Proposed Improvements:

Measures the PMO will take to ease overcrowding at recreational facilities at the south end of the lake include the following:

- (1) Converting campground sites to day use sites in the southern portion of the lake and developing new campground sites in the northern portion of the lake. Relocated and/or renovated camping sites will be provided in existing recreational areas. Planning for these will be pursued as funding permits.

Environmental Education. (Existing Program) One of the responsibilities of the Lake Lanier PMO is to interpret regulatory guidance and policy to project users. Each year Lake Lanier staff provide programs to real estate professionals, homebuilder's associations, county and city employees, and various leadership groups. In addition, rangers meet some 1,000 adjacent landowners each year to discuss requirements or to gain permit compliance.

Lake Lanier receives up to 10,000 questions each year both in person and by telephone. These questions provide an opportunity to discuss specific guidance, provide boundary line data, accept permit applications, and review section 404 and section 10 program requirements.

Table 2-7
Actions Proposed in the Operational Management Plan as Part of Campground Operations

Location	Action/Project
Chestnut Ridge Campground	Provide water and electrical hookups for about 35 campsites
Sawnee Campground	Resurface roads and campsites
	Renovate campsites 16 through 24 and repave road system
Shady Grove Campground	Resurface roads and campsites
Shoal Creek Campground	Resurface roads and campsites
Toto Creek Campground	Fence property line

In 1999 the first Government Conservation Seminar was conducted in Cumming, Forsyth County. It involved federal, city, county, and state water quality and erosion control officials. More seminars will be scheduled as state standards are revised or developed. Additionally, a Shoreline Management course was developed to provide professional development opportunities for real estate agents and brokers. With the pending update of the Lake Lanier SMP and the improvements to that SMP not yet known, the class was not repeated. Once the SMP update is completed, the course will be revised and provided twice each year.

Proposed Improvements:

Measures the PMO will take to improve environmental education opportunities include establishing an Environmental Education Center to facilitate educational, environmental, watchable wildlife, and public outreach initiatives.

Partnerships. In an effort to better manage Lake Lanier, the Lake Lanier PMO has entered into partnerships with various business and special interest groups. Last year's partnering efforts included the following:

- Park Ranger Trading Cards sponsored by Lanier Park Primary Medical Care.
- Life Jacket Swap Program with personal flotation devices purchased by Hall County Safe Kids Coalition.
- Life Jacket Swap Program with personal flotation devices provided by Kawasaki.
- Flotation Citation Program with coupons provided by Arbys, McDonalds, Wendys, Mrs. Winners, and CiCis.
- Water Safety Message Program with free newspaper space provided by the local paper, *Lakeside on Lanier.*

- Free donation of ad space on billboards to promote water safety.
- National Public Lands Day at Lanier, sponsored by Toyota and the Lanier Association.

Dam Safety. Failure of Buford Dam could be hazardous to life or cause significant property damage downstream. Lake Lanier has a Dam Safety Plan that outlines emergency actions and notification procedures to take place in the event of the failure of the dam. The plan was last updated in 1994.

The Dam Safety Inspection Program entails collecting and reporting peizometer data each month and completing a Quarterly Dam Inspection Report. A peizometer is a well-type structure in the ground that ranges from 12 to 190 feet deep and is about 1.5 inches in diameter. Peizometers are strategically placed along the face of the dam to monitor groundwater in the dam. A device is used to measure the water level in the peizometer, which ranges from 17 feet to more than 130 feet deep. There are 43 peizometers in all, 30 on the main dam and 13 on the saddle dikes. In addition, water flow is measured at several drainage pipes and streams located behind the saddle dikes. Completing the inspection process takes one ranger about 4 hours.

Dam inspections are completed quarterly, and the following conditions are distress indicators to be monitored:

- A 10-foot change (increase or decrease) in a peizometer reading.
- Sloughs or slides in embankments.
- Evidence of piping or boils in the areas adjacent to the dam, such as monoliths and structural joints.
- Unusual increase in seepage.
- Unusual vertical or horizontal movement or cracking of embankments.
- Localized depressions or subsidence in riprap.
- Significant erosion of banks, especially at the end of riprapped slopes or at the end of an erosion ditch.
- Sinkholes, circular cracks, or depressions downstream of dam.
- Muddy or unusually clear areas in the reservoir or downstream in the river.

Observation of any of these items would be reported immediately to the Mobile District Engineering Division. Currently, special precautions, including daily monitoring, have to be taken when the reservoir level exceeds full pool.

Day Use Park Operations. (Existing Program) Specific projects and activities that Lake Lanier PMO expects to conduct at the day use parks during the next 5 years are provided in Table 2-8. The Day Use Fee Management Program includes all aspects of managing the day use parks on Lake Lanier where user fees are collected. Of the 42 day use parks at Lake Lanier, 6 are operated with 12 pairs of contract park attendants, and 9 areas use self-pay vaults. Day use fees are collected at 40 percent of all day use parks at Lake Lanier.

Table 2-8
Actions Proposed in the Operational Management Plan as Part of Day Use Park Operations

Location	Action/Project
Project-Wide	Cleaning service, grass mowing, routine O&M
	Park management and interpretation
	Lake management and lake patrol
Lower Overlook	Repair shoreline erosion and protect by riprap or retaining wall
Lula	Construct restroom
East Bank/Lanier Park	Provide restroom, restore day use facilities, and resurface roads
Little Hall Day Use	Provide staging area for fishing tournaments
Old Federal Day Use	Control shoreline erosion
	Provide ADA access for persons with disabilities
	Provide moveable controlled entry station
Van Pugh North Day Use	Gabion repair
	Beach repair
	Renovate day use facilities
	Renovate and provide additional parking
Bethel ¹	Convert old camping area over to day use; relocate additional picnic sites
	Shoreline erosion control
Little Ridge ¹	Grade, renourish, and delineate beach area to improve safety
	Provide additional trails, picnic facilities, and fishing pier for persons with disabilities
	Provide one restroom
	Provide entry station
Nix Bridge ¹	Realign, pave, or resurface existing roads and parking lots, and boat ramp
	Renovate picnic facilities and beach to eliminate safety defects and construct group shelter
Two Mile Creek	Realign, pave, or resurface existing roads, boat launching area, and parking lots
	Grade, renourish, delineate, and improve swimming area for visitor safety
	Renovate picnic facilities to eliminate safety defects
	Repair and restore eroded ground cover
	Renovate trail system to improve visitor safety and minimize erosion
	Provide one restroom
Big Creek	Fence property line

Table 2-8**Actions Proposed in the Operational Management Plan as Part of Day Use Park Operations**

Location	Action/Project
	Control shoreline erosion and restore ground cover
Little Shoal Creek	Provide additional parking for boat launching area
	Construct restroom facility
Lower Pool	Regrade and pave road and parking
Belton Bridge	Relocate, realign, and surface roads and parking
	Provide trails
	Renovate boat launching area into canoe and small boat launching area
	Provide one restroom
Six Mile Creek	Realign, grade, and pave existing roads, parking lot, and boat launching area
	Provide restroom
Buford Dam Park	Relocate 20 picnic tables/walks

¹ These locations are being considered for leasing and/or closure.

The day use park attendant contracts cost approximately \$70,000 annually. In FY 2001 more than \$369,000 in revenue was collected in the program.

Proposed Improvements:

Measures the PMO will take to improve day use park operations include the following:

- (1) Expanding boat ramp parking capacity to 1,698, which is the maximum allowed by the 1987 Master Plan.
- (2) Leasing recreational areas where public use is low (Wahoo Creek, Thompson Bridge, Simpson Park, Robinson Park, Bethel Park, and Little Ridge). Although all recreational areas could be considered for outgranting, sites most likely to be leased in the near term are listed in Table 2-9.
- (3) Modernizing recreational sites that have substantial investments in infrastructure (e.g., waterborne toilets, showers, boat ramps, picnic facilities, playgrounds).
- (4) Increasing the number of locations and facilities suitable for bank fishing to accommodate the many recreational users who do not have access to boats.

**Table 2-9
Recreational Sites Being Considered for Leasing¹**

Site	Comment
Belton Bridge Lula Park	Possibly lease to the state. These parks are located on the northeast portion of the lake along the Chattahoochee River on land that is currently leased by the state.
Wahoo Creek	Low utilization.
Thompson Bridge	Low utilization.
Simpson Park	Low utilization.
Robinson Park	Low utilization.
Toto Creek Campground Nix Bridge Thompson Creek	Potentially lease these parks to Dawson County.
War Hill Campground	War Hill is being considered as a potential site for a marina on the Chestatee River.
Athens Park	Currently closed. Consider leasing.
Bethel Park	Low utilization.
Little Ridge	Low utilization. Attempting to lease this park.
Gwinnett Park	Part of this park may be leased by Gwinnett County as land needed for the new water intake structure.
Longstreet Bridge	Currently closed. Consider leasing.
Bolling Bridge	Currently closed. Consider leasing.

¹ It should be noted that leasing is preferable to closing.

Source: Williams, 2002, personal communication.

- (5) Giving preference to funding the development of the northern portion of the lake (above Brown's Bridge) and shifting emphasis from boating-related activities and facilities (e.g., ramps) to lake-related activities (e.g., swimming, use of beaches) and facilities (campgrounds, picnic areas, and beaches). The goal is to decrease the intensity of use, crowding, and associated impacts in the southern portion of the lake.
- (6) Establishing additional boat launch facilities in the northern portion of the lake, but only to offset the number of launch facilities that are expected to be closed in the southern parts of the lake. The overall objective is to maintain, but not exceed, the maximum number of parking spaces at boat ramps (1,698) described in the Master Plan.
- (7) Establishing sites in the northern portion of the lake to be used exclusively for bank fishing.
- (8) Establishing a take-out site at Belton Bridge Park for passive recreation (e.g., rafting, kayaking, canoeing).

-
- (9) Establishing additional foot trails in forested areas and on the points of Protected Areas for expanding nonconsumptive uses such as the watchable wildlife program.
 - (10) Evaluating the potential for building a hardened bike trail without increasing adverse collateral impacts.

Emergency Management. Numerous emergencies could happen at the project. Emergency Management Plans are available for natural disasters (earthquakes, floods, tornadoes, and hurricanes); terrorist or hostage situations; dam failure; and nuclear, biological, and chemical threats.

Program management responsibilities include staying up-to-date on the latest emergency response procedures, keeping the plans organized and readily available, serving as a point of contact for investigation and reporting, and maintaining the lines of communication with local county governments. This program ties in closely with the Dam Safety and the Hazardous Incident/Disaster programs.

Spill Prevention, Control, and Countermeasures. The purpose of the Spill Prevention, Control, and Countermeasures (SPCC) Plan for Lake Lanier is to prevent and control accidental discharge of oil and hazardous substances, to have a ready plan for remediation of oil or hazardous substance discharges, to identify resources used to clean up discharges, and to be able to provide assistance to other agencies as requested. (Policy and guidance for response to the National Plan in spills caused by non-Department of Army agencies are provided in AR 500-60 and AR 200-1.)

The SPCC Plan identifies sources of oil and hazardous substances and measures to prevent and contain accidental discharge resulting from equipment or storage facility failure.

The spill contingency portion of the SPCC Plan encompasses the following:

- Establishes responsibilities, duties, procedures, and resources used to contain and clean up spills.
- Identifies resources identified for possible use by a Regional Response Team in support of the National Oil and Hazardous Substances Pollution Contingency Plan.

The SPCC Plan has been developed to encompass three areas of the Lanier Operations Project: the powerhouse and dam, the Project Management Office and its O&M facility, and public lands

and waters. The Operations Division, in coordination with staff responsible for the SPCC Plan, conducts an annual training program for oil and hazardous substance spill response.

Security. The physical security program extends to facilities operated by the Corps at Lake Lanier. Security concerns exist for Recreation Areas and to a much higher degree for the PMO, powerhouse, dam, intake structure, tailrace, switchyard, vehicle yard, and other operational facilities.

Security of recreation areas is maintained through the use of signs, barricades, gates, lighting, ranger patrols, park attendants, and law enforcement patrols. During the winter many park areas are closed for the season and secured.

Law Enforcement Contract Management. There are no law enforcement contracts at Lake Lanier. However, law enforcement contracts have been used in past years and might be initiated again if needed. In addition, there are no agreements with local law enforcements agencies.

Sign Program. More than 1,500 land-based signs are maintained in the recreation and operational areas of the Lake Lanier project. They are intended to enhance public safety, provide information, and ensure the security of sensitive or dangerous areas.

Navigation Aids. The navigation marker system consists of 995 markers, buoys, and signs on the lake to indicate the following:

- Navigational obstructions and hazards
- Restricted areas such as “No Skiing” or “No Boats”
- Use of caution in no wake or idle speed zones
- Chattahoochee River markers (port and starboard)
- Chestatee River or tributary markers (port and starboard)

Activities conducted to maintain the navigation aids include the following:

- Inspecting all markers and signs twice per year, once in the fall and once in the early spring.
- Inspecting all buoys 2 weeks before each major summer holiday.
- Preparing service requests for all marker/buoy maintenance needs.

- Keeping navigation maps up-to-date.
- Ordering markers and buoys.
- Coordinating with Georgia DNR on boating safety issues related to the marker system.
- Implementation of the Low Water Safety Plan when the lake level drops below 1,064 feet msl. (Details of the Low Water Safety Plan are provided on page 2-37.)

Visitor Assistance. Visitor assistance activities are conducted in accordance with ER 1130-2-550, EP 1130-2-550, and the Project's *Operations Manual for Visitor Assistance, Enforcement and Park Operations*. ER 1130-2-550 establishes the policy for providing assistance to visitors at USACE civil works water resource projects, under the provisions of Section 234 of the Flood Control Act of 1970, Public Law 91-611 (84 Stat. 1818). Per EP 1130-5-220, operation project managers are responsible for the review and, if necessary, corrective actions for the proper implementation of this regulation for each individual with citation authority with the procedures, criteria, and guidelines contained in EP 1130-2-550.

The Visitor Assistance Program Coordinator is responsible for keeping the Lanier natural resource management staff informed of any Visitor Assistance Program regulation changes, policy changes, or training requirement changes. The program coordinator ensures that all Visitor Assistance training program requirements described in the current ER and EP have been met and adhered to.

It is also the responsibility of the Visitor Assistance Program Coordinator to identify problems and determine solutions involving ranger safety issues, Title 36 CFR issues, and vehicle safety equipment issues.

Visitation Program. Visitation Program Management includes gathering traffic counter readings, cataloging the data, and analyzing the data. All Corps-operated facilities, leased areas (including state and county parks), marinas, and sailing clubs have traffic counter units installed. The process is repeated monthly, and it takes one or two rangers roughly 3 days to read all 85 traffic counters.

The raw data are entered into a computer program that tallies all of the recreation areas and calculates the estimated visitors for each park, what activities they did, and how many hours each person spent in the park. The program then displays a sum for the month and a running sum for

the year. The program variables are routinely updated from data gathered from visitor surveys. In FY 2001 it was estimated that more than 7.25 million people visited Lake Lanier.

These data are an invaluable tool for management to use for planning purposes. In addition, the data are requested dozens of times a year by the media, local governments, other federal agencies, and citizens.

Visitor Center Management. Visitor center operation is a necessary and integral part of total project management. The primary purpose of the visitor center program is to provide interpretive information to the visiting public about the Corps, its mission, the project and its facilities, visitor safety, and the geographic area where the project is located. The visitor center at Lake Lanier attracts about 5,000 people a year and provides the information necessary for safe and enjoyable use of Corps facilities at the project. The interpretive objectives of the Lake Lanier visitor center are as follows:

- Enhance the public's understanding of the multidimensional role of the Army and the Corps and their contributions to the nation.
- Enhance the public's understanding of the purpose and operation of the project and its archeological, historic, man-made, natural, and cultural features.
- Develop public appreciation for the proper and safe use of project resources.
- Foster the spirit of personal stewardship of public lands.
- Orient the visitor to the project and its recreational opportunities.
- Aid project personnel in accomplishing management objectives.
- Reduce overall project O&M costs.

Visitor Safety. Lake Lanier has an extensive Visitor Safety Program. A summary of the programs and resources that make up the program is provided below.

- **Park Ranger Operations Manual.** This manual provides local guidance for implementing ER 1130-2-550 and EP 1130-2-550. It outlines visitor assistance activities; enforcement guidelines; and park patrol, search and rescue, and general operations. Each park ranger and manager has a copy of the manual and is responsible for keeping the copy updated.

-
- **Park Ranger Patrols.** Project lands and waters are patrolled by park rangers, who monitor the areas for undesirable or unsafe activities, enforce Title 36 Rules and Regulations, and take necessary actions to ensure public safety. Rangers are observant for potential safety hazards and either take immediate corrective action or report maintenance needs to the O&M contractor.
 - **Park Attendant Program.** Contract park attendants operate entrance stations at eight campgrounds and six day use parks. Attendants provide surveillance of the area for undesirable activity and control access. They have telephones and are able to obtain appropriate assistance for visitors when needed. Their duties are outlined in the project's *Campground and Dayuse Park Attendants Guide*.
 - **Volunteer Park Attendant Program.** Volunteer attendants are used at War Hill and Toto Creek parks. Volunteers provide surveillance of the area. They have telephones and are able to obtain appropriate assistance for visitors when needed. Their duties are outlined in the project's *Volunteer Park Host Handbook*.
 - **Supplemental Restrictions.** To enhance public safety at the project, supplemental restrictions have been authorized under 36 CFR 327.12. They include the following:
 - Posted open and closed hours at day use parks.
 - Prohibition on alcoholic beverages at campgrounds and day use parks.
 - No pets permitted in selected heavily used day use parks.
 - Prohibition on trucks weighing more than 12,000 pounds traveling on Buford Dam.
 - Prohibition on trucks parking at the intake structure parking lot.
 - **Law Enforcement Patrols.** County law enforcement agencies routinely patrol the park areas. The Georgia DNR is responsible for enforcing boating, fishing, and hunting laws and has a significant presence at the project.
 - **Park Design.** As recreation areas are renovated, enhanced safety is incorporated into all new designs. Areas affected include swim areas, trails, parking areas, campsites, picnic sites, lighting, landscaping, entry stations, walkways, restrooms, courtesy docks, picnic shelters, and roadways. Particular emphasis is placed on accessibility.

-
- **Park Facility Inspection.** The O&M contractor is responsible for routine safety inspections of recreation area facilities. Corps and contract personnel are responsible for noting any immediate safety hazards and reporting them for corrective action.
 - **Water Safety.** The project promotes water safety through proper design of swim areas, education, accident analysis, and enforcement.
 - *Designated Swim Areas.* Although swimming is permitted in all areas of the lake except near boat ramps, visitors are urged to swim in designated swimming areas. These areas have uniform slopes and are posted with appropriate safety signs, depth markers, swim lines, “boats keep out” buoys, and throwable life-saving devices. Swimming areas are thoroughly inspected before the recreation season begins.
 - *Education Programs.* Water safety (for swimming, scuba diving, and boating) is promoted through an intensive education and public relations campaign. Emphasis is placed on project personnel attending boating and recreation shows, displaying water safety material on bulletin boards, performing radio and television interviews, preparing press releases, and using volunteers to distribute water safety information. Programs such as “All Aboard” and “Fun in the Sun” have been highly effective in reaching target audiences.
 - *Lanier Water Safety Task Force.* This group, formed in 1997, has representatives from public safety agencies, businesses, and civic groups as well as interested members of the public. The goals of the Task Force are to provide a unified voice on water safety, to coordinate the distribution of water safety material, and to make recommendations to governmental agencies on matters related to water safety.
 - *Mobile District Water Safety Task Force.* This group is composed of District representatives from each Corps project, Office of Council, Public Affairs, and Safety Office. Through analysis of accident reports and on-site observations, a District-wide water action plan is developed each year.
 - *Down River Safety Plan.* Special emphasis is placed on visitor safety on the Chattahoochee River below Buford Dam. The river column below Buford Dam is subject to sudden rise and violent turbulence during water releases from the

powerhouse. The *Down River Safety Plan* is designed to enhance public safety from Buford Dam downstream to Morgan Falls Dam, a distance of about 36 river miles.

- *Restricted Areas—Buford Dam.* Boat and pedestrian restricted areas are established both upstream and downstream of the powerhouse intake structure.
- *Public Accident Analysis.* Project personnel are responsible for assembling detailed information about public accidents. This information is used to help focus public safety programs.
- *Project Signage.* Project signage is an essential element of public safety. Signs fall into several categories, which include identification, directional, traffic, aids to navigation, prohibition, and regulatory.
- *Water Testing.* All Corps-operated parks are on municipal water supply. Wells previously used have been deactivated and closed in accordance with state regulations. Corps-operated beaches are tested for fecal coliform bacteria in accordance with the project's *Beach Water Testing Plan*.
- *Low Water Safety Plan.* The *Low Water Safety Plan* describes the safety actions to be taken in low-lake-level situations. Recreational impact water levels established for Lake Lanier during the high-intensity use period (May 1 to September 8) and the impacts and actions that would occur at each of these levels with respect to park facilities, marinas, navigation, and private boat docks, are presented in the plan. The following summarizes key lake levels at which impacts to specific resources begin to be experienced and management actions are required.

Initial Impact Line (1,066 feet msl). Public safety impacts are first recognized at this lake level. At 1,066 feet there is adequate time to notify the public of safety concerns and take necessary action to prepare for worsening conditions.

Recreation Impact Line (1,063 feet msl). Public safety impacts become much more pronounced at this level, and steps must be taken to identify hazards and alert the public to potential dangers.

Water Access Limited Line (1,060 feet msl). At this level conditions worsen. Most water-based recreation activities would be severely restricted, and all activities would become increasingly dangerous.

Water Supply Line (1,045 feet msl). This is the lowest level at which municipal water intakes can function at full capacity. Below 1,045 feet pumps must be operated at lower capacity to prevent a whirlpool effect, which could damage pumping equipment.

Bottom of Generation Pool (1,035 feet msl). This is the bottom of the power generation pool at Buford Dam.

- *High Water Action Plan.* The *High Water Action Plan* describes the impacts of and safety actions to be taken in high-lake-level situations.
- *Medical Response.* Emergency response to medical emergencies at Lake Lanier is rapid because of the urban character of the area. Corps park rangers, who are trained in first aid, CPR, and bloodborne pathogens are often the first to arrive at an accident scene. Public accidents are reported by Corps personnel according to requirements specified in AR 640-3 and District policy.
- *Severe Weather Action Plan.* Response plans have been developed to provide park attendants with guidelines to follow during severe weather alerts.

Special Events. Program management responsibilities include coordinating and permitting even[CoE]ts held on Lake Lanier, such as fishing tournaments, boat regattas, weddings, charity walks or runs, and commercial filming. The Corps manages events through a permit program that is designed to minimize scheduling conflicts by groups, prevent overuse of the lake, ensure equal access to recreation areas, and enhance public safety.

More than 475 events are scheduled each year at the lake, most of which are fishing tournaments and sailing/rowing events. If the group holding the event charges an entry fee, the group must pay Lake Lanier a \$25.00 permit fee for each event. If the group holding the event does not charge an entry fee, the group must pay a \$25.00 permit fee, which is good for up to five events. A group may hold a maximum of 15 tournaments at any park (including leased areas) during the year. Special events fees totaled \$8,275 in FY 2000.

Proposed Improvements:

Measures the PMO will take to improve coordination and permitting of special events include closing the Clark's Bridge area to boat traffic on an as-needed basis to accommodate major rowing events, such as regional or national competitions, sponsored by the Olympic Rowing Center.

2.2.1.3 Planning

Design and Engineering. Any addition to or other modification of the facilities at Lake Lanier includes design and engineering activities, site planning, and the inventory and analysis of site-specific parameters. Site planning includes determination of the adjacency requirements, orientation, and siting of buildings and other facilities, and the development of the spatial definition of the facilities. An inventory and analysis of the drainage, existing facilities, topography, hydrology, vegetation, wildlife, and solar orientation is also conducted. Design and engineering activities include site layout and grading, horizontal and vertical road alignments and grading, parking lot alignments and grading, and the layout of storm drainage.

Environmental Review Guide for Operations (ERGO). Lake Lanier applies the principles of ecological land planning to all its environmental planning activities. The environmental planning process at Lake Lanier is designed to ensure compliance with all environmental laws, such as NEPA, as well as all applicable USACE policies and regulations.

Landscape Architecture. The regional needs for landscape architecture at lakes Lanier, Allatoona, and Carter are served by the Lake Lanier landscape architect. The regional landscape architect is responsible for the design of all recreation facilities, as well as the oversight of the installation and construction of projects by hired and contract labor.

Master Planning. The purpose of the Lake Lanier Master Plan is to provide a comprehensive guide for orderly development of project resources in accordance with established laws, regulations, and policies. The first Master Plan, approved on April 29, 1965, established 83 public recreation areas. After the plan was amended on February 24, 1967, 38 of the 83 recreation areas became available for lease to quasi-public organizations. Lake Lanier's current master plan was approved on September 25, 1987.

Operational Management Plan. Following approval of the master plan, the field office prepared a 5-year Operational Management Plan (OMP) to provide guidance for the operation of Lake

Lanier. The OMP establishes the long-range goals, objectives, and management direction; specific management prescriptions and the locations in which prescriptions will be performed; standards and guidelines to shape how management prescriptions will be developed and applied; and annual and 5-year work plans. A revision to the OMP is scheduled for the near future.

2.2.1.4 Real Estate Activities

Boundary Management. The Lake Lanier project has 607.7 miles of boundary line (line separating Corps property from the surrounding private property) encompassing its 56,782 acres of project land and water. The most recent routine boundary survey, conducted from 1983 to 1996, identified more than 800 major encroachments and resulted in one-half of the project boundary line being reidentified and monumented. Rangers routinely locate and resolve minor encroachments that require the boundary line to be properly marked.

On December 11, 2000, Congress passed the Water Resources Development Act (WRDA) of 2000, Public Law 106-541. Included in the provisions of that act is Section 516, entitled "Lake Sidney Lanier Home Preservation." The act directs how existing encroachments at Lake Lanier are resolved, and it is expected to affect about 3 percent of the adjacent private homeowners on Lake Lanier.

This legislation authorizes the Corps to sell land with the purpose of resolving encroachments of homes and attachments on government fee land and flowage easements. To be considered under this legislation, the encroachment must have been constructed before January 1, 2000 (proof is required) and the floor level of the lowest habitable portion of the house must be above the flood pool elevation of 1,085 feet msl.

To qualify under this act, homeowners who suspect an encroachment or those who have already been notified they have an encroachment must submit a letter of intent to participate. Property owners must request a survey with their letter of intent to participate. The government will then survey the property to determine whether an encroachment is present and whether it qualifies under the provision of the law. Property owners may also provide a private survey subject to review and approval by the Corps. The cost of the survey is the responsibility of the property owner.

For eligible property owners on fee land, the Corps will offer to convey by quitclaim deed the minimum land required to maintain the human habitation structure (home) and any uninhabited

appurtenances (decks, patios, steps) and necessary access with the right to flood to the 1,085-foot elevation reserved to the government, if applicable.

For eligible property owners in a flowage easement, the prohibition of structures for human habitation will be released as it applies to the existing structure and any uninhabitable appurtenance (deck, patio, step) by quitclaim deed.

Once a property owner is determined to be eligible under the law, he or she will have 90 days to agree to the government's offer. If an eligible property owner does not agree to the government's offer, he or she must comply with the government's property rights and remove the encroachment.

By signing an offer, the eligible property owner agrees to pay for the value of the conveyance or release and all administrative costs (surveys, legal descriptions, title work, deed preparation) of the conveyance or release.

Encroachments that are not eligible will be resolved according to Standard Operating Procedure (SOP) 1130-1-1. This procedure focuses on encroachments and timber trespasses.

Lake Lanier has recently developed a GIS database layer of the lake and island shoreline mileage and acreage. This database will allow the Lake Lanier staff to make more precise determinations of the shoreline and acreage and will facilitate future decision-making activities with respect to boundary encroachment and shoreline management.

Outgrants/Leases: (Existing Program) The Corps administers 44 major and numerous minor outgrants at Lake Lanier. The primary purpose of these outgrants is to authorize use of government property within certain limits and controls necessary for the protection of property and resources and to provide services to the public that the government is unable to provide. Seventy-five percent of the revenue from private and commercial leases is returned to local governments for their use. Project outgrants consist of the following types:

- Commercial and concession areas
- Other public agencies
- Nonprofit agencies
- Quasi-public agencies

- Private clubs
- Easements

At present 34 areas are leased to other federal, state, and local governments and quasi-public organizations for public recreation or commercial purposes (Table 2-10). Leased areas are generally delineated according to specific contours or elevations.

Table 2-10
Major Outgrants/Leases at Lake Lanier

Outgrant/Lease	Total Acres	Developed Acres
<i>State-Leased Areas</i>		
Lake Lanier Islands	1,101	820
Gainesville (DNR)	7	7
Aqualand (DNR)	4	4
<i>County/City Leased Areas</i>		
Lumpkin County Park	40	15
Clarks Bridge	50	22
Mary Alice Park	112	15
Flowery Branch Park	7	6
Lanier Point	84	3
Longwood Park	34	30
Holly Park	24	10
Laurel Park	134	65
River Forks	105	90
Aqualand	137	100
Sunrise Cove	63	25
Gainesville Park	75	75
<i>Private Company Facilities (Marinas/Boat Storage)</i>		
Lanier Harbor	12	6
Holiday Marina	41	36
Lazy Days Marina	23	15
Starboard Marina	37	15
Gainesville Marina	36	12
Lan Mar Marina	65	30
Bald Ridge Marina	37	32
Habersham Marina	3	2
<i>Quasi-Public Areas</i>		
Girl Scouts	55	3
University Yacht Club	12	10
Atlanta Yacht Club	7	5
Athens Boat Club	13	10
Lanier Sailing	26	16
Chattahoochee	6	4
American Legion	4	3
Scoutland	132	90
Lockhead	8	7
Forsyth YMCA		
Methodist Church	2	3

Table 2-11 lists other areas that could be available for leasing. It should be noted that the availability of these areas is subject to the Operations Manager's discretion and is subject to change with management philosophies.

Original files of all outgrants, except Shoreline Use Permits/Licenses, are kept on file in the Real Estate Division Office, Mobile District.

**Table 2-11
Potential Lease Areas at Lake Lanier**

Developed/Partially Developed Areas	Undeveloped Areas
Nix Bridge Park	Liberty Point Park
War Hill Park	Rocky Point Park
Thompson Creek	Chestatee Bay Park
Toto Creek Park	Latham Creek Park
Charleston Park	Cool Springs Park
Big Creek Park	White Sulphur Park
Little Ridge	Other miscellaneous undeveloped areas currently zoned for recreation; particularly those areas north of Browns Bridge, and especially in the Gainesville area.
Gwinnett Park	
Belton Bridge Park	
Lula Park	

Proposed Improvements:

Measures the PMO will take to manage the number of boats using Lake Lanier and to maintain safe and navigable waterways, particularly in coves, include the following:

- (1) Allowing commercial marinas to continue operations in accordance with their approved Master Plans.
- (2) Pursuing the development of a facility to supply marina services (e.g., fuel, supplies, slips, restaurant, etc.) to meet users needs on the Chestatee River.
- (2) Allowing applicants for real estate outgrants to mitigate effects of their use of the shoreline by constructing mitigation measures at locations other than the sites impacted by the outgrants.

Easements. Easement requests from local governments, utility companies, and others are referred to the project realty specialist for a review of the submittal. The request is forwarded to a designated staff member, who prepares a Report of Availability (ROA). The report includes a full project review of pertinent data and plans, including any legal concerns and requirements to

protect assets or replace damaged facilities. The ROA indicates the Project Manager's recommendation or denial of the request.

Numerous easements are requested each year and involve facilities such as electric lines, highways and bridges, water intake structures, and sewer outfall lines. Sometimes these requests are controversial in nature and require significant input from the project. Requests that involve Sections 10 and 404 of the Clean Water Act require NEPA evaluation and regulatory permitting in addition to granting real property interest. Project personnel coordinate such requests with Savannah Regulatory Functions Branch, North Atlanta Area Office, for proper permitting and preconstruction meetings.

Flowage Easements. The Corps owns most of the lands surrounding Lake Lanier in fee title. During the construction of Buford Dam and Lake Lanier, a maximum flood elevation of 1,085 feet msl was established. In some areas where a sufficient amount of land was not acquired and the flood elevation occurred on private property, a perpetual flowage easement was purchased. A flowage easement is a real property interest that allows the Corps to occasionally flood private property and restricts the private owner from constructing habitable structures or altering the existing contour. The construction of habitable structures creates a safety hazard to residents and property. The presence of habitable structures in a flowage easement also reduces the flood storage capacity of the lake. Those easements covered by water still fall within the Corps's regulatory jurisdiction as waters of the United States. Certain private uses of easement property may be authorized by the Operations Manager. Locations of easements can be identified at the Operations Manager's office. All purchased easements have been legally recorded.

The Corps of Engineers has acquired the right to occasionally flood private property downstream of Buford Dam. This right was acquired to contain high flows that force water upstream in tributaries. The flows from tributaries are slowed during those times when the waters of the Chattahoochee River are high and waters are forced up onto the floodplains of these tributaries. There is no regional flood contour established; instead, each easement tract has a calculated high water elevation unique to its location. Habitable structures are not permitted below the established flood elevation.

A number of existing flowage easement encroachments will be addressed in Section 516 of WRDA 2000, "Lake Sidney Lanier Home Preservation" (see the Encroachment Management section of this program summary).

2.3 ALTERNATIVES

In developing a range of alternatives for analysis, the Corps focused on the desire to retain the quality environment that currently exists at Lake Lanier while supporting the public's interest in access to the lake for recreation. Based on comments received from the public and various agencies during the scoping process for this EIS, alternatives that would be representative of, and encompass the range of, stakeholder interests were developed.

Lake Level Considerations. The alternatives analysis has been performed with acknowledgment of the demands being placed on the lake's storage volume to meet the expanding water needs of the Apalachicola-Chattahoochee-Flint (ACF) Basin and the neighboring Alabama-Coosa-Tallapoosa (ACT) Basin. For several years, a cooperative effort pursuant to Congressionally-approved compacts has been under way between Alabama, Florida, and Georgia to develop a water management strategy that would accommodate the interstate needs of these two basins from the respective headwaters to the Gulf of Mexico. The purpose of this effort is to develop a water allocation formula for each basin. If the states do mutually agree to such allocation formulas and the formulas are concurred in by the appropriate Federal Commissioner, then it is assumed that a new water management plan (and accompanying EIS) may need to be developed to address reservoir water level management operations in the ACF and ACT Basins. Because Lake Lanier is the uppermost reservoir in the ACF Basin, water allocations will most certainly influence the manner in which Lake Lanier's water levels will be managed in the future. As mentioned in Section 1.3, it is not the purpose of this EIS to evaluate the eventual water management plan for the Lake Lanier project. Instead, this EIS considers the entire range of project O&M actions performed on the lake and on government-owned lands surrounding the lake within the framework of varying lake levels.

The lake levels considered in the impact evaluations are those that can be reasonably expected to occur based on historical and seasonal fluctuations in light of the physical constraints of the project design. Lake levels are prone to fluctuation due to varying precipitation rates and water use demands. The lake levels used for the alternatives analysis are presented below.

- **High Lake Level.** High lake levels range from a low of 1,067 feet to a high of 1,071 feet (top of the conservation pool). This range in lake levels can be considered representative of moderate demands on water supply, low consumptive rates, historically typical precipitation rates, and seasonal fluctuations.

- **Medium Lake Level.** Medium lake levels range from a low of 1,057 feet to a high of 1,066 feet. This range in lake levels is representative of moderate demands on water supply, moderate consumptive rates, moderate precipitation rates, and seasonal fluctuations.
- **Low Lake Level.** Low lake levels range from a low of 1,043 feet to a high of 1,056 feet. This range in lake levels is representative of high demands on water supply, high consumptive rates, prolonged drought conditions, and seasonal fluctuations.

Private Boat Dock Management Issues. In support of the SMP update, a private boat dock carrying capacity study was conducted to determine the potential number of private boat docks that could be supported on Lake Lanier in compliance with ER 1130-2-406 and to ensure sustainable management of the project's resources. The boat dock carrying capacity study focused on the number of private boat docks that could be located along the lake shoreline when all shoreline where boat docks can be permitted is at the full capacity for boat dock development. The study, therefore, estimates the maximum number of private boat docks that could be present on the lake under a variety of scenarios. The scenarios differ primarily in how private boat docks are spaced along the shoreline: Wider spacing results in a smaller maximum number of docks.

2.3.1 Alternatives Considered But Not Carried Forward

Alternatives that were considered but not carried forward in the analysis are presented below, as is the rationale for not doing so.

Higher Intensity of O&M Management. A higher intensity of management was considered for the O&M program at Lake Lanier. Activities and programs considered for this alternative included upgrading recreational facilities regardless of location or intensity of utilization; maintaining campgrounds in the southern portion of the lake rather than converting them to day use sites; increasing wildlife habitat enhancements, including conducting active timber stand improvement activities, creating clear-cut open areas within forested areas to create more edge habitat and increase wildlife diversity, and planting additional food plots; increasing shoreline cleanup efforts to remove Styrofoam and other debris, and accelerating the date that boat dock owners must convert from Styrofoam to encapsulated floatation materials.

The higher-intensity O&M alternative has prohibitive funding and personnel constraints. Sufficient funding is not available to increase the number or intensity of management activities.

Unless significantly greater funds were made available, many of these management activities could not be reasonably implemented. In addition, the current ranger staff at Lake Lanier could not accommodate the increased efforts necessary to implement these activities and to conduct the additional patrols that would be required. For these reasons, this alternative has not been carried forward for detailed analysis.

Lower Intensity of O&M Management. A lower intensity of operation and maintenance management activities was also considered. This alternative involved discontinuing timber management and wildlife habitat enhancement activities; limiting or decreasing activities to maintain or enhance the various islands located throughout the lake; decreasing the amount of maintenance conducted at day use and campground sites; decreasing and/or discontinuing the improvement of recreational facilities and the development of additional sites in the northern portion of the lake; and decreasing ranger patrols of the shoreline, patrols of recreational sites, and inspections of private boat docks.

The lower-intensity O&M alternative would not allow Lake Lanier to achieve its management objectives, particularly those related to environmental sustainability. Lake Lanier would not be able to provide the facilities necessary to adequately address its growing popularity, which is associated with the growth rate of the Atlanta metropolitan area. The inability to ensure environmental sustainability would put the resources at Lake Lanier at an unacceptably high level of risk. Allowing such conditions to develop would be irresponsible and unreasonable, and therefore this alternative has not been carried forward for detailed analysis.

Shoreline Use Permitting for Private Boat Docks. It is the policy of the Corps as stipulated in ER 1130-2-406, *Shoreline Management at Civil Works Projects*, to “achieve a balance between permitted private uses and resource protection for general public use.” ER 1130-2-406 further states that “the density of private floating recreation facilities will not be more than 50 percent of the Limited Development Area in which they are located. Density will be measured by determining the linear feet of shoreline as compared to the width of facilities plus associated moorage arrangements which restrict the full unobstructed use of that portion of the shoreline.”

The private boat dock carrying capacity study included in Appendix E evaluated a total of nine potential future shoreline use permitting alternatives. Two of these alternatives are included in the alternatives analysis for this EIS—one representing the existing permitting policy and the other representing full compliance with ER 1130-2-406. The remaining seven will not be

evaluated further because those “shoreline use permitting” alternatives do not fully comply with the provisions of ER 1130-2-406. Five of the “shoreline use permitting” alternatives would place a significant strain on the resources and facilities of Lake Lanier, jeopardize their sustainability, and degrade the recreational experience. Two of the “shoreline use permitting” alternatives are considered overly restrictive and, therefore, not in conformance with established Corps policy.

2.3.2 *Alternatives Selected for Detailed Analysis*

The Corps has identified as principal alternatives¹ for detailed analysis the No Action Alternative and the Preferred Alternative. Both focus management actions on shoreline management activities, recreation, fish and wildlife, timber management, real estate, and water quality within the context of the larger water management scenarios that are conducted to accomplish the project purposes of Lake Lanier. The development of selected management activities embedded in these two principal alternatives for the maintenance of Lake Lanier involved a screening analysis of resource-specific management alternatives. The screening analysis involved the use of accepted standards, guidelines, and policies (e.g., USDA/NRCS *National Soils Handbook*; USEPA *Lake and Reservoir Restoration Guidance*; USEPA *Protecting Natural Wetlands*; *A Guide to Stormwater Best Management Practices*), when available, as well as best professional judgment, to identify management practices for achieving the management objectives for Lake Lanier. The outcome of the screening analysis led to the development of the proposed action (Preferred Alternative). Obviously, an infinite number of permutations of specific management activities, and hence of additional alternatives, are possible. Consistent with the intent of NEPA, this process focused on considering a reasonable range of resource-specific management alternatives and using those alternatives to develop a plan that could be implemented in the foreseeable future. It then dropped from detailed analysis any management alternatives deemed to be infeasible. Programmatic O&M management alternatives that were considered during the screening process but not analyzed in detail are described in Section 2.3.1. Application of the screening process in developing the proposed action (adoption of the management activities contained in the Preferred Alternative) eliminated the need to define and evaluate hypothetical alternatives that could not, or would not, be implemented. As a result, the EIS formally addresses the two principal alternatives, the Preferred Alternative and the No Action Alternative.

¹ The term *principal alternatives* as used to identify the alternatives selected for detailed analysis in this EIS includes the two “shoreline use permitting” alternatives identified in Section 2.3.1.

As previously mentioned, the Corps evaluated the maximum number of docks on Lake Lanier under nine different dock spacing alternatives. However, only one of the alternatives strictly complies with the provisions of ER 1130-2-406, *Shoreline Management at Civil Works Projects*. This alternative was included as a proposed improvement and a component of the Preferred Alternative. Explanations of the analysis for these two alternatives (No Action Alternative or existing conditions, and Preferred Alternative) are provided below, and Table 2-12 provides a comparison of the dock permitting scenarios.

The alternatives reflect the proposed improvements to the O&M activities, including shoreline use permitting policies, all of which have been described in Section 2.2.1, Operation and Maintenance Activities. It is generally intended that measures that would be implemented under each alternative would be established into perpetuity, and the analysis in this EIS is based on the assumption that whatever decision is made would be acted on into the foreseeable future.

Table 2-12
Summary of Future Dock Permitting Scenarios

Scenario	Number of Existing Docks¹	Potential Additional Docks	Potential Total Docks	Percent Change in Number of Docks
No Action	8,593	16,734	25,327	195
Preferred Alternative	8,593	2,022	10,615	24

¹ Includes 8,348 private boat docks and the equivalent of 245 boat docks in community docks.

Changing future conditions and sound adaptive resource management might create circumstances that call for additional review and possibly revision of earlier decisions. The two principal alternatives that the Corps is evaluating in this EIS are described below.

2.3.2.1 Alternative 1: No Action Alternative

The No Action Alternative serves as a baseline against which the impacts of the proposed action can be evaluated. CEQ regulations prescribe inclusion of the No Action Alternative. Under this alternative, the Mobile District would make no changes in its existing O&M activities at Lake Lanier and would not update the existing SMP. No new management actions would be adopted, and no existing management activities would be modified. Shoreline allocations, actions on shoreline use permit applications, and administration of permits would continue as at present, including continued noncompliance with ER 1130-2-406. The total number of additional private boat docks that could be permitted under this alternative is 16,734, for an eventual total of 25,327

docks. In addition, activities under the Lake Lanier Master Plan and the Operational Management Plan would continue unchanged. The No Action Alternative is evaluated in detail in this EIS.

2.3.2.2 *Alternative 2: Preferred Alternative*

The Preferred Alternative (the proposed action) reflects two levels of activity: (1) the minimal measures necessary for O&M of Lake Lanier to meet current USACE standards and (2) proposed program improvements, which include a large array of actions designed to enhance the environmental qualities of the project and to provide for long-term use and environmental sustainability of project resources. The proposed improvements to ongoing O&M programs are summarized in Table 2-13.

**Table 2-13
Proposed Program Improvements to O&M Activities at Lake Lanier**

Operation and Maintenance Category	Proposed Program Improvements
<i>Environmental Resources</i>	
Fisheries and Wildlife	Coordinating with Georgia DNR to establish a proactive deer management program. The program should include periodic harvesting using discreet methods (e.g., bowhunting) to reduce competition and improve the condition of the herd.
Shoreline Management	<p>Vegetation</p> <p>Maintaining a vegetative (forested) shoreline buffer consisting of native woody shrubs and trees (understory and overstory) along all shoreline allocation zones, excluding Prohibited Areas. Limited underbrushing may be authorized in conjunction with Shoreline Use Permit/Licenses.</p> <p>Improving shoreline vegetation through additional planting of native species.</p> <p>Allowing for the revocation of Shoreline Use Permits (private boat dock permits) for major violations of the permit, including destruction of public property and removal of vegetation.</p> <p>Approving or renewing Specified Acts Permits when work is for the purpose of wildlife habitat enhancement or forest stand improvement. All work plans are required to be supported by written landscape proposals that detail species selection and placement.</p> <p>Requiring all open areas where grass mowing has not been previously authorized under the existing Shoreline Use Permits to be restored naturally, revegetated by the permittee or at the Corps's discretion.</p> <p>Because grass does not provide a diverse quality vegetative buffer, it is project policy to restore grassed mowing areas to a more natural state when not maintained. When permitted areas are not maintained and woody vegetation has reestablished itself, this portion of the permit will not be renewed. During changes of ownerships minimization of permitted mowed areas will be encouraged to help protect the lake's water quality, aesthetics, and wildlife habitat.</p> <p>Allocating budget resources to provide for vigorous enforcement of prohibitions against unauthorized removal of vegetation.</p>

Table 2-13
Proposed Program Improvements to O&M Activities at Lake Lanier

Operation and Maintenance Category	Proposed Program Improvements
	<p>Private Boat Docks</p> <p>Implementing new Shoreline Use Permitting Policy. Policy changes include: 50 percent utilization of LDAs per ER 1130-2-406. Total additional private boat docks = 2,022. Potential total private boat docks = 10,615.</p> <hr/> <p>Requiring that the adjacent private property for which a new boat dock is proposed must have a minimum of 82 feet of private land adjoining public property (50-foot buffer between docks plus maximum allowable dock width of 32 feet) and provide not less than a 6-foot depth at the end of the dock at elevation 1,071 feet msl. This is to ensure that there is sufficient space and frontage for the placement of docks.</p> <hr/> <p>Requiring the use of community docks in all new residential developments. Requests that do not meet the guidance described in Section 15.1, Eligibility Requirements of the SMP, can be further evaluated based on their environmental benefits and public interest. If site conditions prohibit the use of community dock, the Operations Manager may permit a variance for the use of private individual docks.</p> <hr/> <p>Allowing communities that install courtesy docks rather than private docks to build a private ramp within the community for ready access by residents.</p> <hr/> <p>Encouraging existing private dock permittees to convert to community docks followed by rezoning of the shoreline from LDA to Protected Area.</p> <hr/> <p>Implementing vigorous inspection and enforcement of private and community boat dock maintenance standards.</p>
Shoreline Management (continued)	<p>Providing that Shoreline Use Permits for private or community boat docks are ineligible for renewal (for a period of 1 year) in the event corrective actions are not taken effectively or in a timely manner.</p> <hr/> <p>Boat Dock Usage</p> <p>Requiring that the length of a vessel allowed at a private dock will be determined by the length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the docks ability to safely moor and protect from storm damage must be stored in marina facilities.</p> <hr/> <p>Requiring the mooring of boats in boat slips and prohibiting the mooring of boats to other boats.</p> <hr/> <p>Prohibiting the use of boat slips to accommodate boats or personal watercraft (e.g., Jet Skis, Wave Runners) having mufflers above the water line. State law stipulates that mufflers must be at, or below, the waterline.</p>
Island Management	<p>Encouraging day uses (e.g., fishing, sunbathing, wading, hiking, swimming, birdwatching, and picnicking).</p> <hr/> <p>Establishing the islands as wildlife conservation areas through vegetation, timber stand, habitat and wildlife management activities.</p> <hr/> <p>Explore the establishment of archery deer hunting to control over abundant deer populations on the islands.</p> <hr/> <p>Establishing an Adopt-An-Island program, or something similar, as a source of volunteer labor and/or funding for shoreline protection and stabilization activities. Islands that become highly eroded have the potential to become navigation and safety concerns.</p>

Table 2-13
Proposed Program Improvements to O&M Activities at Lake Lanier

Operation and Maintenance Category	Proposed Program Improvements
Nonnative Plant Management	Developing programs to provide better control of invasive and noxious species (e.g., kudzu, English ivy, and poison ivy) by encouraging adjacent owners', partners', and volunteers' efforts and providing educational and outreach programs to inform the public about desirable and undesirable plant species.
Fire Management	Continue ongoing operations—no improvements necessary.
Erosion Management	Requiring that permittees requesting fixed structures on the shoreline, such as steps, install shoreline stabilization measures when renewing or applying for a new Shoreline Use Permit or USACE outgrant. This measure is necessary to protect such structures from becoming unsafe due to erosion. Allowing applicants for real estate outgrants to mitigate effects of their use of the shoreline by constructing erosion control measures at locations other than the sites impacted by the outgrants.
Water Quality	Requiring permittees during renewal and change of owner inspections of authorized facilities to identify the location of septic system that are located on public property above elevation 1,085 feet msl. If present the property owner must provide certification from the county health department that the system is functioning properly. County Health Department officials can provide this certification upon request. In addition, all septic tanks below 1,085 feet msl on public property will be removed.
Endangered Species	Continue ongoing operations—no improvements necessary.
Wetlands	Continue ongoing operations—no improvements necessary.
Sections 10/404 Permitting	<p>Regional Permits for Shoreline Protection</p> <p>Discontinuing the use of sea walls or bulkheads and authorizing riprap, or biostabilization only. Maintenance costs for seawalls/bulkheads can become too high for individual homeowners to assume. As a result many seawalls and bulkheads installed by homeowners have failed.</p> <p>Allowing sea walls or bulkheads only in locations where private property falls below the 1,071-foot msl elevation.</p> <p>Requesting the revision of regional authority to allow an increase in the linear foot distance of shoreline protection. This approach would increase the length of shoreline that is protected from further erosion.</p> <p>Dredging</p> <p>A silt removal plan will be required from the permittee and must include a cross-section with dimensions illustrating current and final slope, as well as quantity of silt and depths after work is complete. The plan must describe the method in which excavated material is to be removed and the location where the silt will be relocated. However, the removal of hardpan or creating significant negative impacts on public property will not be allowed. Requests for dredging will be reviewed on an individual basis and approved if the public interest is protected.</p> <p>Requesting the revision of regional authority to allow an increase in the cubic yardage of silt removal to a total of 2,500 cubic yards of silt per permit. Currently, a person may be eligible to receive three permits for the removal of 500 cubic yards of silt per permit, or a total of 1,500 cubic yards.</p>
Forest Management	Continue ongoing operations—no improvements necessary.
Pollution Abatement	Prior to Shoreline Use Permit renewal, owners will be encouraged to replace beaded Styrofoam with encapsulated flotation materials for continued use of the boat dock.

Table 2-13
Proposed Program Improvements to O&M Activities at Lake Lanier

Operation and Maintenance Category	Proposed Program Improvements
NEPA	Continue ongoing operations—no improvements necessary.
Cultural and Historic Resources	Continue ongoing operations—no improvements necessary.
Recreation	
Campground Operations	Converting campground sites to day use sites in the southern portion of the lake and developing new campground sites in the northern portion of the lake. Relocated and/or renovated camping sites will be provided in existing recreational areas. Planning for these will be pursued as funding permits.
Environmental Education	Establishing an Environmental Education Center to facilitate educational, environmental, watchable wildlife, and public outreach initiatives.
Partnerships	Continue ongoing operations—no improvements necessary.
Dam Safety	Continue ongoing operations—no improvements necessary.
Day Use Park Operations	Expanding boat ramp parking capacity 1,698, which is the maximum allowed by the 1987 Master Plan.
	Leasing recreational areas where public use is low. Although all recreational areas could be considered for outgranting, sites most likely to be leased in the near term are listed in Table 2-9.
	Modernizing of recreational sites that have substantial investments in infrastructure (e.g., waterborne toilets, showers, boat ramps, picnic facilities, playgrounds).
Day Use Park Operations (continued)	Increasing the number of locations and facilities suitable for bank fishing to accommodate the many recreational users that do not have access to boats.
	Giving preference to funding the development of the northern portion of the lake (above Brown's Bridge) and shifting emphasis from boating-related activities and facilities (e.g., ramps) to lake-related activities (e.g., swimming, use of beaches) and facilities (campgrounds, picnic areas, and beaches). The goal is to decrease the intensity of use, crowding, and associated impacts in the southern portion of the lake.
	Establishing additional boat launch facilities in the northern portion of the lake, but only to offset the number of launch facilities that are expected to be closed in the southern parts of the lake. The overall objective is to maintain, but not exceed, the maximum number of parking spaces at boat ramps (1,698) described in the Master Plan.
	Establishing sites in the northern portion of the lake to be used exclusively for bank fishing.
	Establishing a take-out site at Belton Bridge Park for passive recreation (e.g., rafting, kayaking, canoeing).
	Establishing additional foot trails in forested areas and on the points of Protected Areas for expanding nonconsumptive uses such as the watchable wildlife program.
	Evaluating the potential for building a hardened bike trail without increasing adverse collateral impacts.
Emergency Management	Continue ongoing operations—no improvements necessary.
Security	Continue ongoing operations—no improvements necessary.
Sign Program	Continue ongoing operations—no improvements necessary.
Navigation Aids	Continue ongoing operations—no improvements necessary.

Table 2-13
Proposed Program Improvements to O&M Activities at Lake Lanier

Operation and Maintenance Category	Proposed Program Improvements
Water Safety	Continue ongoing operations—no improvements necessary.
Watchable Wildlife	Continue ongoing operations—no improvements necessary.
Recycling	Continue ongoing operations—no improvements necessary.
Special Events	Closing the Clark's Bridge area to boat traffic on an as-needed basis to accommodate major rowing events, such as regional or national competitions, sponsored by the Olympic Rowing Center.
Spill Prevention, Control, and Countermeasures Plan	Continue ongoing operations—no improvements necessary.
Planning	
Landscape Architecture	Continue ongoing operations—no improvements necessary.
Management	
Special Interest Groups	Continue ongoing operations—no improvements necessary.
Real Estate Activities	
Boundary Management	Continue ongoing operations—no improvements necessary.
Outgrants	Allowing commercial marinas to continue operations in accordance with their approved Master Plans.
	Pursuing the development of a facility to supply marina services (e.g., fuel, supplies, slips, restaurant, etc.) to meet users needs on the Chestatee River.
	Allowing applicants for real estate outgrants to mitigate effects of their use of the shoreline by constructing mitigation measures at locations other than the sites impacted by the outgrants.

The current O&M activities and the proposed improvements reflect public and agency input, as well as best professional judgment of the Corps Project Management Office at Lake Lanier based on extensive operational experience. Taken together, the activities that constitute the proposed action attempt to achieve a balance between serving present needs and preserving and protecting Lake Lanier's resources for future generations. The sustainability of Lake Lanier rests on well-informed management actions. Given the extent of management activities that fall under O&M at Lake Lanier, an infinite number of permutations of specific management alternatives are possible. The development of these improvements considered a reasonable range of individual management alternatives for each group of management activities (recreation, natural resources, and the like), and an overall plan was developed from the individual resource management scenarios (see Section 2.3.1).

One of the proposed program improvements included in the Preferred Alternative is a change in the shoreline use permitting policy that reflects the tremendous growth of these permits and the

demands this has placed on the resources and facilities of Lake Lanier. As a result of the *Private Boat Dock Carrying Capacity Study* (see Appendix E), the Corps has elected to include *Alternative 2: Average Dock Spacing, 50 Percent Dock Installation Density, Complete Compliance with ER 1130-2-406* as part of the Preferred Alternative. The total number of additional private boat docks that could be permitted under this alternative is 2,022, for a potential total of 10,615. It includes reducing the number of additional docks based on the number of excess docks currently located in overdeveloped LDAs. Therefore, this is the only alternative that fully complies with the provisions of ER 1130-2-406.

SECTION 3.0

AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This section describes current environmental and socioeconomic conditions at the Lake Lanier project and in the surrounding area. It describes each resource that could be affected by implementing the proposed action. The information in this section also serves as a baseline from which to identify and evaluate environmental and socioeconomic changes resulting from implementation of the proposed action. The information has been provided in only enough detail to understand the effects of the alternatives on the environment and depicts conditions as they currently exist based on the most recent available data. The effects of the proposed action and alternatives are discussed in Section 4.0.

3.1.1 Regional Geographic Setting and Location

The Chattahoochee River Basin lies within parts of the Blue Ridge, Piedmont, and Coastal Plain Physiographic Regions of the Southeastern Mixed Forest Province, which extends throughout the southeastern United States (Bailey, 1995; GDNR, 1997a). The basin's northern physiography reflects a geologic history of mountain building in the Appalachian Mountains and is characterized by rugged, densely wooded terrain (under natural conditions) of conspicuous relief and well-defined, narrow valleys. Lake Lanier is in the upper Piedmont, which consists of red hills of up to 1,200 feet in elevation. In this region, the Chattahoochee River has an average river slope of 2.6 feet per mile (USACE, Mobile District, 1974).

Lake Lanier, the largest impoundment located wholly in Georgia, was formed by Buford Dam at river mile 348.32 on the Chattahoochee River about 35 miles upstream from Atlanta. From Buford Dam, the reservoir extends about 44 miles up the Chattahoochee River and about 19 miles up the Chestatee River.

The project lies in the Gulf Slope Section of the Oak-Pine Region, where no virgin forests remain. Following early settlement, the land was cleared for agriculture, and when it became unproductive, it was abandoned in favor of newly cleared land. This practice continued until the project was built in 1956, resulting in modification of the region's vegetative cover.

3.1.2 Overview of Lake Lanier

Of the project's 17,745 acres above full power pool, 2,360 acres are open and the remainder is forested by pines, oaks, hickories, elm, sweet bay, ash, sycamore, persimmon, dogwood, and other trees. The land within the lake was completely cleared of trees between elevation 1,030 and 1,070 feet msl. Trees between elevation 980 and 1,030 feet msl were topped at or below 1,030 feet msl, which is 5 feet below the minimum power pool of 1,035 (USACE, Mobile District, 1974).

Lake Lanier at maximum storage capacity covers 47,182 acres at an elevation of 1,085 feet msl, providing for storage of 2,554,000 acre-feet of water.¹ At normal levels, the lake covers 39,038 acres at elevation 1,071 feet msl, providing for storage of 1,957,000 acre-feet of water. During extreme drought periods, the lake may drop as low as 1,035 feet msl, covering 22,442 acres and providing for storage of 867,000 acre-feet of water.

Buford Dam, completed in 1957, is a rolled-fill earthen dam. It is 192 feet high and 2,360 feet long with a top elevation of 1,106 feet msl. Two earth-filled saddle dikes with a total length of 6,600 feet flank the dam. The powerhouse at the dam contains three electrical generating units that provide a total of 86,000 kilowatts. The 1,049,000 acre-feet of storage volume between elevations 1,035 and 1,071 is allocated for power generation and low-water flow regulation. The 637,000 acre-feet of storage volume between elevations 1,071 feet and 1,085 feet is reserved for flood control purposes.

As measured by recreational visitor counts, Lake Lanier is one of the USACE's most popular water resources development projects. It lies within a reasonable driving distance north of Atlanta, a city that has experienced substantial growth in the past few decades. Residential development and commercial growth along the project's periphery and in a significant portion of the surrounding drainage basin have been equally substantial.

The Lake Lanier Project Management Office (PMO) oversees daily O&M activities of the project. Table 3-1 provides data on selected features of Lake Lanier. Management of this large water resources development project balances the lake's resources with hydroelectric power generation, navigation, water supply, flood control, and recreational purposes and provides benefits to the public.

Table 3-1
Lake Lanier Features as of 2001

Feature	Information/Data
Total project property	56,782 acres
Lake surface area at elevation 1,071	39,038 acres
Project property adjacent to lake at elevation 1,071	17,744 acres ¹
Permitted private and community boat docks	8,348
Marinas	10
Boat ramps (Corps, private and community operated)	83
Campgrounds	10
Day use parks	43
Swim areas	24
Visits in fiscal year 2001 (Oct 1–Sept 30)	7.27 million

¹ Mainland (including Lake Lanier Islands resort area) = 16,660 acres; islands = 1,083 acres.

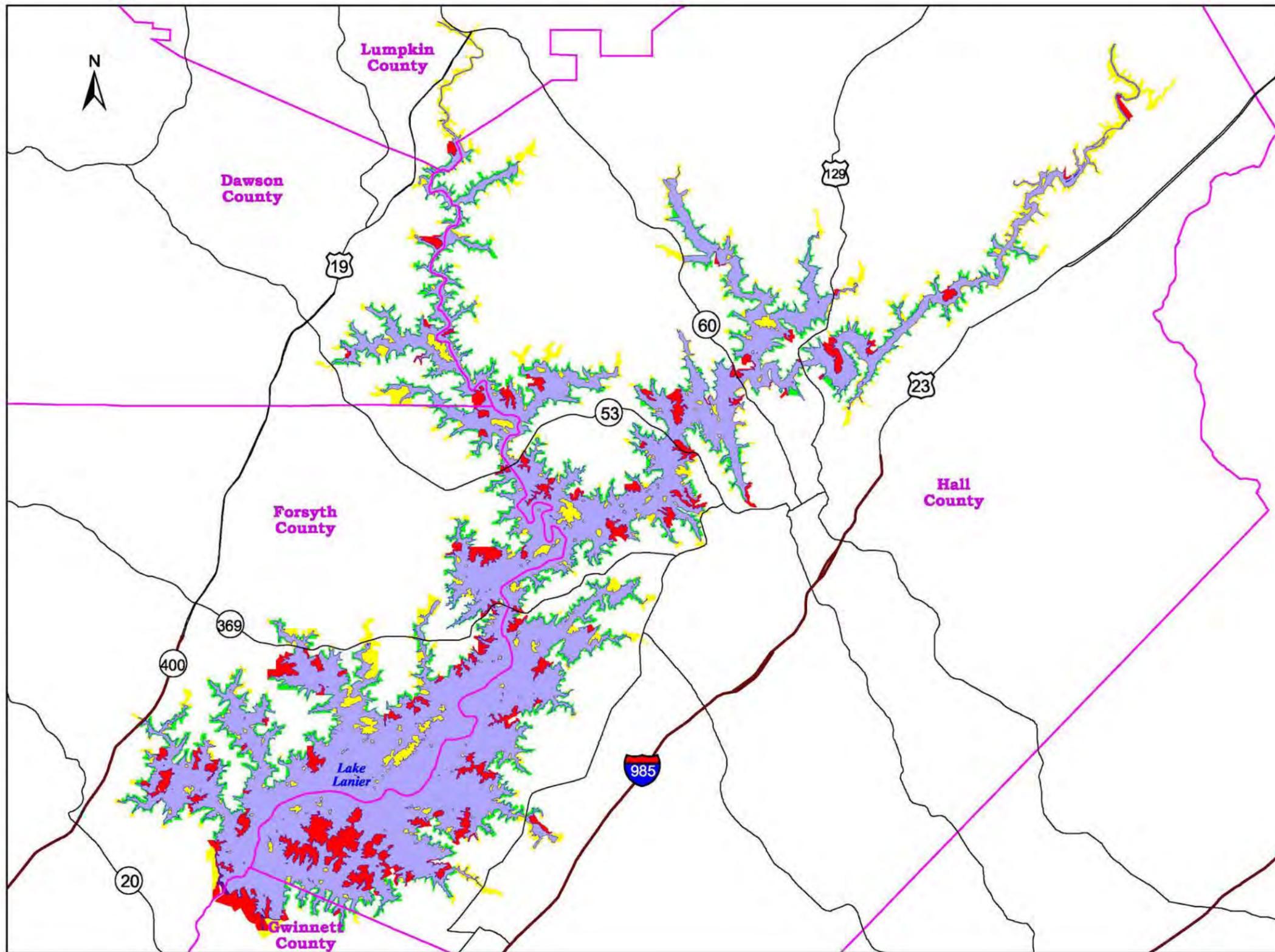
Management activities are guided by several USACE directives² issued to ensure appropriate fulfillment of congressional intent with respect to water resources development projects like Lake Lanier. The PMO also operates within guidance contained in the locally prepared Lake Lanier Master Plan and O&M. The O&M is composed of component plans addressing natural resources and park management. By specifying goals, policies, and management actions, the two plans are vital to guiding stewardship measures and allocation of resources for the management of Lake Lanier. The PMO also relies on several site-specific plans and standard operating procedures (SOPs) that pertain to discrete matters.³ Where appropriate, these directives are discussed in more detail throughout this EIS as they relate to specific environmental resources and conditions.

The 752 miles of Lake Lanier shoreline are allocated to Limited Development Areas, Public Recreation Areas, Protected Shoreline Areas, and Prohibited Access Areas (Figure 3-1). The initial purpose of zoning the shoreline was to aid in the protection and orderly management of a resource with diverse uses. The following subsections define the classifications and describe the management of each allocation (USACE, 1988).

¹ An acre-foot is the volume of a liquid (water) covering 1 acre to a depth of 1 foot, or approximately 326,000 gallons.

² Principal guiding directives include ER 1130-2-406, *Shoreline Management at Civil Works Projects*, May 28, 1999; ER 1130-2-510, *Hydroelectric Power Operations and Maintenance Policies*, December 12, 1996; ER 1130-2-520, *Navigation and Dredging Operations and Maintenance Policies*, November 29, 1996; ER 1130-2-530, *Flood Control Operations and Maintenance Policies*, October 30, 1996; ER 1130-2-540, *Environmental Stewardship Operations and Maintenance Policies*, November 15, 1996; EP 1130-2-540, *Environmental Stewardship Operations and Maintenance Guidance and Procedures*, November 15, 1996; ER 1130-2-550, *Recreation Operations and Maintenance Policies*, November 15, 1996; and EP 1130-2-550, *Recreation Operations and Maintenance Guidance and Procedures*, October 1, 1999.

³ Examples of site- and topic-specific management documents are the Down River Safety Plan (2001), Spill Prevention Control and Countermeasures Plan (1997), Low Water Safety Plan SOP (2000), Water Quality/Beach Testing Plan SOP (2001), and Project Response to High Lake Pool Levels SOP (1996). They are described in Section 2.2.1.



LEGEND
Shoreline Allocation Zone Types
Limited Development Area
Prohibited
Protected
Recreation
County Boundary

0 1.5 3 Miles

Shoreline Allocation

Figure 3-1

Sources: USACE Mobile District, 2001; USACE Mobile District, 1988.

Prohibited Access Areas. This classification protects certain project operation areas and the recreational visitor. The only areas allocated under this classification at Lake Lanier are in the proximity of the powerhouse intakes, dam, saddle dikes, spillway, tailrace, and Corps marine yard. Although restricted visitation is allowed at most of these sites, Shoreline Use Permits are not issued for these locations. Less than 1 mile of shoreline and 0.4 percent (64.9 acres) of the project lands above elevation 1,071 feet msl are classified as “prohibited.”

- **Protected Shoreline Areas.** Areas are designated as “protected” to preserve the scenic appeal of the lake, which is rapidly becoming more urban in character; to avoid conflict between private and public uses; to protect specific habitat for fish and wildlife; to protect cultural, historic, and archeological sites, endangered species, and navigation channels; to restrict placement of floating facilities in areas too shallow for navigation or too exposed to winds and currents; and to protect important natural formations and vistas.

Pedestrian and boating access is permitted along protected shoreline provided that aesthetic, environmental, historic, or natural resource values are not damaged. However, private recreational facilities may not be authorized at these locations. Protected Areas constitute 31.9 percent (239.86 miles) of the shoreline and 34.7 percent (6,163.6 acres) of the acreage of the project lands above elevation 1,071 feet msl.

- **Public Recreation Areas.** Although most of the project is considered available for limited recreational purposes, certain specific areas are set aside for intensive recreational development or use. These sites include campgrounds; day use parks; primitive or natural areas; lands leased to public groups and other local, state, or federal agencies for recreational use or development; and commercial marina services. A total of 62 recreation sites are located around Lake Lanier.

Permits for private shoreline use facilities are not granted in public recreation areas. Commercial activity is prohibited in all these areas without a permit. Authorization for commercial activity is restricted to sites currently designated for commercial purposes. These sites include the lake’s 10 marinas and the Lake Lanier Islands complex. Currently no sites are available for leasing, and Corps development is restricted to existing sites designated by the Master Plan.

The Corps's primary management concern in public recreation areas is to provide sites suitable for quality recreational experiences with facilities that can sustain intensive use and are vandal-resistant, reasonably safe, and large enough to support normal weekend use during the peak recreation season. Public recreation areas constitute 20.8 percent (156.6 miles) of the shoreline and 30 percent (5,329.5 acres) of the acreage of the project above elevation 1,071 feet msl.

- **Limited Development Areas (LDAs).** Certain specific private uses of public lands may be permitted along shoreline designated "limited development." Permit applications are reviewed and considered solely on their own merits.

The issuance of a Shoreline Use Permit does not preclude use of the shoreline by the public. However, boat docks and other personal property associated with an authorized dock are considered to be the permittee's private belongings. Unauthorized intrusion upon private floating facilities or picnic shelters is considered a trespass and should be reported to proper authorities. However, pedestrian traffic and general public use of the shoreline cannot be restricted or denied. Limited development areas compose 47 percent (353.8 miles) of the shoreline and 34.9 percent (6,186.6 acres) of the acreage of the project above elevation 1,071 feet msl.

Management actions are often directly affected by the classification assigned to a particular segment of the shoreline. Table 3-2 shows both the linear shoreline frontage miles and acreage of the allocations in effect at Lake Lanier. Table 3-3 shows the allocations by county. The original estimates considered in the 1974 EIS of 540 total shoreline miles and a lake surface area of 38,000 acres at 1,071 feet msl were made before the widespread use of GIS for data analysis. Using the best data currently available and GIS technology, the shoreline, including islands, is now estimated to be 752 miles (693 mainland shoreline miles plus 59 island shoreline miles) and the lake surface area to be 39,038 acres.

3.1.3 Climate

The climate of the Chattahoochee River Basin is temperate, with warm, humid summers and mild, wet winters (GDNR, 1997a; USACE, Mobile District, 1987). Summer temperatures are moderated

**Table 3-2
Lake Lanier Shoreline Allocations
(Elevation 1,071 feet msl)**

Allocation¹	Shoreline Length (miles)	Percent of Total Shoreline	Acres	Percent of Project Property
Limited Development Areas (LDA)	344.70	45.8		
LDA in water ¹	9.13	1.2		
Total LDA	353.83	47.0	6,186.6	34.9
Protected along <i>main</i> shoreline	177.44	23.6	5,079.8	28.6
Protected in water	3.14	0.4		
Protected along <i>island</i> shoreline	59.28	7.9	1,083.9	6.1
Total Protected	239.86	31.9	6,163.7	34.7
Recreation along <i>main</i> shoreline	136.80	18.2	4,479.1	25.2
Recreation in water	0.28			
Lake Lanier Islands Resort islands	19.53	2.6	850.4	4.8
Total Recreation	156.61	20.8	5,329.5	30.0
Prohibited Areas	1.74	0.2	64.9	0.4
Total Allocation	752.05	100.0	17,744.6	100.0
Total Main Shoreline²	692.77			
Total Island Shoreline	59.28		1,083.9	
Total Shoreline	752.05			
Total Lake Surface Area			39,038.1	

¹“In water” refers to areas where the Corps’s boundary runs into the water. It is assumed that the shoreline paralleling these segments is of the same allocation as the adjacent shoreline segments.

² Includes Lake Lanier Islands Resort islands.

**Table 3-3
Shoreline Allocation by County**

Acres of Shoreline Allocation by County						
	Dawson	Forsyth	Gwinnett	Hall	Lumpkin	Total
LDA	522.2	1,953.0	150.5	3,548.2	12.7	6,186.6
Protected	519.9	1,755.1	106.8	3,477.4	304.5	6,163.6
Recreation	173.4	1,457.6	384.8	3,275.2	38.4	5,329.4
Prohibited	-	32.2	32.7	-	-	64.9
Total	1,215.5	5,197.9	674.8	10,300.8	355.6	17,744.5
Miles of Shoreline Allocation by County						
	Dawson	Forsyth	Gwinnett	Hall	Lumpkin	Total
LDA	32.8	101.1	7.0	212.2	0.7	353.8
Protected	14.5	65.8	0.7	148.4	10.4	239.9
Recreation	5.0	45.7	5.0	100.0	0.8	156.6
Prohibited	-	0.6	1.1	-	-	1.7
Total	52.3	213.2	13.8	460.6	11.9	752.0

because Lake Lanier is at an altitude of 1,000 feet msl at the foot of the Blue Ridge Mountains, while winter temperatures are moderated by the breezes from the Atlantic Ocean and Gulf of Mexico. January is the coldest month, with an average temperature of 45 degrees Fahrenheit (°F); July is the warmest month, with an average temperature of 77.9 °F. The average growing season in the area is 233 days. The first killing frost occurs in November, and the last occurs in March (USACE, Mobile District, 1987).

The historical average monthly rainfalls in Hall and Forsyth Counties are 4.58 inches and 4.75 inches (CH2MHill, 2000a, 2000b). The highest rainfalls occur during July and March, and October has the lowest rainfall. Although snow is not uncommon in the area, its accumulation is slight and it remains on the ground for only short periods. Dry periods typically occur in autumn, when long stretches of pleasant, mild temperatures are common (USACE, Mobile District 1997a).

Since 1998 Georgia has been plagued by severe to extreme drought conditions. Average statewide precipitation deficits range from 20 to 30 inches below normal, and some gauges indicate rainfall shortages close to 50 inches (GDNR, 2001). Severe droughts have occurred in the basin several times since the construction of the Lake Lanier project began in the 1950s. The most notable droughts occurred from 1950 through 1957, 1980 through 1982, and 1985 through 1989 (USGS, 2000).

Wind direction during the winter is usually from the northwest; during periods of cold, wet weather, however, winds originate from the east and northeast (USACE, Mobile District, 1987). During the summer winds are mostly from the south.

3.2 *LAND USE, LAND COVER, AND LAND USE CONTROLS*

Land use refers to human use of the land for economic production (residential, commercial, industrial, recreational, or other purposes) and for natural resource protection, and it generally describes what is practiced, permitted, or planned on the land. *Land cover*, an increasingly important attribute of land use, describes what is physically on the ground. The following sections address land use and land cover immediately adjacent to the shoreline of Lake Lanier and in the lake watershed.

3.2.1 Land Use/Land Cover

3.2.1.1 Lake Lanier Shoreline

The entire shoreline of Lake Lanier is allocated to one of four land use classifications described in Section 3.1.2 (Prohibited Access, Protected Shoreline, Public Recreation, and Limited Development). Refer to that section for complete descriptions of the shoreline allocations. Regulatory notes about the land use classifications are provided below. Shoreline allocation extends from the project boundary with adjacent private land to the lake shoreline and onto the surface of the lake adjacent to the allocated shoreline (for floating facility considerations).

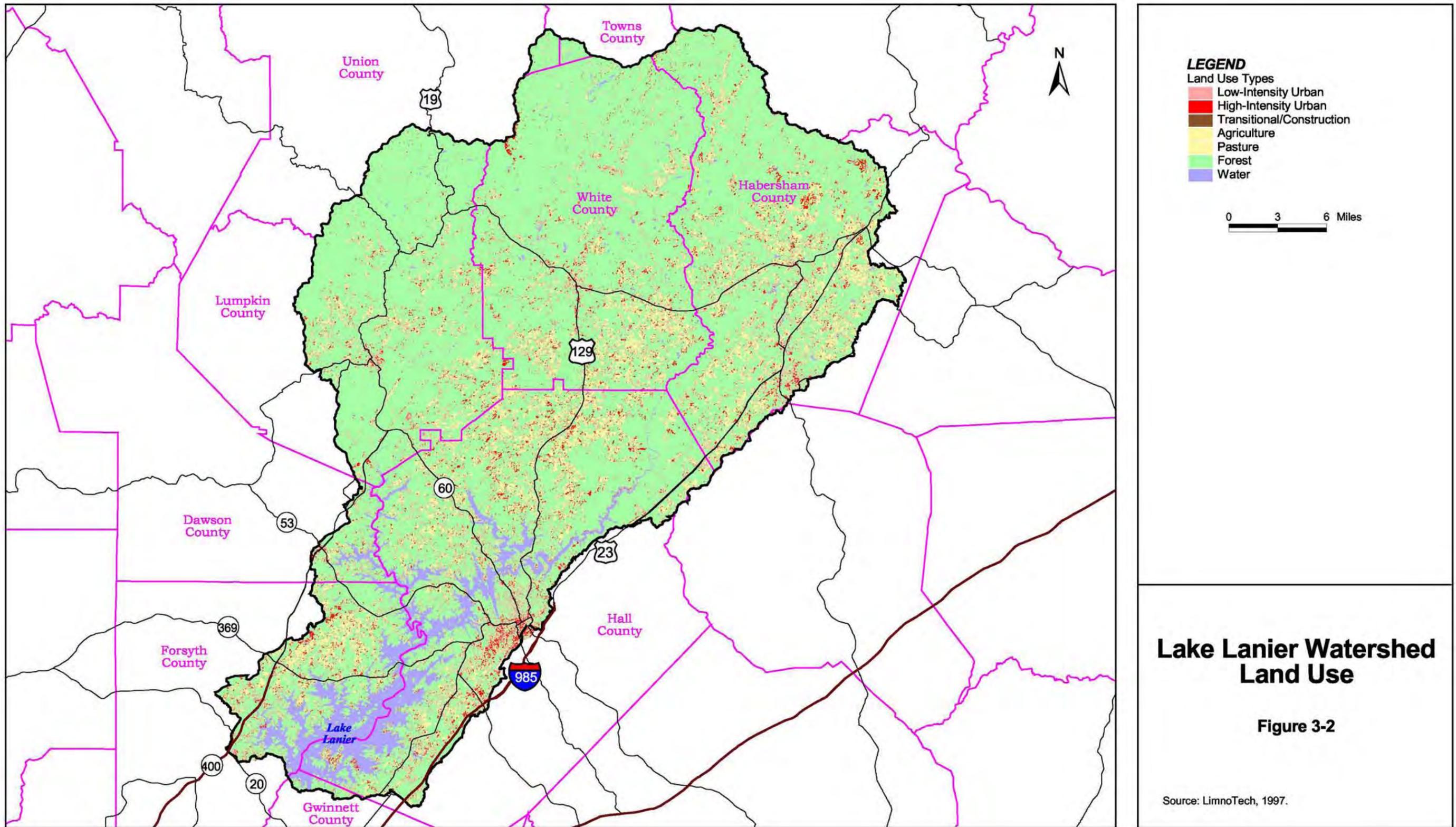
3.2.1.2 Adjacent Private Land

The area around Lake Lanier is a popular vacation and retirement area and essentially serves as a suburb of Atlanta, Georgia. This area is heavily developed for residential use. The lower lake is the most densely developed area. Development around the upper lake is continuing and almost equals that of the lower lake.

Because of the steep topography surrounding the lake (see Section 3.3.1.4), complete clearing of the land for development has not been possible or desired and residences are interspersed within still-abundant tree cover. Some residences adjacent to project land have reduced the vegetative cover on the project land lying between the residential land and the lake. In those areas where private land extends to the lake surface (these areas are very limited in extent), some property owners have removed the natural vegetation and planted grass.

3.2.1.3 Watershed

Based on the latest available multiresolution land cover satellite imagery, the principal land cover in the lake's watershed is forest (77.86 percent), followed by water (5.90 percent), pasture (4.55 percent), low-intensity urban (4.54 percent), crops (0.24 percent), and high-intensity urban (6.34 percent) (Figure 3-2). Table 3-4 provides information on the distribution of land uses on Corps property (Zone 1), private land adjacent to Corps property (Zone 2), and the rest of the Lake Lanier watershed (Zone 3).



**Table 3-4
Lake Lanier Watershed Land Use Distribution by Zone**

Land Use	Zone 1	Zone 2	Zone 3	Total Land Use Area (mi²)	Percent of Total
	Government Areas (mi²)¹	Nongovernment Areas (mi²)	Regional Areas Upstream (mi²)		
Open Water	60.76	0.00	0.00	60.76	5.90
Low-Density Urban	1.35	17.66	27.74	46.74	4.54
High-Density Urban	0.39	30.74	34.17	65.30	6.34
Forest	23.29	210.22	568.37	801.87	77.86
Pasture	0.39	19.22	27.26	46.87	4.55
Construction	0.00	2.64	3.26	5.90	0.57
Cropland	0.16	0.97	1.34	2.47	0.24
Wetlands	0.00	0.00	0.00	0.00	0.00
Totals	86.34	281.45	662.14	1,029.91	100.00

¹ mi² = square miles.

3.2.2 Land Use Controls

3.2.2.1 Lake Lanier Project Land

Regulations governing the use of land along Lake Lanier's shoreline and within the boundaries of government-owned land are stated in the 1988 LMP. Title 36 CFR Part 327 is used to enforce these rules and regulations within project-owned land. The Corps has exclusive jurisdiction over administration of the shoreline covered by the LMP. No American Indian lands are present within the boundaries of the Lake Lanier project.

The 1988 LMP contains details on shoreline allocation, Shoreline Use Permit guidelines, design of private floating facilities, facilities existing under special conditions (grandfathered facilities), construction and maintenance requirements for private boat docks, and private use of the shoreline. The LMP is being updated and renamed the Shoreline Management Plan (SMP).

Vegetation clearing on government land is permitted on foot paths authorized under a Lakeshore Use Permit only. Forest litter may be removed on government land within 6 feet of a residence where residences were constructed close to the government property line, and grassy areas on government property may be maintained as such if authorized under a Lakeshore Use Permit. The use of chemicals for modifying vegetation is not permitted on Lake Lanier, although topical applications to control noxious species may be authorized under a Specified Acts Permit.

In addition to the restrictions on land use on the shoreline, there are restrictions on boats with marine sanitation devices (MSDs) on the lake itself. Because the lake has been classified as a “No Discharge” lake, the use or possession of any type of MSD other than a U.S. Coast Guard-approved MSD is prohibited on boats operated on the lake. All MSDs must be pumped out only at marine dump stations located at marinas on the lake. The discharge of any type of effluent into the waters or lands of the lake is prohibited.

Floating facilities used in conjunction with commercial concessions in the parks (marinas) are not affected by the SMP. These concessions are controlled under real estate regulations. Floating facilities used in connection with motel, resort, campground leases must be located within LDAs.

3.2.2.2 *Adjacent Private Land*

Land use controls on private lands in the area around Lake Lanier are imposed by the respective county or city and vary from very lax controls to very restrictive covenants, codes, and restrictions. Among the covenants and restrictions are limits on the minimum size of a dwelling, dwelling height, and distance to lot lines. They also include required Architectural Control Committee approvals for dwelling unit and out-building plans, driveway paving material requirements, lot subdivision prohibitions, propane tank placement and landscaping requirements, septic tank installation, and garbage burning prohibitions.

3.2.2.3 *Watershed Land*

The watershed above the dam lies largely within six counties (Forsyth, Dawson, Lumpkin, White, Habersham, and Hall), with small areas in Gwinnett, Union, Towns, and Banks Counties. Land use is governed by these counties’ comprehensive plans and zoning ordinances, except for lands in incorporated areas. Land use in incorporated areas is governed by their respective city zoning ordinances.

3.3 *LAKE LANIER WATER RESOURCES*

3.3.1 *Watershed Characterization*

3.3.1.1 *Location and Description*

Lake Lanier is in the Upper Chattahoochee watershed, which is assigned U.S. Geological Survey (USGS) Hydrologic Unit Code (HUC) 03130001. The Lake Lanier watershed and its contributing

counties—White, Habersham, Hall, Forsyth, and Lumpkin, along with small portions of Gwinnett and Dawson Counties—are outlined in Figure 3-3. The total area of the Upper Chattahoochee watershed is 660,000 acres (1,040 square miles).

The primary towns in the Lake Lanier watershed are Helen, Clarkesville, Demorest, Cornelia, Baldwin, Lula, Oakwood, Flowery Branch, Cleveland, Clermont, Gainesville, and Dahlonega, located upstream of Buford Dam on the lake. Other towns near Lake Lanier are Clermont, Lula, Gainesville, Oakwood, Flowery Branch, Cummings, and Buford. The remainder of the Lake Lanier watershed is primarily forest, with a small percentage of urban land uses, pasture, and crops.

3.3.1.2 Lake Lanier

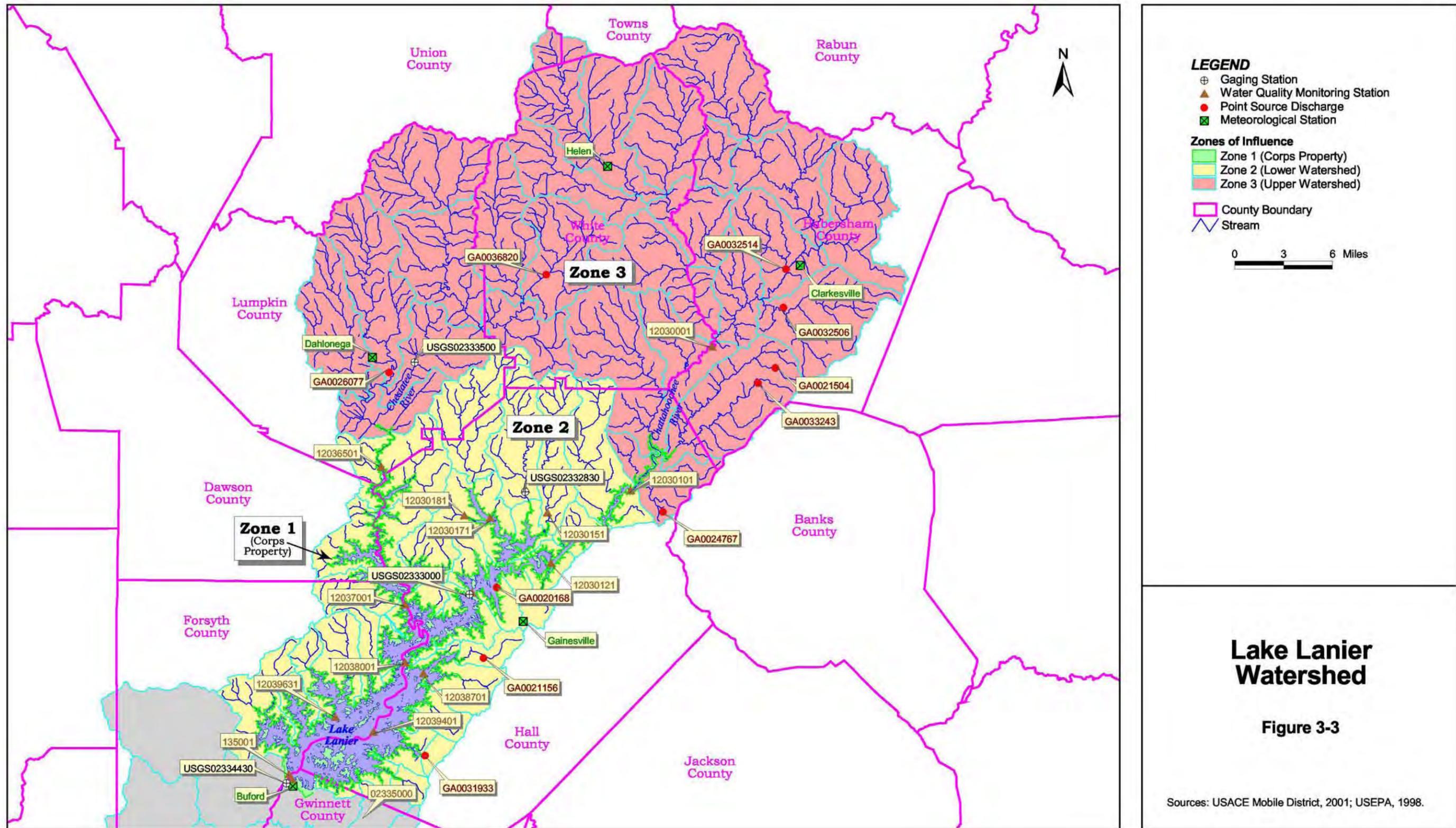
Lake Lanier has an average depth of 60 feet and a maximum depth of approximately 160 feet near the dam based on the 1993 USGS Buford Dam quad map. A minimum flow of 600 cubic feet per second is discharged constantly through a hydroelectric service unit operated for peaking power on a schedule of 5 days per week. The project operates to maintain a minimum flow of 750 cubic feet per second at Peachtree Creek (Atlanta) to provide for wastewater assimilation (USACE, Mobile District, 1998).

The lake is highly dendritic, with numerous branches and coves. The lake is oriented from the northeast going downstream in approximately a southwesterly direction and is about 31 miles in length. The lake is narrow and thin upstream where the Chattahoochee River feeds into it, and it swells and becomes wider going downstream toward the dam. The average width of the lake is about 1.4 miles. The area of the lake upstream at the north end where the Chattahoochee River feeds in covers 500 square miles (LTI, 1998). The Chestatee River feeds in from the northwest, covering an area of approximately 294 square miles (LTI, 1998).

The average inflow to Lake Lanier is 2,071 cubic feet per second. Of this flow, 45 percent (934 cubic feet per second) is contributed by the Chattahoochee River and 28 percent (568 cubic feet per second) by the Chestatee River. The remaining water comes from direct inflow to the lake (23 percent) and precipitation (4 percent) (LTI, 1998).

3.3.1.3 Tributaries

As discussed earlier, two major tributaries flow into Lake Lanier and drain about 75 percent of the Lake Lanier watershed—the Chattahoochee River and the Chestatee River (Figure 3-3). Various



Lake Lanier Watershed

Figure 3-3

Sources: USACE Mobile District, 2001; USEPA, 1998.

smaller tributaries also drain into Lake Lanier. Moving upstream to downstream, they include Wahoo, Little River (East and West Fork), Flat & Mud Creek, Flowery Branch, Big Creek, Shoal Creek, Thompson Creek, Six Mile Creek, Young Deer Creek, Mid-Channel Bypass, and Bald Ridge Creek. These minor tributaries typically have small urban watershed areas located close to the lake.

3.3.1.4 Topography

The topography of the Lake Lanier watershed is relatively steep. The Blue Ridge Province, where the Chattahoochee River begins, is very mountainous and steep. Elevations in the watershed range from more than 4,439 feet (1355 meters) National Geodetic Vertical Datum (NGVD) to 1,071 feet (327 meters) at lakeside.

In the immediate vicinity of the lake, the topography ranges from steep cliffs and bluffs extending to the water's edge to relatively flat, sloping shorelines in various coves. Figure 3-4 shows the distribution of slope along the shoreline of the lake. The areas with steep bluffs and cliffs are concentrated in the upstream portions of the Chestatee and Chattahoochee River.

3.3.1.5 Flows and Exchanges

Historically, the USGS has maintained flow gauges at various locations throughout the Lake Lanier watershed. The USGS has gauges on the Chattahoochee River near Gainesville, Chattahoochee River at Buford Dam, Chestatee River near Dahlonega, and West Fork Little River near Clermont. Station 02334430 is immediately downstream of Buford Dam and reflects the discharge out of the dam on the Chattahoochee River. Table 3-5 lists the USGS flow stations, and Table 3-6 presents the results of statistical analyses on the stations for which data were available. The historic flow records were analyzed to determine the range of flow conditions and the average flows in the various tributaries and out of the dam. Buford Dam is used to generate electricity and controls the outflow from Lake Lanier. Controlling the outflow of the lake contributes to controlling the level of the lake so that the inflow to the lake will not equal the outflow from the lake.

3.3.1.6 Water Quality Standards and 303(d) Listed Waters

Section 303(d) of the Clean Water Act requires states to identify and develop a list of those water bodies that are impaired where technology-based and other required controls have not provided

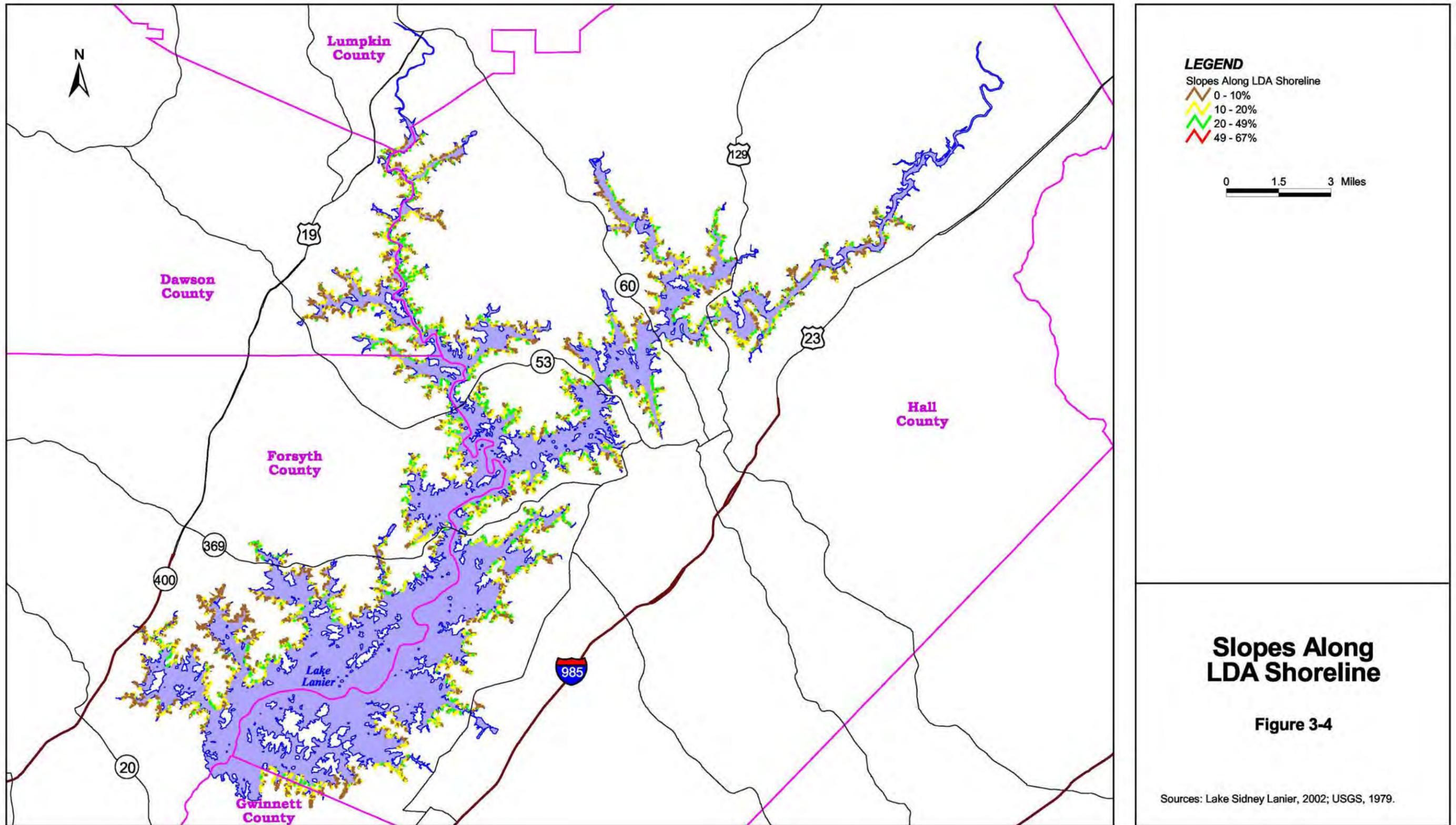


Table 3-5
USGS Flow Stations in the Lake Lanier Watershed

USGS Station	Latitude	Longitude	Station Name
02333000	34.321	83.879	Chattahoochee River near Gainesville, Georgia
02334430	34.157	84.079	Chattahoochee River at Buford Dam
02333500	34.528	83.940	Chestatee River near Dahlonega
02332830	34.415	83.822	West Fork Little River near Clermont

Table 3-6
Daily and Monthly Mean Statistics on USGS Flow Stations¹

Station	Dates of Analysis		Min	Max	Mean	7Q10	Annual Average
02333000	6/26/1901 to 2/29/1956		208	38,500	1,236	280	1,192
02334430	1/10/1971 to 9/30/2000		330	9,570	2,036	630	2,054
02333500	7/8/1929 to 9/30/2000		31	11,400	366	69	366
02332830	2/1/1993 to 4/11/1999		8.4	1,310	33	N/A	36

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
02333000	1,424	1,836	2,069	1,597	1,268	1,112	1,131	1,090	795	649	772	1,059
02334430	1,888	2,230	2,258	2,582	2,243	1,947	1,926	2,244	2,044	1,940	1,665	1,475
02333500	474	536	605	531	403	297	260	254	202	212	259	365
02332830	52	52	60	41	28	32	20	25	15	25	30	25

¹ All flow values are in cubic feet per second.

attainment of water quality standards. The table of 303(d) listed waters located within the study area is provided in Appendix G.

3.3.1.7 Subwatersheds

Two major subwatersheds drain to Lake Lanier—the Chattahoochee River watershed and the Chestatee River watershed.

Chattahoochee River Watershed. The Chattahoochee River watershed drains 559 square miles. The subwatershed discharges an annual average of 1,192 cubic feet of water per second into Lake Lanier. The designated uses for water bodies in the subwatershed are recreation (from SR 255 to Buford Dam) and fishing (headwaters to SR 255).

Fifty-five point discharge permits, two active mines, and 16 locations of either former mines or possible future mines are located in this subwatershed (Appendix H). Four water bodies in the subwatershed, including the Chattahoochee River, are listed on the state's section 303(d) list of impaired water bodies (USEPA, 2001) (Appendix G).

Chestatee River Watershed. The Chestatee River watershed drains 153 square miles. The subwatershed discharges an annual average of 366 cubic feet of water per second into Lake Lanier. The designated use for water bodies in the subwatershed is fishing.

Eighteen point discharge permits, two active mines, and 46 locations of either former mines or possible future mines are located in this subwatershed (Appendix H). Three water bodies in the subwatershed are listed on the state's 303(d) list (USEPA, 2001).

3.3.2 Hydrogeology/Groundwater

Lake Lanier is in the Piedmont Province, just north of the Fall Line that separates that province from the Coastal Plain Province. This area is underlain by bedrock and a crystalline-rock aquifer. The crystalline rocks have few primary pore spaces, and the porosity and permeability of the unweathered and unfractured bedrock are extremely low. However, groundwater is stored in unconsolidated material known as the regolith and in rock fractures. The regolith is primarily composed of the saprolite layer, which is a layer of earthy, decomposed rock formed by the weathering of exposed bedrock (USGS, 2002).

Water in the crystalline rock aquifers generally is unconfined, but the water in the bedrock is restricted entirely to flow through fractures. Water enters the Piedmont crystalline rock aquifer as precipitation falls on the land surface and percolates vertically downward to the water table. Once the water reaches the water table, it moves laterally to discharge points such as springs, baseflow to streams, and seepage to lakes (USGS, 2002).

The crystalline rock aquifer is used primarily for domestic water supply wells and agricultural wells for animal watering. Well yields are typically small, and the Chattahoochee River Basin Management Plan states that "it is commonly believed that groundwater in this area is not sufficient to support municipal and industrial uses" (GDNR, 1997a). Table 3-7 shows active municipal and industrial groundwater withdrawal permits in the counties surrounding Lake Lanier.

Well yields in the crystalline-rock aquifers are variable and range from zero to 471 gallons per minute but are usually less than 50 gallons per minute (GDNR, 1997a). The typical range is approximately 15 to 20 gallons per minute (USGS, 2002). Contact zones between crystalline-rock types are good locations for wells to yield large volumes of water (USGS, 2002).

**Table 3-7
Municipal and Industrial Groundwater Withdrawal
Permit Holders near Lake Lanier**

County	Permit	Facility Type¹	Name	Monthly Permitted Flow (MGD)	Yearly Permitted Flow (MGD)
Forsyth	058-0001	I	Laurel Springs Farm Golf Course	0.400	0.160
Hall	069-0004	I	Con Agra Broiler Company	0.300	0.300
Hall	069-0002	I	Fieldale Farms Corporation	1.200	1.200
Hall	069-0003	M	City of Flowery Branch	0.367	0.367
Lumpkin		M	City of Dahlonega	0.7	0.672

¹ I = industrial; M = municipal.

Source: GDNR, 1997a.

The water from the Piedmont crystalline rock aquifer is of suitable quality for drinking and other uses. The saprolite layer of the regolith contains clay, which acts as a barrier to groundwater pollution. This area has a low susceptibility to pollution (GDNR, 1997a). With the exception of fluoride, iron, manganese, and, locally, sulfate, concentrations of dissolved constituents seldom exceed state and federal drinking-water standards (USGS, 2002). Some public water system wells in the Chattahoochee River subbasin, however, have been contaminated by local pollution sources, such as leaking underground storage tanks, malfunctioning septic tanks, and spills (GDNR, 1997, cited in USACE, Mobile District, 1998).

3.3.3 Water Quality

3.3.3.1 Pollutant Loadings to the Lake

Potential pollutant loadings to Lake Lanier come from various sources, including the following:

- Watershed runoff entering the lake through the two major tributaries, the Chattahoochee River and the Chestatee River.
- Watershed runoff draining directly to Lake Lanier and its smaller tributaries. These loads are reflective of the immediate lake watersheds (i.e., adjacent land uses, septic system malfunction, and marina development).
- Permitted point source discharges to the tributaries and Lake Lanier.
- Boating activities on the lake (fueling, illegal discharge of human waste).

Watershed Loadings. The two major tributaries that flow into Lake Lanier drain more than 81 percent of the total watershed above the dam and deliver the majority of the loadings. The remaining watersheds provide direct loadings to the lake. To determine annual average loadings to Lake Lanier, the watershed was broken down into three discrete zones of influence surrounding the project: Zone 1, the principal study area, which includes all government-owned lands and waters constituting the Lake Lanier project (direct influence); Zone 2, the nongovernmental lands bordering government lands surrounding the lake (direct influence); and Zone 3, the watershed upstream of Lake Lanier (to address indirect regional issues influencing the lake). The modeling methodology and assumptions are contained in Appendix I.

An examination of the acreage distribution shows that the overall watershed of Lake Lanier is relatively undisturbed. About 78 percent of the watershed is forested, with coniferous forest, mixed forest, hardwood forest, or forested wetlands. The remaining 22 percent is primarily urban (low- and high-density) and water, with small percentages of pasture and cropland.

Most of the forested area (around 70 percent) lies in Zone 3, in the areas upstream of the lake. The total urban area for Zone 1 and Zone 2 combined is approximately equal to the regional areas upstream of the watershed, i.e., Zone 3. It may be noted that the government areas are all the direct discharge areas adjacent to the lake and make up about 8 percent of the total watershed area (Table 3-4). Their predominant land use is open water, followed by forest.

Based on the watershed model results, the primary loading constituents associated with the land uses in the Lake Lanier watershed are sediment, total nitrogen (TN), and total phosphorus (TP). Table 3-8 presents the annual average loadings of the primary loading constituents by source. The results in Table 3-8 show that on a total loading basis, Zone 3 contributes approximately 62 percent of the total load of nitrogen to the lake, whereas Zone 1 contributes only 3 percent. This analysis shows that the bulk of the overall loading to the lake enters through the two primary tributaries, the Chattahoochee and the Chestatee. For all the constituents, the load from Zone 3 is greater than the load from the areas immediately adjacent to the lake. This is primarily because of the size of the area of Zone 3 in relation to the watersheds immediately adjacent to the lake. However, because this area is predominantly forested (about 70 percent of the total area) and has less open space and fewer construction activities than Zone 2, the amount of suspended solids is an order of magnitude lower than that in Zone 2. It may be noted that septic systems, point sources, and groundwater are

Table 3-8
Annual Average Loads by Zone for Nitrogen, Phosphorus, Erosion, and Runoff

Source	Total Nitrogen (tons/yr)	Total Phosphorus (tons/yr)	Sediment (tons/yr)	Runoff (cm)
Zone 1—Government Lands				
Low-Density Urban	960.98	106.83	0.00	339.38
High-Density Urban	1,801.21	200.68	0.00	64.47
Forest	2,712.89	358.35	1,612.70	71.42
Pasture	808.03	274.06	11.19	17.27
Construction	320.82	129.41	92.61	14.16
Cropland	745.03	375.02	669.14	192.62
Wetland	0.00	0.00	0.00	0.00
Point Sources	0.00	0.00	0.00	0.00
Septic Systems	11,103.59	341.10	0.00	0.00
Groundwater	53,198.60	531.99	0.00	0.00
Totals	71,651.14	2,317.44	2,385.65	699.32
Percentages of Overall Total	2.8	1.7	1.8	4.6
Zone 2—Non-Government Lands				
Low-Density Urban	12,572.60	1,397.69	0.00	4,440.20
High-Density Urban	140,325.22	15,634.43	0.00	5,022.38
Forest	24,486.21	3,234.41	131,380.86	644.63
Pasture	40,934.69	13,884.08	28,152.82	874.97
Construction	23,959.35	9,664.76	516,544.22	1,057.18
Cropland	4,528.18	2,279.29	24,718.25	1,170.73
Wetland	0.00	0.00	0.00	0.00
Point Sources	1,543.00	3,400.00	0.00	0.00
Septic Systems	114,105.69	3,505.32	0.00	0.00
Groundwater	546,693.78	5,466.94	0.00	0.00
Totals	909,148.78	58,466.91	700,796.14	13,210.10
Percentages of Overall Total	35.0	40.8	91.3	88.2
Zone 3—Regional Areas Upstream of Lake Lanier				
Low-Density Urban	22,003.62	2,486.47	0.00	328.81
High-Density Urban	159,416.88	17,784.15	0.00	347.81
Forest	85,165.14	5,577.30	24,078.80	82.25
Pasture	84,368.65	28,085.02	2,138.08	92.67
Construction	10,979.07	4,428.76	35,151.31	104.93
Cropland	7,190.25	3,688.49	3,393.21	123.20
Wetlands	0.00	0.00	0.00	0.00
Point Sources	103,434.00	5,157.00		
Septic Systems	186,540.55	5,730.72		
Groundwater	955,344.20	9,553.44		
Totals	1,614,442.36	82,491.36	64,761.39	1,079.68
Percentages of Overall Total	62.2	57.6	8.4	7.2
Overall Total	2,595,242.28	143,275.71	767,943.18	14,989.10

Source: EIS model results.

significant contributors to the overall loading of nitrogen and phosphorus. When looking at the overall annual average loading, however, the phosphorus loadings coming from point sources,

septic systems, and groundwater are of secondary importance (24 percent) when compared to loadings coming from storm water runoff (76 percent).

NPDES Permitted Point Source Discharges. A list of all the National Pollutant Discharge Elimination System (NPDES) permitted facilities in the Lake Lanier watershed was compiled from numerous sources (LTI, 1998). A total of 40 facilities were identified; however, only the facilities with permitted flows greater than 0.1 million gallons per day were included in the watershed analysis. This was done mainly because effluent nutrient concentration data for smaller facilities were not available and because the smaller facilities contribute less than 1 percent of the total watershed nitrogen and phosphorus load. Table 3-9 presents the identification numbers, names, locations, receiving waters, and design discharges for each NPDES permitted facility included in the watershed analysis. Appendix H lists all point sources in the Lake Lanier watershed. The average annual loads of these point sources are presented in Table 3-8.

Loadings from Boating Activities. Boating activities and operations affect water quality in Lake Lanier in numerous ways. Sediment can be resuspended through boat operations and wakes, although resuspension is generally a localized condition. Refueling and boat operation can introduce hydrocarbons to the water. Introduction of metals and other toxic materials can occur through boat maintenance activities.

Table 3-9
Water Pollution Control Plant Discharge Locations in the Lake Lanier Watershed

Identification Number	Name	City Name	County	Receiving Water	Design Flow (MGD)
GA0032514	Clarksville WPCP	Clarksville	Habersham	Soquee River	0.75
GA0032506	Demorest WPCP	Demorest	Habersham	Hazel Creek Tributary	0.40
GA0021504	Cornella WPCP	Cornella	Habersham	South Fork Little Mud	3.00
GA0033243	Baldwin WPCP	Baldwin	Habersham	Little Mud Creek	0.30
GA0036820	Cleveland WPCP	Cleveland	White	Tesnatee Creek	0.75
GA0026077	Dahlonega WPCP	Dahlonega	Lumpkin	Yahoola Creek	0.72
GA0020168	Gainesville #2 Linwood Dr. WPCP	Gainesville	Hall	Lake Lanier	3.00
GA0021156	Gainesville #1 WPCP	Gainesville	Hall	South Flat Creek	7.20
GA0031933	Flowery Branch WPCP	Flowery Branch	Hall	Lake Lanier	0.20
GA0030261	Lanier Habersham Utility Corp.	Clermont	Forsyth	Unknown tributary to Lake Lanier	0.50
GA0024767	Lake Lanier Islands WPCP	Clermont	Hall	Unknown tributary to Lake Lanier	0.35

Boat maintenance is one potential source of increased metal concentrations. USEPA (1993) reports that the typical metals that can pollute water surrounding boating activities are as follows:

- Arsenic: used in paint pigments, pesticides, and wood preservatives
- Zinc anodes: used to deter corrosion of metal hulls and engine parts
- Copper and tin: biocides in antifoulant paints
- Others (iron, chrome): used in construction of marinas and boats

Only generic literature is available regarding the effects of marinas on lake water quality. The impact a marina has on Lake Lanier is largely dependent on the actions of individuals, making the quantification of pollutant loadings difficult. According to Part 2 of the Clean Lakes Study (Hatcher et al., 1994), there were detectable levels of arsenic, chromium, copper, lead, mercury, nickel, selenium, zinc, and dichlorodiphenyldichloroethylene (DDE) in the tissue of fish caught at two marinas on the lake. The concentrations were not found to be significantly different from those found in other parts of the lake. The Clean Lakes Study therefore concluded that there is no direct link between boating activities and elevated metal concentrations, although it is possible that the marinas are the source of the metals.

Illegal discharges from marine toilets can increase the fecal coliform counts in the lake. The Official Code of Georgia Annotated, Section 12-5-29(c), prohibits discharging the contents of marine toilet holding tanks into Lake Lanier.

Former Mines. The Clean Lakes Study reports that during the 19th and early 20th centuries gold was mined extensively in the Lake Lanier watershed, mainly in what is known as the Dahlonega Gold Belt and the Hall County Gold Belt. Mercury was commonly used to amalgamate and separate the gold from the ore, and as a result mercury waste is present in soils and sediments in many parts of the watershed. In addition to gold, copper was mined at the Chestatee Pyrite Mine on the Chestatee River 1.75 miles below its confluence with Tesnatee Creek.

The Clean Lakes Study concluded that the former mines, particularly those in the Chestatee River watershed, are apparently the sources of mercury and copper in Lake Lanier, but only at slightly elevated levels. Although mining is one potential source, atmospheric deposition is another source of mercury common throughout the southern states. A list of known former, current, and possible future mines is provided in Appendix H.

3.3.3.2 Historical In-lake Water Quality

Water quality data from 1974 through 1979 were obtained from both the USEPA Storage and Retrieval (STORET) database system and the USGS National Water Information System Database (NWISWeb). The STORET database includes sampling data collected by federal and state agencies sampling water quality in the Lake Lanier watershed, and the USGS database includes sampling done by the USGS. Historical water quality was evaluated at six monitoring stations (Table 3-10), four from the STORET database and two from the NWISWeb. Results of the historical water quality analysis are included in Appendix J.

3.3.3.3 Current In-lake Water Quality

Water quality in Lake Lanier is considered satisfactory for the designated uses of the reservoir. Current water quality in the lake was evaluated based on results reported in the Clean Lakes Study and from 18 EPA and USGS monitoring stations in the lake and its adjacent tributaries. The Clean Lakes Study sampled water quality parameters at two categories of stations: Category I stations were located in Lake Lanier, and Category II stations were located on tributaries to the lake. Table 3-11 lists the numbers of the 18 additional monitoring stations with their descriptions.

The overall water quality of Lake Lanier is good. There are indications that without nonpoint source controls the anthropogenic nutrient sources could cause an increase in eutrophication. The main body of the lake has the greatest transparency and the lowest fecal coliform counts and nutrient concentrations. Those areas in the Chattahoochee River and Chestatee River arms of the lake where the lake is shallower have the highest levels of turbidity, total suspended solids, chlorophyll *a*, and nutrient concentrations.

Table 3-10
Historical (1974–1979) Water Quality Stations in the Lake Lanier Watershed

Station Identification	Station Number
Chattahoochee River, Georgia Highway 384	12030001
Chattahoochee River, Georgia Highway 369, Brown's Bridge	12038001
Chattahoochee River, upstream from Buford Dam	12040001
Chattahoochee River, downstream from Buford Dam	12041001
Chestatee River near Dahlonega, GA	02333500
Chattahoochee River near Gainesville, GA	02333000

Table 3-11
STORET and NWISWeb Water Quality Stations in the Lake Lanier
Watershed

Station Identification	Station Number
Chattahoochee River Headwaters	
Chattahoochee River, Georgia Highway 384	12030001
Chattahoochee River at Lula Bridge, Highway 52	12030101
Chestatee River Headwaters	
Lake Lanier–Wilkie Bridge, Highway 136	12036501
Chestatee River near Dahlonega	02333500
Little River Headwaters	
West Fork Little River–Jess Holton Road	12030141
East Fork Little River–Honeysuckle Road	12030151
Squirrel Creek at Tomacheche Road	12030181
West Fork Little River near Clermont	02332830
Lake Lanier–Chattahoochee River Arm	
Lake Lanier, Clarks Bridge, Georgia Highway 384	12030121
Lake Lanier–Chestatee River Arm	
Lake Lanier–Chestatee River at Bolling Bridge	12037001
Lake Lanier–Little River Arm	
Wahoo Creek at Ben Parks Road	12030171
Lake Lanier–Middle	
Chattahoochee River at Georgia Highway 369, Brown’s Bridge	12038001
Lake Lanier–Flat Creek/Balus Creek confluence	12038701
Lake Lanier–Chattahoochee River at Lanier Bridge	12030201
Lake Lanier–Lower	
Chattahoochee River upstream from Buford Dam	12040001
Lake Lanier	135001
Lake Lanier–0.75 mile southwest of Aqualand Marina	12039401
Lake Lanier–6 Mile Embayment, Mount Zion Park	12039631

Lake Lanier experiences thermal stratification during the summer. In a typical stratified lake, dissolved oxygen concentration may drop below 2 milligrams per liter in the hypolimnion or approach anoxic conditions within a meter from the bottom. Low dissolved oxygen concentrations were observed in the reviewed water quality data, but the overall dissolved oxygen concentrations were good and water quality standards were met. A detailed discussion of the water quality analysis and trends is provided in Appendix K.

3.4 INFRASTRUCTURE

3.4.1 Shoreline Structures

The waters of Lake Lanier are designated as “recreational” by the Georgia Department of Natural Resources (DNR). The lake experiences the highest annual recreational visitation of all Corps lakes in the Apalachicola-Chattahoochee-Flint (ACF) River Basin. As a result, the lake has a highly developed shoreline (USACE, Mobile District, 1998). There are 8,348 boat dock permits for Lake Lanier, with an average annual increase of 175 over the past 9 years. There is a potential to reach up to 25,000 dock permits, ultimately covering 350 miles (47 percent) of the lake’s shoreline. Each permittee is allowed a pedestrian access path to the lake shoreline and a boat dock. Corps regulations specify that these access paths may be up to 6 feet wide and must follow a meandering route that conforms to the topography as much as possible to help prevent erosion, avoid the need for removal of native vegetation, and prevent bridge construction. The pathway permit does not convey the right to construct any other structure unless specifically authorized by the Corps (USACE, Mobile District, 1988a).

In addition to the private docks on the lake’s shoreline, there are more than 50 boat launching lanes, 10 public marinas, 10 campgrounds, and 43 day use parks (see Section 3.7 for details).

3.4.2 Traffic and Transportation

Lake Lanier lies about 35 miles northeast of Atlanta. In recent years the area around the lake has become increasingly urban and is now considered part of the Atlanta metropolitan area. Two-lane roads serve the parks on the lake and the towns that surround it. GA 400 connects Atlanta with the Chattahoochee National Forest in northern Georgia, passing through Cumming west of the lake. Interstate 985 (I-985), a spur to I-85 angling northeast toward Gainesville, is the major access route to areas east of the lake. State Highway (SH) 369, SH 306, and SH 53 serve as the main east-west corridors across Lake Lanier, connecting GA 400 in the west with Gainesville and I-985 in the east. US 23 connects Gainesville with Clarksville in the northeastern part of Georgia. SH 60 and SH 136 serve Murrayville and Price, respectively. Bridges on the lake are located on SH 369, SH 53, SH 60, SH 284, SH 136, and US 129/SH 11.

During the off-season, generally from October through March, traffic on U.S. highways, state highways, and local roads in the vicinity of the lake is typical of rural areas. Traffic during this

period is lighter than during the boating season (April through September), and roads are not used at or near their design capacities. Traffic on area roads can be very heavy during the boating season, especially at the more popular parks at the southern end of the lake near Buford Dam. The heavily used parks are Lower/Upper Overlook, Buford Dam, Shoal Creek Day Use, Big Creek, Burton Mill, Van Pugh North/South, Old Federal Day Use, East/West Bank, Lanier Park, and Lower Pool. Parking is sufficient for the recreational space available (Williams, personal communication, 2002).

Rapid population and transportation growth in the surrounding communities of Lake Lanier has created the need to improve local and regional travel options and travel conditions for east-west traffic between US 41 and SH 400. The Northern Arc project is a proposed four-lane limited-access highway designed to meet the existing and future east-west transportation needs of Bartow, Cherokee, and Forsyth Counties. The proposed route would extend from just south of Cummings west to just north of Cartersville and provide an alternative to the already heavily used SH 20.

In addition, the Georgia Regional Transportation Authority has initiated the next phase of the Northern Sub-Area/GA 400 Study, which is a comprehensive evaluation of transportation, land use, economic growth, and air quality issues along SH 400 from just north of Cummings in Forsyth County to Atlanta. The study, when completed, will provide recommendations for transportation improvement programs and regional transportation along SH 400.

3.4.3 Potable Water Supply

Water withdrawn from Lake Lanier for municipal purposes is provided to five entities, as summarized in Table 3-12.

Table 3-12
Water Withdrawals at Lake Lanier

Water User	Monthly Average (MGD)
City of Cummings	18.00
Forsyth County Board of Commissioners	14.00
City of Buford	2.00
City of Gainesville	30.00
Gwinnett County Water and Sewage Authority	150.00
Total	214.00

Source: GDNR, 1997b.

Lake releases are made so that the minimum flow from Buford Dam, when combined with local inflows from the 410-square-mile area between the dam and Atlanta (Morgan Creek) (assuming no withdrawals), will total not less than 750 cubic feet per second (USACE, 1974, 1998).

3.4.4 Wastewater Treatment

Treated sewage from 10 municipal and private wastewater treatment plants is discharged into the Lake Lanier watershed. The total treated sewage discharge from these plants is approximately 19 million gallons per day (MGD) (USEPA, 2000).

In November 2000 the Georgia Environmental Protection Division (EPD) issued Gwinnett County a permit for a discharge of 40 MGD of treated sewage into Lake Lanier beginning in 2005. This additional discharge would come from an expansion of Gwinnett County's north plant that went on-line in 2001. In addition, Forsyth and Hall Counties are poised to apply for permits allowing the release of a total of 23 MGD and 29 MGD of treated sewage, respectively.

3.4.5 On-site Wastewater Treatment Systems

Septic tanks remove solids by settling and/or liquefaction by biological processes. The clarified liquid at the top of the tank is displaced into the soil as new influent enters the tank. The effluent from septic tanks can potentially degrade surface waters and groundwater with chloride, nitrate, phosphate salts, oil fractions, fuel oil, trichloroethylene, gasoline, turpentine, and pathogens.

Unlike larger towns that use wastewater treatment facilities, most rural areas around Lake Lanier use septic tanks to treat and dispose of waste. Such decentralized on-site wastewater treatment systems are a significant method of wastewater management.

Septic tanks occasionally degrade the water quality of Lake Lanier if they are located too close to the floodplain or are not functioning correctly. If septic tanks are close to the lake, it is possible that some of the contaminants will reach the lake before they can be "treated" by the soil and microbes. These contaminants can stimulate plant growth and cause eutrophication. A 1975 EPA study of eutrophication and its effects on lakes determined that septic tanks located within 300 feet of the shoreline would adversely affect a lake.

Septic systems are not allowed on government property at Lake Lanier. In an effort to limit the number of septic tanks located close to the Lake Lanier shoreline, Corps and local health officials

have broadened their policy toward septic tank systems. The policy states that septic tanks and drain fields will not be permitted on public property, regardless of their age, if located below elevation 1,085 feet msl (USACE, Mobile District, 1988a).

Existing septic systems have never been permitted under a Shoreline Use Permit/License, and policy requires removal of only those systems that have failed. The Corps relies on local agencies to monitor septic systems and enforce the removal of failed systems. County environmental health departments require two inspections for all proposed septic tanks: a Level 3 Soil Analysis and a post-installation inspection to ensure proper installation. Further inspections or requirements to ensure that septic systems are maintained and function properly are not currently components of the Lake Lanier counties' environmental health department programs (Carter, personal communication, 2002; Jarrett, personal communication, 2002; Sternberg, personal communication, 2002).

A review of the soil surveys from the five Lake Lanier counties indicated that large areas of the soils surrounding the lake impose moderate to severe limitations on septic tank absorption fields. These limitations are due to high water tables, flooding, slope, and moderate permeability. Further discussion is provided in Section 3.8.1.

3.4.6 Public Safety

Law enforcement on federal lands and waters at Lake Lanier is the responsibility of the surrounding city and county sheriff's and police departments. The Georgia DNR is the primary investigating agency for boating enforcement and accident investigation on the lake. Its personnel also enforce hunting and fishing laws. Agents regularly patrol the lake. All criminal activities, boating accidents, serious injuries and loss of life are ultimately reported to the Corps's District Safety Office (DSO) or District Law Enforcement and Security Office, where factors such as location of accident, personal information, time of day, and circumstances are examined. In 2001, 41 boating accidents and 56 criminal incidents were reported and forwarded to the DSO. The most common accidents involved personal watercraft (Zeutenhorst, personnel communication, 2002).

Corps park rangers are responsible for the enforcement of Title 36 of the CFR, Park Rules and Regulations. These rules and regulations are designed to protect natural resources and enhance public safety. Agency policy dictates that enforcement will be conducted in a low-profile manner. In 2001 park rangers issued 282 citations and 2,029 warnings.

3.4.7 Employee Safety

The Lanier PMO specifies safety response and training rules for its personnel. Relevant components of the safety plan are as follows:

- Engineer Manual (EM) 385-1-1 requires a hazard analysis for each employee. The analysis identifies the work activity, safety hazards associated with performing the activity, and safety precautions for the activity.
- All potential health hazards to employees in the workplace are identified and evaluated. Recommendations are made for engineering, protective controls, and medical surveillance.
- Project management is committed to providing a safe and healthy workplace for all employees. Specific annual employee training requirements are as follows:
 - Emergency Spill Response
 - First Aid/CPR (all except Administration)
 - Hazard Communication
 - Drowning Prevention
 - Fire Prevention
 - Blood-Borne Pathogens (all except Administration)

3.4.8 Utilities

Electrical, natural gas, and communication systems are not discussed because they are not an issue in this particular EIS.

3.5 SOCIOECONOMICS

3.5.1 Economic Development

This section describes the contribution of Lake Lanier to the economy and to the sociological environment of the region. The socioeconomic indicators used for this study include regional economic activity, population, housing, and schools. Also discussed are recreational and

community facilities and public and social services. These indicators characterize the region of influence (ROI).

An ROI is a geographic area selected as a basis on which social and economic impacts of project alternatives are analyzed. The criteria used to determine the ROI for this EIS are the geographic location of Lake Lanier and the locations of businesses providing goods and services to residents around the lake and recreational users of the lake. Based on these criteria, the ROI for the social and economic environment is defined as the entire area of Dawson, Forsyth, Gwinnett, Hall, and Lumpkin Counties, Georgia. The ROI covers an area of 1,265 square miles (USDOC, Census, 2001a).

The baseline year for socioeconomic data is 2000. Where 2000 data are not available, the most recent data available are presented.

Regional Economic Activity. Table 3-13 shows ROI employment by industry for 1990 and 2000. Employment in the ROI over the last decade was almost exclusively nonagricultural. The primary sources of employment in 1990 were services, retail trade, manufacturing, and wholesale trade, which together accounted for 70 percent of regional employment. In 2000 the largest source of jobs in the ROI was still the services sector, which accounted for 28.1 percent of total employment, a 5.4 percent increase since 1990. The services industry includes establishments primarily engaged in providing a variety of services, such as hotels and other lodging places; establishments providing

Table 3-13
Lake Lanier ROI Employment by Industry

Employment Sector	1990 ROI Employment (Percent)	2000 ROI Employment (Percent)
Agricultural, Forestry, Fishing, and Other	1.3	0.2
Mining	0.1	0.0
Construction	7.9	9.0
Manufacturing	17.3	13.3
Transportation and Public Utilities	2.9	3.5
Wholesale Trade	10.9	10.6
Retail Trade	18.0	17.8
Finance, Insurance, and Real Estate	7.0	7.2
Services	22.7	28.1
Government and Government Enterprises	10.5	8.3
Total Nonfarm Employment	98.6	99.5
Total Farm Employment	1.4	0.5
Total Employment	100.0	100.0

Source: USDOC, BEA, 2001.

personal, business, repair, and amusement services; health, legal, engineering, and other professional services; educational institutions; membership organizations; and other miscellaneous services (OSHA, 2001). The retail trade sector was the second-largest employer, providing 17.8 percent of the total number of jobs, followed by manufacturing, which accounted for 13.3 percent, and then wholesale trade with 10.6 percent. Between 1990 and 2000 the agricultural services, farming, and mining sectors dropped in total number of persons employed. All other industry sectors saw an increase in the number of persons employed.

Economic expansion during the 1990s, primarily associated with the city of Atlanta, attracted approximately 195,000 additional persons into the workforce (Table 3-14). Several nationally and internationally known companies, including Coca Cola, Delta Airlines, Lucent Technologies, and UPS, have their headquarters in the Atlanta metropolitan area. The unemployment rates in Dawson, Forsyth, Gwinnett, Hall, and Lumpkin Counties have all decreased over the past decade. In 1990 the unemployment rate in each county in the ROI was about the same as or below the national and state unemployment rates. In 2000 the unemployment rate for each county in the ROI was below both the national unemployment rate and the rate for Georgia.

Because of Lake Lanier's location and recreation and tourism opportunities, it has a measurable economic impact on the region. However, estimates of that economic impact vary. One study estimated that the lake has a \$5.5 billion annual direct and indirect impact on Atlanta and the north Georgia area (10 counties were included in that study area), using a multiplier of 2.5 (Hughes, 2001). The USACE Recreation Economic Assessment System (REAS) estimates the economic impact of the lake to be \$155 million (USACE, 2001c). The REAS study uses a smaller, more

Table 3-14
Labor Force and Unemployment Rates

Location	1990			2000		
	Civilian Labor Force	Persons Unemployed	Rate (percent)	Civilian Labor Force	Persons Unemployed	Rate (percent)
Dawson County	5,252	269	5.1	10,621	223	2.1
Forsyth County	24,871	1,143	4.6	56,053	860	1.5
Gwinnett County	215,421	9,009	4.2	347,985	7,870	2.3
Hall County	52,773	2,951	5.6	75,560	1,736	2.3
Lumpkin County	7,226	372	5.1	11,084	198	1.8
ROI	305,543	13,744	4.5	501,303	10,887	2.2
Georgia	3,300,380	182,127	5.5	4,173,274	154,398	3.7
United States	125,840,000	7,047,000	5.6	140,863,000	5,655,000	4.0

Source: Georgia Department of Labor, 2002.

conservative effective spending multiplier of 1.08. It also uses a smaller study area, which is a 30-mile radius from the project site and includes all of Dawson, Forsyth, Gwinnett, Hall, and Lumpkin Counties.

3.5.2 Demographics

Table 3-15 portrays population trends in the ROI from 1980 to 2000, with comparative data for Georgia. According to the U.S. Census, each county in the ROI experienced a high rate of growth, compared to Georgia, between 1990 and 2000. Forsyth County experienced the highest growth rate at 123 percent, more than doubling its population. The average percent change in population for the ROI as a whole was almost 70 percent.

General population characteristics of the ROI, including per capita income, average household size, and median household income for 2000, are presented in Table 3-16. ROI per capita income was about the same as that of Georgia. The number of persons per household was slightly higher in the ROI compared to the state, and the median household income for the ROI was about \$10,000 more than the state level. Forsyth and Gwinnett Counties, in particular, have significantly higher median household incomes than the state.

3.5.3 Housing

Table 3-17 portrays selected housing characteristics for the ROI. The number of housing units in the ROI is 312,659. The average percent of housing units occupied in the ROI is about the same as in the state (92 percent). The homeowner vacancy rate in the five counties ranges from 1.1 up to

Table 3-15
Population Changes for the ROI and Georgia

Location	Population 1980¹	Population 1990¹	Population 2000²	Percent Change 1990–2000
Dawson County	4,774	9,429	15,999	69.7
Forsyth County	27,958	44,083	98,407	123.2
Gwinnett County	166,903	352,910	588,448	66.7
Hall County	75,649	95,428	139,277	45.9
Lumpkin County	10,762	14,573	21,016	44.2
ROI	286,046	516,423	863,147	69.9
Georgia	5,463,105	6,478,216	8,186,453	26.4

¹ USDOC, Census, 1995.

² USDOC, Census, 2001a.

Table 3-16
Selected Population Characteristics for the ROI

Location	Per Capita Income 2000¹	Persons per Household, 2000²	Median Household Income, 2000²
Dawson County	\$23,691	2.62	\$40,128
Forsyth County	\$31,576	2.83	\$60,250
Gwinnett County	\$31,893	2.88	\$56,082
Hall County	\$25,631	2.89	\$38,435
Lumpkin County	\$22,455	2.61	\$35,598
ROI	\$27,049	2.77	\$46,099
Georgia	\$27,324	2.65	\$36,372

¹ Source: USDOC, BEA, 2001.

² Source: USDOC, Census, 2001a.

Table 3-17
Selected Housing Characteristics for the ROI¹

Location	Total Housing Units	Occupied Housing Units		Vacant Housing Units²		Homeowner Vacancy Rate (Percent)	Rental Vacancy Rate (Percent)
		No.	Percent	No.	Percent		
Dawson County	7,163	6,069	84.7	1,094	15.3	2.1	5.1
Forsyth County	36,505	34,565	94.7	1,940	5.3	1.6	4.1
Gwinnett County	209,682	202,317	96.5	7,365	3.5	1.2	5.7
Hall County	51,046	47,381	92.8	3,665	7.2	2.5	5.6
Lumpkin County	8,263	7,537	91.2	726	8.8	1.1	8.3
ROI	312,659	297,869	92.0	14,790	8.0	1.7	5.8
Georgia	3,281,737	3,006,369	91.6	275,368	8.4	1.9	8.2

¹ Source: USDOC, Census, 2001b.

² Approximately 20 percent of the vacant housing units in the ROI are for seasonal and recreational use.

2.5 percent, with an average of 1.7 percent for the ROI, slightly lower than that for Georgia. With the exception of Lumpkin County, all the counties in the ROI have a lower rental vacancy rate compared to the state rate of 8.2 percent.

3.5.4 Quality of Life

3.5.4.1 Law Enforcement and Fire Protection Services

The 13 police departments (municipal and county) in the ROI are responsible for the protection of the population (CapitolImpact.com, 2002). In total there are more than 1,000 law enforcement personnel (full-time and part-time officers and civilians) in the ROI (Georgia Department of Industry Trade and Tourism, 2001). In addition to the state police, municipal police departments and county sheriff offices serve Forsyth, Gwinnett, and Hall Counties, and county sheriff offices serve Dawson and Lumpkin Counties.

Fire protection services in the ROI are provided through full-time and volunteer municipal and county fire departments (Table 3-18). Typically, municipal fire departments are responsible for fire protection services within their municipal boundaries, whereas county fire departments are responsible for protection services in unincorporated areas. Where only a county fire department is established, however, the county stations respond to all calls, whether in an incorporated (municipal) or unincorporated area.

3.5.4.2 Medical Services

The ROI has four hospitals with a total of 550 beds (Table 3-19). There are also 20 assisted living facilities or nursing homes in the ROI (Georgia Department of Industry Trade and Tourism, 2001). Medical, dental, eye, and other specialty clinics also provide medical services in cities and towns throughout the ROI. Specialty services include chiropractic, physical therapy, alcohol and drug treatment, counseling, and mental health treatment.

3.5.4.3 Recreation and Shopping

In addition to the water sports and fishing activities at Lake Lanier, many other recreational opportunities are available in the ROI. Dawson County is home to Amicalola Falls, a 729-foot

Table 3-18
Fire Services in the ROI

Dawson County	County volunteer fire department with one full-time fire chief
Forsyth County	County volunteer fire department with 345 volunteers and two full-time personnel. City of Cumming municipal fire department with 15 volunteers and three full-time personnel
Gwinnett County	County fire department with 461 full-time personnel and 18 stations
Hall County	County fire department with 145 full-time personnel. City of Gainesville municipal fire departments with 67 full-time personnel
Lumpkin County	County and municipal cooperative fire department with 35 volunteers

Source: Georgia Department of Industry Trade and Tourism, 2001.

Table 3-19
Hospitals in the ROI

Hospital	Location	Number of Beds
Baptist Medical Center	Cumming, Forsyth County	36
Chestatee Regional Hospital	Dahlonega, Lumpkin County	52
Lanier Park Hospital and North East Georgia Health Care Systems Hospital	Gainesville, Hall County	462

Sources: Georgia Department of Industry Trade and Tourism, 2001; Dawson County Chamber of Commerce, 1999.

waterfall that is part of the Amicalola Falls State Park, where the Appalachian Trail begins (Dawson County Chamber of Commerce, 1999). Canoeing, kayaking, and rafting are available on Lake Lanier and on the Upper and Lower Chestatee Rivers, Etowah River, and Amicalola Creek (Dawson County Chamber of Commerce, 1999). Seasonal hunting, horseback riding, fishing, and camping are offered at the Dawson Forest Wildlife Management Area (Dawson County Chamber of Commerce, 1999). Lanierland Country Music Park is an amusement park in Forsyth County open from May to October (Georgia Department of Industry Trade and Tourism, 2001). Auto racing is very popular in the ROI: Road Atlanta international raceway is in Hall County, and the Thunder Road USA Racing Hall of Fame is in Dawson County (Hall County Government, 1999; Dawson County Chamber of Commerce, 1999).

Each county has parks, playgrounds, community playfields (softball, baseball, soccer), tennis courts, swimming pools, jogging and walking trails, and community centers that are open to county residents.

A variety of shopping is available in the ROI at gift, craft, antique, and general merchandise stores. The North Georgia Premium Outlets, a large outlet mall with 140 retailers, is in Dawson County (Dawson County Chamber of Commerce, 1999).

3.5.4.4 Schools

There are seven public school districts in the ROI, as listed in Table 3-20. The ROI also has several postsecondary schools. Gwinnett Technical Institute, Gainesville College, and Lake Lanier Technical College are 2-year programs that offer associate's degrees. Brenau University is a 4-year

Table 3-20
Schools in the ROI

School District	Elementary Schools	Middle Schools	High Schools	Total Enrolment	Student/Teacher Ratio
Buford City	1 ¹	1	1	2,104	15.4:1
Dawson County	2	1	1	2,653	15:1
Forsyth County	12	4	3	15,703	16.3:1
Gainesville City	3	1	1	3,814	14.8:1
Gwinnett County	14	2	4	104,552	15.7:1
Hall County	12	4	3	19,456	15.8:1
Lumpkin County	2	1	1	3,268	15.1:1

¹ In addition to the one elementary school, Buford City has the Buford Academy, which enrolls students in grades 3, 4, and 5.

Source: CapitolImpact.com, 2002.

women's college. The North Georgia College and State University is a publicly funded coeducational liberal arts military college offering bachelor's degrees.

3.5.5 Environmental Justice

The primary objective of environmental justice analysis is to ensure that vulnerable populations do not bear a disproportionately high and adverse share of human health or environmental effects from proposed federal actions. To address environmental justice concerns, on February 11, 1994, President Clinton issued Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, requiring each federal agency to "make the achievement of environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health and environmental effects on minority and low-income populations." The EO and accompanying Presidential Memorandum direct federal agencies to identify and analyze the potential socioeconomic impacts of proposed actions in accordance with health and environmental laws and to identify alternatives that might mitigate these impacts.

In accordance with this EO, efforts were made during the scoping process to reach minority and low-income groups (see Section 1.6) to inform them of the proposed Corps action and give them the opportunity to participate in the decision-making process.

Demographic information on ethnicity, race, and economic status of the residents of the ROI is provided in Table 3-21 as the baseline against which potential impacts can be identified and analyzed. Any potential disproportionate risks to minority or low-income groups as a result of implementing the Corps's proposed action are identified in Section 4.0.

The ROI has a significantly lower percentage of minority residents than Georgia or the United States, as shown in Table 3-21. In 2000, 88 percent of the ROI population was white. Each of the other racial and ethnic groups accounted for approximately 4.5 percent or less of the ROI population (Table 3-21). In total, 12 percent of the ROI population was of a minority race and 8 percent was of Hispanic ethnicity. In the state of Georgia, 35 percent of the population was of a minority race and 5 percent of Hispanic ethnicity; in the United States 25 percent of the population was of a minority race and 12.5 percent of Hispanic ethnicity.

Table 3-21
Race, Ethnicity, and Poverty Status for the
ROI, Georgia, and the United States for the Year 2000

Race/Ethnicity	ROI¹ (Percent)	Georgia (Percent)	United States (Percent)
White	87.9	65.1	75.1
Black or African American	4.6	28.7	12.3
American Indian and Alaska Native	0.5	0.3	0.9
Asian	2.0	2.1	3.6
Native Hawaiian and Other Pacific Islander	0.1	0.1	0.1
Other Race	3.5	2.4	5.5
Two or More Races	1.4	1.4	2.4
Hispanic ²	8.2	5.3	12.5
Living in Poverty ³	9.6	14.7	13.3

¹ Percentages for the ROI are an average of the five counties in the ROI.

² Persons of Hispanic origin may be of any race.

³ Percentages of persons living below the poverty line are for 1997.

Source: USDOC, Census, 2001a.

Poverty status, used in this EIS to define low-income status, is reported as the number of persons with income below the poverty level. The 2000 Census defines the poverty level as \$8,794 of annual income, or less, for an individual and \$17,603 of annual income, or less, for a family of four. The Census Bureau bases the poverty status of families and individuals on 48 threshold variables, including income, family size, number of family members under the age of 18 and over 65 years of age, and amount spent on food. Approximately 10 percent of the ROI residents were classified as living in poverty, lower than the poverty rates for Georgia and the United States.

3.5.6 Protection of Children

On April 12, 1991, the President issued EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. The EO seeks to protect children from disproportionately incurring environmental health or safety risks that might arise as a result of Corps policies, programs, activities, and standards. Historically, children have often been present at Lake Lanier as residents and visitors. The Corps has taken precautions for their safety at the lake and dam. Above and below the dam are warning signs to stay out of the restricted area near the dam. An AM radio station broadcasts a warning message when water is going to be discharged from the dam, and four warning sirens are located downstream from the dam. Other measures implemented by the Corps to protect the safety of the visiting public include the following (Lake Lanier Project Management Office, 2001):

- Water samples are taken once a month at 23 Corps-managed swim areas around the lake during the swimming season to test for fecal coliform bacteria. Public health advisories are posted if the water is unsafe for swimming.
- The Lake Lanier Project Office maintains and conducts a Lanier Water Safety Task Force that promotes water safety through education, training, safety inspections, and law enforcement.
- Lake Lanier Management Office personnel are trained to respond to hazardous incidents and disasters such as storms (hurricanes, tornados, and tropical storms), floods, oil or gas spills, chemical/hazardous material spills, and earthquakes.
- Boating accidents are reported, and data from the reports are compiled to acquire information to help prevent future accidents.
- At all Corps beaches along Lake Lanier, swim lines are floated in the water to designate the safe swimming areas, and all Corps beaches are posted with permanent signs that read “Danger, Deep Drop Beyond Swim Line.”
- During times of drought or flood, special public safety controls are implemented and news releases are issued.
- The Low Water Safety Plan is implemented during low-lake-level situations (i.e., 1,066 feet msl and below). Hazards are identified and the public is alerted to any potential dangers.
- Lake Lanier ranger staff perform water safety patrols during the summer recreation season.

3.6 VISUAL AND AESTHETIC RESOURCES

Visual and aesthetic resources are those natural resources, landforms, vegetation, and man-made structures in the environment that generate one or more sensory reactions and evaluations by the observer, particularly with respect to a pleasurable response. These sensory reactions are traditionally categorized as visual (sight), auditory (sound), and olfactory (smell) responses. The visual sense is so predominant in the observer’s reaction and evaluation that visual resources are the focus of this section. The other sensory stimulants, sound and smell, are addressed, to the extent

their presence is perceivable, in the Water Quality, Air Quality, and Noise sections (3.3.3, 3.11, and 3.13, respectively).

3.6.1 Lake Lanier

Lake Lanier is large with an irregular shape typical of a man-made reservoir. The Chattahoochee River and its tributaries have cut deep ravines, producing numerous islands and promontories that offer vistas of the water and opposite shoreline. The lake's shoreline, as described above, is largely forested with residences visible from the lake. Some shoreline areas resemble well-manicured lawns with residences clearly visible. Marinas, campgrounds, boat ramps, and boat docks are visible from the lake surface. When the water level is low, the shoreline nearest the water is unvegetated.

For a lake of its size, there are relatively few public vantage points for viewing the lake from the surrounding network of public roads and highways, other than from the parks and campgrounds. There are no developed overlook areas.

3.6.2 Scenic Attractiveness

Lake Lanier is not identified or mentioned as a sight worth visiting in any of the standard travel guides covering the United States or in the Michelin USA Recreational Sites map (Michelin, 1997). Lake Lanier is mentioned, however, in one guide to the southeastern United States, without any reference to its scenic quality (Mobile Travel Guide, 2001). In Georgia the lake is noted for its recreational opportunities. The lake has had more than 7 million visits almost every year since 1993 (Williams, personal communication, 2002).

A visual assessment survey was conducted on July 10–13, 2001. Of the 85 locations and sites surveyed, 45 were assessed from randomly assigned locations on a boat on the lake and 40 were assessed from representative park, campground, road, or other vantage points on land surrounding the lake. Table 3-22 shows the results of the water and land-based visual landscape assessments. Table 3-23 provides definitions of the three scenic attractiveness classes used in Table 3-22. More than 60 percent of the sites were rated to have typical scenic attractiveness.

Figures 3-5 through 3-7 provide photographic examples of the scenic attractiveness classes at Lake Lanier, both from the water (upper panel) and from the land (lower panel).

Table 3-22
Scenic Attractiveness of Water- and Land-Based Sites

Class	Water-Based		Land-Based		Total	
	Sites	Percent	Sites	Percent	Sites	Percent
Class A Distinctive	7	15	4	10	11	13
Class B Typical	34	76	19	48	53	62
Class C Indistinctive	4	9	17	42	17	17
Total	45		40		81	

Source: QAR, 2001.

Table 3-23
Scenic Attractiveness Class Definitions

Class A Distinctive	Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.
Class B Typical	Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide ordinary or common scenic quality. These landscapes have generally positive, yet common, attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance. Normally they would form the basic matrix within the ecological unit.
Class C Indistinctive	Areas where landform, vegetation patterns, water characteristics, and cultural land use have low scenic quality. Often water and rockform features of any consequence are missing in Class C landscapes. These landscapes have weak or missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Source: U.S. Forest Service, 1995.

3.6.3 Scenic Integrity

Table 3-24 presents the scenic integrity results of the 45 water-based and 40 land-based visual landscape assessments. Table 3-25 provides a definition for the scenic integrity classes used in Table 3-24. None of the sites were judged to have an “Unacceptably Low” scenic integrity rating. More than 60 percent of the sites were rated to have either low or very low scenic integrity.

Figures 3-8 through 3-12 provide photographic examples of the five scenic integrity classes at Lake Lanier, both from the water (upper panel) and from the land (lower panel).



From the Water: West of Lake Lanier Islands (Map Reference No. 35, *Field Trip Report*, pp. 114-115, QAR, Inc., 2001).



From the Land: View from Harbor Pointe (Map Reference No. L-45A, *Field Trip Report*, pp. 159-160, QAR, Inc. 2001).

Distinctive Scenic Attractiveness

Figure 3-5



From the Water: Mouth of Six Mile Creek (Map Reference No. 31, *Field Trip Report*, pp. 103-104, QAR, Inc. 2001).



From the Land: From Old Federal Campground (Map Reference No. L-17, *Field Trip Report*, pp. 39-40, QAR, Inc. 2001).

Typical Scenic Attractiveness

Figure 3-6



From the Water: Location Code 3128.0 (Map Reference No. 54, *Field Trip Report*, pp. 87-88, QAR, Inc., 2001).



From the Land: Lula Park (Map Reference No. L-31, *Field Trip Report*, pp. 65-66, QAR, Inc., 2001).

Indistinctive Scenic Attractiveness

Figure 3-7

Table 3-24
Scenic Integrity of Water- and Land-Based Sites

Class	Water- Based Sites	Percent	Land-Based Sites	Percent	Total Sites	Percent
Very High (Unaltered)	8	17	1	3	9	11
High (Appears Unaltered)	7	16	5	13	12	14
Moderate (Slightly Altered)	7	16	4	10	11	13
Low (Moderately Altered)	14	31	15	37	29	34
Very Low (Heavily Altered)	9	20	15	37	24	28
Total	45		40		85	

Source: QAR, 2001.

Table 3-25
Scenic Integrity Definitions

Very High (Unaltered)	Landscapes where the valued landscape character “is intact” with only minute, if any, deviations. The existing landscape character and sense of place are expressed at the highest possible level.
High (Appears Unaltered)	Landscapes where the valued landscape “appears intact.” Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident.
Moderate (Slightly Altered)	Landscapes where the valued landscape “appears slightly altered.” Noticeable deviations must remain visually subordinate to the landscape character being viewed.
Low (Moderately Altered)	Landscapes where the valued landscape character “appears moderately altered.” Deviations begin to dominate the valued landscape character being viewed but they borrow valued attributes such as size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being viewed. They should only appear as valued character outside the landscape being viewed but compatible or complementary to the character within.
Very Low (Heavily Altered)	Landscapes where the valued landscape character “appears heavily altered.” Deviations may strongly dominate the valued landscape character. They may not borrow from valued attributes such as size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles within or outside the landscape being viewed.
Unacceptably Low	Landscapes where the valued landscape character being viewed “appears extremely altered.” Deviations are extremely dominant and borrow little, if any, form, line, color, texture, pattern, or scale from the landscape character.

Source: U.S. Forest Service, 1995.



From the Water: Lake Lanier Islands (Map Reference No. 35; *Field Trip Report*, pp.115-116, QAR, Inc. 2001).



From the Land: Sawnee Campground (Map Reference No. L-81, *Field Trip Report*, pp. 9-10, QAR, Inc. 2001).

Very High Scenic Integrity

Figure 3-8



From the Water: Big Creek (Map Reference No. 51, *Field Trip Report*, pp. 89-90, QAR, Inc., 2001).



From the Land: Two Mile Park (Map Reference No. L-67, *Field Trip Report*, pp. 25-26, QAR, Inc., 2001).

High Scenic Integrity

Figure 3-9



From the Water: Rocky Point (Map Reference No. 8, *Field Trip Report*, pp. 79-80, QAR, Inc., 2001).



From the Land: Robinson Park (Map Reference No. L-43, *Field Trip Report*, pp. 157-158, QAR, Inc., 2001).

Moderate Scenic Integrity

Figure 3-10



From the Water: Chattahoochee River (Map Reference No. 53, *Field Trip Report*, pp. 143-144, QAR, Inc., 2001).



From the Land: Little Hall Park (Map Reference No. L-46, *Field Trip Report*, pp. 163-164, QAR, Inc., 2001).

Low Scenic Integrity

Figure 3-11



From the Water: Thompson Creek (Map Reference No. 41, *Field Trip Report*, pp. 155-156, QAR, Inc., 2001).



From the Land: Lanier Beach South (Map Reference No. L-81A, *Field Trip Report*, pp. 13-14, QAR, Inc., 2001).

Very Low Scenic Integrity

Figure 3-12

3.6.4 Landscape Visibility

Landscape visibility is a function of many interconnected considerations, including context of viewers, duration of view, degree of discernible detail, seasonal variations, and number of viewers. Viewers of the Lake Lanier shoreline include residents, recreational users (boaters, sailors, fishermen, waterskiiers, others), and visitors to the area who drive on the roads surrounding the lake. Of these, recreational users and park visitors (campers, picnickers, and hikers) are by far the most numerous. Section 3.7.1 identifies the number of visitors and recreational users of the lake.

Of particular concern is the duration of view and the degree of discernible detail of nonnatural features on the lake's shoreline, both to recreational users of the lake and its parks and to residents of the adjoining subdivisions. The most numerous and visible nonnatural features are private boat docks and residences along the lake shoreline. Private boat docks have been permitted on Lake Lanier since impoundment began in 1957. The number of private floating facilities on the lake has continued to increase since that time. Figure 3-13 depicts the growth in the number of docks on the lake between 1985 and 2001. Using a visibility range of 1 mile, Figure 3-14 shows the areas of the lake from which existing boat docks and marinas are clearly visible.

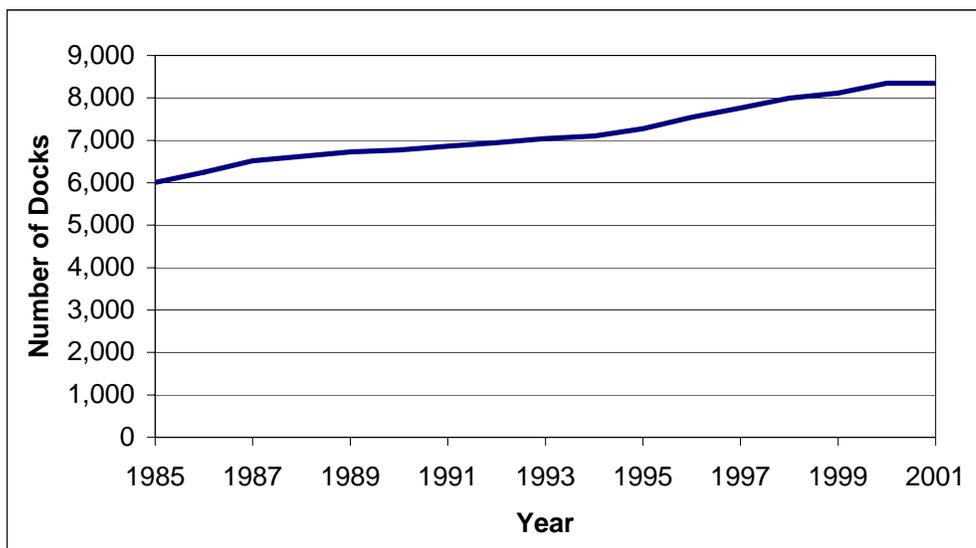
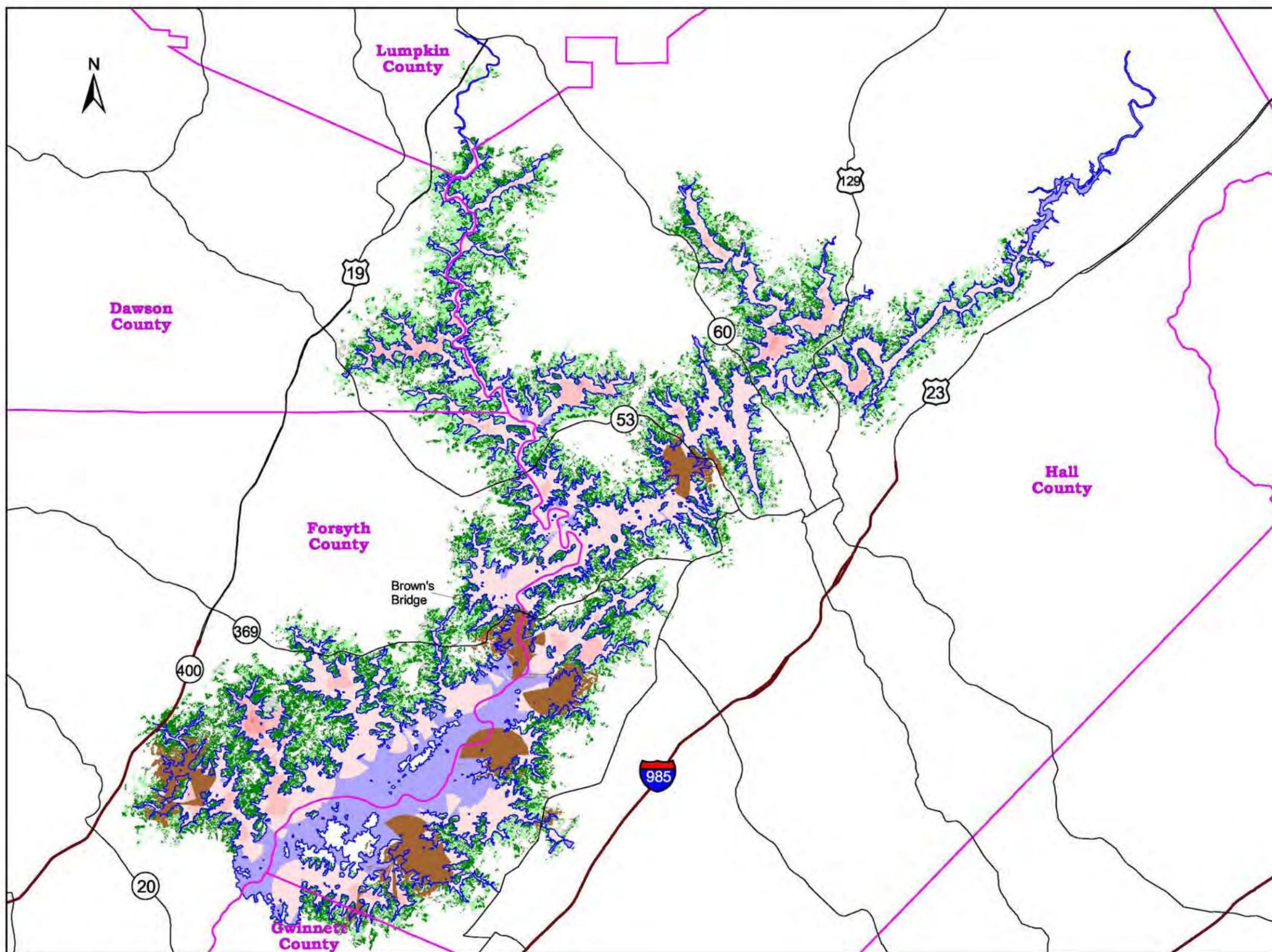


Figure 3-13. Growth in the Number of Boat Docks from 1985 to 2001.



LEGEND

- Marina Visible
- # Docks Visible from Lake
 - 1 - 40
 - 41 - 80
 - 81 - 120
 - 121 - 125
- Docks Visible from Land
 - Not Visible (Coniferous Forest)
 - Partially Visible (Deciduous Forest)
 - Visible (Developed/Other)
- Water (Also no docks visible)

0 1.5 3 Miles

Existing Boat Dock Viewsheds

Figure 3-14

Source: GIS Calculations.

The visibility range varies with weather, amount of sunlight, and other aspects based on observation at Lake Lanier; however, 1 mile is a reasonable maximum distance for being able to see docks and marinas against the varied topography and vegetation of the lake's shoreline and for them to make a visual impression upon the viewer. Beyond 1 mile, the docks begin to blend in with the shoreline's rock outcrops and vegetation, becoming less and less noticeable, and are a less dominant feature within the entire vista. Using the 1-mile visibility range, at least 1 dock is visible from almost 76 percent of the lake's surface, with 1 to 20 docks visible from 46 percent of the lake's surface (see Table 3-26).

3.7 RECREATION AND RECREATIONAL FACILITIES

Lake Lanier is the most popular and most visited Corps reservoir in Georgia. Georgia supports nine Corps projects, and the cumulative number of facilities in the state is listed in Table 3-27. Georgia ranks high among states with Corps facilities in many categories. The state's rankings for some recreational facilities are listed in Table 3-28.

Table 3-26
Acreeage of Lake from Which Boat Docks Are Clearly Visible

Number of Visible Docks	Lake Acreeage	Percent of Lake's Total Surface
1-20	18,042	46.2
21-40	7,882	20.2
41-60	2,785	7.1
61-80	599	1.5
81-100	144	0.4
101-125	55	0.1
TOTAL	29,507	75.6

Source: GIS calculations.

Table 3-27
Corps Dock Permits and Marina Slips in Georgia and on Lake Lanier

Facility Type	Georgia	Lake Lanier
Docks	16,730	8,348
Private Boats	25,513	16,696 ¹
Community Docks	145	11
Community Boats	975	488 ¹
Floating Facilities ²	66	unknown
Dry Slips in Concessions	3,403	3,038
Wet Slips in Concessions	10,227	6,067
Total Concessions	13,630	9,105

¹ For Lake Lanier, this is the number of slips. The number for docks is approximate.

² "Floating facilities" are mooring buoys, swim floats, ski jumps, and the like.

Source: Perales, 1998.

Table 3-28
Georgia's Ranking among Corps Projects (1996 data)

Rank	Category	Georgia as Percent of Corps Total	Lake Lanier as Percent of Corps Total
1	Private boat docks	52.3	26.1
6	Community docks	3.9	0.3
1	Concession dry slips	18.7	16.7
3	Concession wet slips	11.5	6.8

Source: Perales, 1998.

3.7.1 Visitation to Lake Lanier

Visitation to the lake for the years 1993 through 2001 is reported in Table 3-29. The distribution of those visits among activities for the calendar years 1999 and 2000 (through May) is shown in Table 3-30.

Table 3-29
Annual Visitation to Lake Lanier

Year	Total Visitation (thousands)
2001	7,408
2000	7,877
1999	7,666
1998	7,599
1997	7,480
1996	7,147
1995	6,857
1994	6,747
1993	7,051

Source: Williams, personal communication, 2002.

Table 3-30
Distribution of Visitation to Lake Lanier

	Estimated Distribution of Visits (thousands)								
	Camp	Picnic	Boat	Fish	Hunt	Ski	Swim	Sightsee	Other
2000 (through May)	95	175	285	221	0	23	179	69	258
1999	333	575	1,341	1,093	1	74	542	387	940

Source: Williams, personal communication, 2002.

3.7.2 Lake Lanier Recreational Facilities

Lake Lanier has 10 marinas, 8 of which have more than 500 slips each. The marinas are listed in Table 3-31. Other recreational facilities on the lake include 1,195 campsites, 14 group campsites, 43 day use parks, and 9 county and city parks (Lake Lanier Project Office, 2002).

The distribution of recreational facilities between the lower lake (south of Brown's Bridge) and the upper lake is shown in Table 3-32. Private recreational facilities on the lake include 8,348 private permitted boat docks, each with one or two (average 1.7) slips, and 11 permitted community docks with a total of 488 slips. Most private permitted boat docks have two slips, the maximum number of slips allowed on these docks.

3.7.3 Lake Lanier Boating Capacity

Boating capacity is a combination of physical and social carrying capacities. The physical carrying capacity of a lake is the maximum number of vessels that can safely be on the water at one point in time. It is affected by factors such as use characteristics, depth, usable and unusable water area, and

Table 3-31
Slips Available at Lake Lanier Concessions

Marina Name	Number of Dry Slips	Number of Wet Slips	Wet Slips (percent)
Lanier Harbor	400	10	2.4
Aqualand Marina	405	1,871	82
Holiday On Lanier	0	1,340	100
Lan Mar Marina	320	500	61
Sunrise Cove Marina	25	741	97
Bald Ridge Marina	0	691	100
Habersham Marina	648	0	0
Lazy Days	640	37	5.5
Starboard Marina	20	448	96
Gainesville Marina	334	312	48
Total	2,792	5,950	68

Sources: Perales, 1998; Williams, 2002.

Table 3-32
Recreational Facilities Distribution

	Marinas	Campgrounds	Day Use Parks	State, County, City Parks	Total
Upper Lake	1	4	17	7	29
Lower Lake	9	6	26	2	43
Total	10	10	43	9	72

shoreline characteristics. Social carrying capacity is increasingly becoming an important part of calculations of boating capacity. Boater satisfaction plays an important role in the perception of social carrying capacity and includes factors such as aesthetics, water and weather conditions, perceived change over time, and the behavior of other boaters. Common factors that decrease overall enjoyment of a recreational resource include the behavior of other boaters, lake crowding, and fluctuating water levels.

The only study of boating carrying capacity for Lake Lanier was conducted in 1984. The study of boat use and boating distribution was conducted over the weekend that preceded the Fourth of July in 1984 (July 4 fell on Wednesday in 1984) (USACE, Mobile District, 1985). Boating density over the weekend was described as having “less visitation than a typical holiday weekend.” The study was undertaken to determine the degree of overuse, if any, of the lake surface for boating activities. Using published ratios of type of boating activity (e.g., motorboating, sailing, water skiing) to acres of lake surface area needed for a “quality” recreational experience (which encompasses the need for both safety and enough space to conduct activities without unreasonable conflict with other users), the study’s analysts found that the surface of Lake Lanier was overused by 71 percent on that particular weekend in 1984. At that time the lake had the facilities listed in Table 3-33. The facilities that give boats access to the lake, and presumably the number of boats on the lake at any given time, have increased since 1984. The lake, therefore, would be expected to have an even greater level of weekend overuse today. A more recent study of boating density on Lake Lanier has not been conducted.

Table 3-33
Facilities on Lake Lanier in 1984 and 2001

	1984	2001
Marina wet slips	4,198	5,950
Marina dry slips	1,665	2,792
Dry storage on private land	480	NA ¹
Clubs, wet slips	627	816 ²
Clubs, dry slips	142	242
Boat launching lanes	73	154
Private boat docks	6,500	8,593 ³

¹ NA means not available.

² Includes Lake Lanier Islands.

³ Includes 8,348 private docks and the 245 “private dock equivalents” that the lake’s 11 community docks represent.

Sources: Lake Lanier Project Management Office, 2002; USACE Mobile District, 1985.

Note that despite this calculated level of overuse, most boaters interviewed during the study about the quality of their experience (a measure of social carrying capacity) indicated that their boating experience that day was “very pleasant, rewarding, and satisfying” (USACE, Mobile District, 1985).

Estimates of the lake’s physical boating carrying capacity using three different methods yield a different picture of the current level of lake overuse from that calculated in 1984. Using the acreage of the lake’s surface and published numbers of acres of water surface required for each type of boating activity (for the purposes of safety and quality of recreational experience), Lake Lanier is estimated to be able to accommodate about 6,400 to 6,500 boats at one time. Alternatively, the number of boats that could be on the lake at one time can be estimated based on the facilities available from which boats can be placed on the lake. Assuming 40 boats launched per day from each of 154 launching lanes on the lake, and 25 percent of all marina slip renters and 15 percent of all community- and private-slip boats active on the lake at one time, an estimate of 7,351 boats capable of being on the lake in a morning or an afternoon is obtained. These calculations provide an estimate of current lake overuse of from 12.8 to 15.3 percent. It should be noted that this level of overuse would correspond to weekend use of the lake and not use of the lake during the week.

3.7.4 Boating Accident Analysis and Reports

The Program Manager is responsible for reporting boating accidents to the District Office and compiling data from boating accident reports. Any accident that involves a fatality, a personal injury, or more than \$500 of personal property damage is reportable. Boating accidents are reported by the Corps, Georgia DNR, and county agencies. During calendar year 2000, the Program Manager prepared more than 100 incident reports and forwarded them to the Security Office. Surprisingly, despite the tremendous growth in use at Lake Lanier, boating-related fatalities decreased from 27 in 1983 to 4 in 2000.

Other recreation-related programs and aspects of project management at Lake Lanier are described in Section 2.2.1.2.

3.8 GEOLOGY

The physiography of the Lake Lanier region reflects a geologic history of mountain building, most recently during the Appalachian orogeny. Lake Lanier is located primarily in the Piedmont

Province; a segment of the northern shoreline of the lake is in the Blue Ridge Province. Elevation in the Southern Piedmont ranges from 500 to 1,500 feet above sea level, and topography is gently rolling to steep. The Blue Ridge ranges in elevation from 700 to 4,800 feet above sea level and is characterized by steep mountain slopes with narrow valleys.

Both the Blue Ridge and the Piedmont Provinces are underlain by Precambrian and Paleozoic crystalline rocks. Surface lithologies are predominantly ancient, highly deformed metamorphic granite gneisses, schists, and amphibolites. Younger igneous, intrusive rocks include granite, diorite, syenite, diabase, and coarse-grained pegmatites. Less extensive outcrops of quartzites are also present.

3.8.1 Soils

Soils in the Lake Lanier study area are derived from in-place weathering of underlying rock strata, except in the active floodplain of the lake, where soils consist of alluvial silts and sands. All the soils in the Lake Lanier study area are susceptible to erosion. The degree of susceptibility depends on the erosion hazard, the frequency and intensity of rainfall, the steepness and length of slopes, and the kind and amount of ground cover.

Shoreline erosion affects resource use at Lake Lanier, causing severe shoreline loss and degrading water quality (USACE, 1987). Riprap is widely used to prevent shoreline and bank erosion on Lake Lanier. Landowners interested in stabilizing the shoreline near their private boat docks are permitted to do so with the installation of riprap. To reduce the site impact and future erosion, the Corps of Engineers has authorized contractors to work the material and equipment from barges. This avoids bringing heavy equipment across Corps property, thus limiting site impact on the immediate shoreline area (Wahus, 2002).

This erosion control program is successful because of cooperation between the Corps of Engineers and adjacent private landowners. In 1999 alone, more than 30,000 linear feet of riprap was installed along Lake Lanier's shoreline at a cost to adjacent landowners of more than \$3 million (Wahus, 2002).

Vegetative buffers are widely used at the lake to control surface erosion. Maintaining a vegetative buffer is an important and effective way to control erosion along the shoreline and subsequent sedimentation in the lake. Regulations are currently in place to control the removal of the natural

vegetative buffer around the lake. Homeowners occasionally remove the vegetation between the house and the lake to improve visual aesthetics. This action is punishable by a fine that many homeowners are willing to pay in exchange for the view. Local governments have the responsibility to enforce the Georgia's Best Management Practices as well as local erosion control ordinances.

Erosion and sediment control during construction activities close to the lake is an important means to control sedimentation in Lake Lanier. Appropriate erosion and sediment control techniques, including silt fences and sediment retention ponds, can be very effective in minimizing the impacts of construction activity.

3.9 *ECOLOGICAL SYSTEMS*

3.9.1 *Vegetative Communities*

Lake Lanier lies in the Piedmont Physiographic Province. This unglaciated region with hot summers and mild winters supports a wide variety of plant species. Although many plant species found in the Piedmont overlap into adjacent mountain and coastal plain provinces, the Piedmont region also has its own endemic flora, including plants adapted to living on granite rock outcrops. Georgia is unusually rich in tree species: Approximately one-third of all the native tree species known from the United States and Canada are found in Georgia (Brown, 1990). Although the Piedmont Region is noteworthy for its biological diversity, the plant communities in this region of the southeastern United States have been extensively altered since European settlement nearly 300 years ago (GDNR, 1997a). Cotton and tobacco farming since colonial times depleted and eroded Piedmont soils. Timber harvest and clearing for agriculture peaked in the early 20th century. Most forest communities in the Piedmont today are second-growth forests that rose on abandoned agricultural lands (GDNR, 1997a). In general, pine forest communities are more often observed in younger and more frequently disturbed upland second-growth forests, while older and less disturbed upland forests support a mix of pine and hardwood trees. Wet areas, usually adjacent to rivers and streams, support hardwood tree species adapted to periodic flooding. Plant communities known from the vicinity of Lake Lanier are described below.

3.9.1.1 Riparian Forests

Riparian forests occur in low areas of lake tributary floodplains and in lake coves. This habitat is not abundant in lakeshore areas because steep banks do not support a wide transition area between dry uplands and deepwater aquatic habitats. Less than 10 percent of the project area features riparian forests (USACE, Mobile District, 1974). Trees adapted to periodic flooding and moist soils are the most abundant in riparian forests. The most frequently flooded areas, often called swamps, support an overstory of red maple (*Acer rubrum*), black willow (*Salix nigra*), green ash (*Fraxinus pensylvanica*), American elm (*Ulmus americana*), water oak (*Quercus nigra*), and black gum (*Nyssa sylvatica*). Less frequently flooded areas, often called floodplains, have many of the same tree species common in swamps as well as other trees such as box elder (*Acer negundo*), silver maple (*Acer saccharinum*), eastern cottonwood (*Populus deltoides*), sycamore (*Platanus occidentalis*), sweetgum (*Liquidambar styraciflua*), and tulip poplar (*Liriodendron tulipifera*) (USACE, Mobile District, 1974).

3.9.1.2 Pine Forests

Woodlands that burn periodically or have been subject to timber harvest or other disturbance often support pine forests. Historically, shortleaf pine (*Pinus echinata*) was dominant in many pine forests in northern Georgia. Extensive timber harvest, agriculture, soil erosion, and subsequent abandonment of agricultural lands in the Piedmont Region in the past 100 years have left a variety of pine forest types. Loblolly pine (*Pinus taeda*) and Virginia pine (*Pinus virginiana*) are common species in addition to shortleaf pine. Invading hardwood species are a constant factor in Piedmont pine forests. Oaks (*Quercus* spp.), hickories (*Carya* spp.), persimmon (*Dyospiros virginiana*), sumac (*Rhus* spp.), and chalk maple (*Acer leucoderme*) are often present as understory and mid-story trees (USACE, Mobile District, 1974).

3.9.1.3 Hardwood-Pine Mixed Forest

Forested areas that have been free of fire and other disturbance often succeed into hardwood-pine mixed forests. As early-establishing pine trees grow old and die, hardwood species such as American beech (*Fagus grandifolia*), white oak (*Quercus alba*), and Florida maple (*Acer barbatum*) establish dominance (USACE, Mobile District, 1974). Fraser magnolia (*Magnolia fraseri*) and cucumber tree (*Magnolia acuminata*) are sometimes found in mesic coves. Understory shrubs are common in mixed forests, especially in light gaps and forest edges. Some common

shrubs and small trees are plums (*Prunus* spp.), serviceberries (*Amelanchier* spp.), and fringetree (*Chionanthus virginicus*) (USACE, Mobile District, 1974).

3.9.1.4 Nonforested Land

The remainder of the lands surrounding Lake Lanier feature a variety of nonforested communities, including pastures, mowed areas, and old fields (USACE, Mobile District, 1974). Regular maintenance by landowners discourages woody plants and keeps grasses, weeds, and wildflowers dominant. Without mowing, burning, or grazing, these areas would be expected to succeed into pine forests or mixed forests composed of fast-establishing species such as red cedar (*Juniperus virginiana*), sweetgum, Virginia pine, and sumac.

3.9.2 Wildlife

The lands surrounding Lake Lanier support game and nongame wildlife species common in the Piedmont Region. Waterfowl hunting occurs on the lake in September, November, December, and January (USACE, Mobile District, 2001a). Seasons for waterfowl hunting conform to federal and state regulations. Many resident and migratory birds can be observed near Lake Lanier. At least 127 species have been reported (USACE, no date a).

The Chattahoochee River Basin supports 104 species of fish, representing 22 taxonomic families. Especially well represented in the basin are minnows, sunfishes (Centrarchidae), catfishes (Ictaluridae), and suckers (Catostomidae) (GDNR, 1997a). Not all these species are found in Lake Lanier or its tributaries. Fish species intolerant of lentic conditions, once known from the area, are not likely to be found in Lake Lanier.

Fishing is a popular recreational activity at Lake Lanier. Popular sport fish species in the lake are largemouth bass (*Micropterus salmoides*), spotted bass (*Micropterus punctulatus*), striped bass (*Morone saxatilis*), white bass (*Morone chrysops*), and crappie (*Pomoxis* spp.). (USACE, Mobile District, 2001b). Other lake fish species include sunfish (*Lepomis* spp.), yellow perch (*Perca flavescens*), carp (*Cyprinus carpio*), catfish (*Ictalurus* spp.), shad (*Dorosoma* spp.), and blueback herring (Clupeidae) (USACE, Mobile District, 1974).

In the mid-1960s, Georgia DNR established a two-story coldwater trout fishery in the lake (Weaver and England, 1982). Annually stocked rainbow trout (*Oncorhynchus mykiss*) survived in the deep, cold oxygenated zone not normally occupied by warmwater species, and thus improved the quality

of the sport fishery. The trout stocking program, however, was discontinued in 1987 after it became apparent that the lake could no longer support significant trout survival through the summer stratification period, when dissolved oxygen levels dropped too low in the metalimnion and hypolimnion. Striped bass can tolerate slightly warmer water temperatures and slightly lower dissolved oxygen levels than trout, and have since filled that cool water niche. The current striped bass fishery is sustained through annual stockings of fingerlings produced at Georgia Wildlife Resources Division (GAWRD) hatcheries. As a result of hypolimnetic releases from Buford Dam, a significant trout fishery does occur in the first 45 miles of the Lake Lanier tailwater. The trout fishery is sustained through stockings of hatchery-raised fish by GAWRD and the U.S. Fish and Wildlife Service to accommodate high angling pressure. The federal stockings are considered mitigation for the negative effects of the Buford Dam project on the native fish community and sport fishery.

3.9.3 Sensitive Species

Sensitive species are unique plants and animals that have been observed to be declining toward extinction. Using available scientific research, state, federal, and nongovernmental organizations have assigned conservation priority to many rare or declining species. The most significant protection for sensitive species is the Endangered Species Act (ESA). The ESA was passed in 1973 to address concerns about the decline in populations of many unique wildlife species. Supporters of the ESA argued that America's natural heritage was of aesthetic, ecological, educational, recreational, and scientific value to the nation and therefore worthy of protection. The purpose of the ESA is to rebuild populations of protected species and conserve "the ecosystems upon which endangered and threatened species depend" (USFWS, 2001a). The law offers two classes of protection for rare species in decline—endangered and threatened. Endangered status means a species is in danger of extinction throughout all or a significant portion of its range. Threatened status indicates that a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened (USFWS, 2001a). All federal agencies are required to protect threatened and endangered species (TES) while carrying out projects and to preserve TES habitats on federal land.

Under the ESA it is illegal to "take" TES. As defined in the ESA, "the term take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." The Secretary of the Interior, through regulations, defined the term "harm" in this

passage as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering” (USFWS, 2001a). Because it is unlawful to hunt or collect TES, habitat degradation is the primary reason for population declines in listed species.

3.9.3.1 *Sensitive Plant Species*

Eighteen sensitive plant species have been reported from Gwinnett, Hall, Dawson, Lumpkin, and Forsyth Counties (Appendix L). Of the 18 sensitive plant species known from the region, only 5 have been reported within 1 mile of Lake Lanier by the Georgia Natural Heritage Program (2001). These species are Ozark bunchflower (*Melanthium woodii*), Indian olive (*Nestronia umbellula*), broadleaf white spiraea (*Spiraea alba* var. *latifolia*), broad-toothed hedge-nettle (*Stachys latidens*), and Georgia aster (*Aster georgianus*). All records except for that of Georgia aster are historical records. Historical records indicate plant populations that have been documented in the past but have not been observed in the field recently. Because some of the historical records are from submerged areas, it is likely that populations of Ozark bunchflower, Indian olive, broadleaf white spiraea, and broad-toothed hedge-nettle were destroyed by creating the reservoir.

Georgia aster (*Aster georgianus*) is a wildflower that once grew in Post Oak Savanna communities in the southeastern United States. It is a candidate for federal listing under the ESA. Georgia aster is known from North and South Carolina, Alabama, and Georgia in about 20 populations, with each population consisting of about 10 to 100 stems (Natureserve, 2001a). It persists in disturbed areas such as roadsides, utility rights-of-way, and other open areas maintained by disturbance. It is threatened by fire suppression, succession of woody plants, development, herbicide use, and highway expansion (USFWS, 2001b). Georgia Natural Heritage Program (2001) data indicate that one population of Georgia aster currently occurs along the Lake Lanier shoreline, directly north of the Buford Dam and powerplant.

3.9.3.2 *Sensitive Animal Species*

Twelve sensitive animal species are known from the counties around Lake Lanier (Appendix M). Of these species, 2 are federally listed and 10 are of special concern within the state.

Several sensitive animal species are not known from Lake Lanier or its tributaries, but these species could be affected by economic and land use changes in the ROI. Bluestripe shiner (*Cyprinella*

callitaenia) is a rare minnow endemic to the Appalachian River drainage in Florida, Alabama, and Georgia. Populations of bluestripe shiner have been observed in the upper Appalachian River, upper and middle Chattahoochee River, and middle Flint River. It is found in segments of large alluvial rivers having open sand or rock bottoms with flowing water and little aquatic vegetation (Natureserve, 2001e). The impoundment of reservoirs, including Lake Lanier, has eliminated bluestripe shiner habitat because the species cannot tolerate lentic conditions. Georgia DNR has listed the bluestripe shiner as a threatened species, and it has been reported in Dawson, Forsyth, Gwinnett, Hall, and Lumpkin Counties (GNHP, 2001).

The bald eagle (*Haliaeetus leucocephalus*) is a federally listed threatened species that the USFWS has proposed for delisting. Bald eagles are widespread in North America but suffered population declines in the middle of the 20th century because of the adverse effects of the pesticide dichlorodiphenyltrichloroethane (DDT). More recently, the bald eagle population has increased to the point where the species is no longer threatened with extinction in the 48 contiguous states. Bald eagles nest in large trees near rivers and lakes, and they feed mostly on fish and carrion. Bald eagles are sensitive to disturbance during the breeding season, and development within 1,500 feet of a nest is likely to have adverse effects (USFWS, 1987). Bald eagles have been reported in Dawson, Forsyth, Gwinnett, Hall, and Lumpkin Counties (Tucker, 2001). Georgia Natural Heritage Program (2001) data do not report any bald eagle nests within 1 mile of Lake Lanier.

Red-cockaded woodpeckers (*Picoides borealis*) nest and forage in mature pine stands frequently burned to promote an open understory and thick herbaceous layer. Research indicates that red-cockaded woodpeckers excavate nest cavities in pines 60 years or older. The birds were once abundant in pinelands throughout the southeastern United States, but fire suppression, subsequent hardwood encroachment, conversion to short-rotation pine plantations, and development have eliminated most suitable habitat (Natureserve, 2000). Red-cockaded woodpeckers are reported in Forsyth, Gwinnett, and Hall Counties (Tucker, 2001). Georgia Natural Heritage Program (2001) data do not report any red-cockaded woodpecker nesting areas within 1 mile of Lake Lanier.

3.9.4 Sensitive Habitats

Sensitive habitats are areas inhabited by federally listed species, as well as rare vegetative communities described and listed by the Georgia Natural Heritage Program. There are no records of any federally listed species or rare vegetative communities within 1 mile of Lake Lanier (GNHP,

2001). A lack of records in the Heritage database, however, does not provide definitive evidence of an absence of sensitive habitats. Site-specific field surveys for sensitive habitats would be needed when assessing specific proposed actions in the future.

3.9.5 Wetlands

Wetlands are the transitional area between dry land and aquatic habitat. As defined by the Corps (USACE, 1987), wetlands are “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.” Three diagnostic characteristics are typically employed to recognize wetlands:

- **Hydrology.** Wetlands are inundated with less than 6.6 feet of water on average; otherwise, they are considered deepwater habitat. However, unless wetlands are saturated to the soil surface at least some time during the growing season, they are considered upland or non-wetland habitat.
- **Soils.** Long-term inundation leads to oxygen depletion in soils. The lack of oxygen in wetland soils during part or all the year causes wetland soils to develop differently than upland soils.
- **Vegetation.** Wetlands feature plant species that are adapted to thrive in wet soils with little or no oxygen. Wetland plants have specialized structural or reproductive features that allow them to compete with other plants and persist in inundated soils.

Wetlands are susceptible to many different kinds of impacts because they are the active interface between the terrestrial and aquatic components of a drainage basin (Schneider, 2000). Water, sediment, nutrients, toxic substances, and organic matter from upstream or upslope move into wetlands. In the wetlands these inputs can be changed in energy or biochemical status before they are eventually removed farther downstream. Animals also move in and out of wetlands, using them as sources of food, water, and habitat and transferring energy and chemical components between the terrestrial and aquatic ecosystems. Because of these interrelationships, activities upstream or upslope have profound effects on wetlands and on aquatic sites downstream. Consequently,

management activities in wetlands can have substantial effects on communities downstream or within the radius of movement of organisms that use the wetlands.

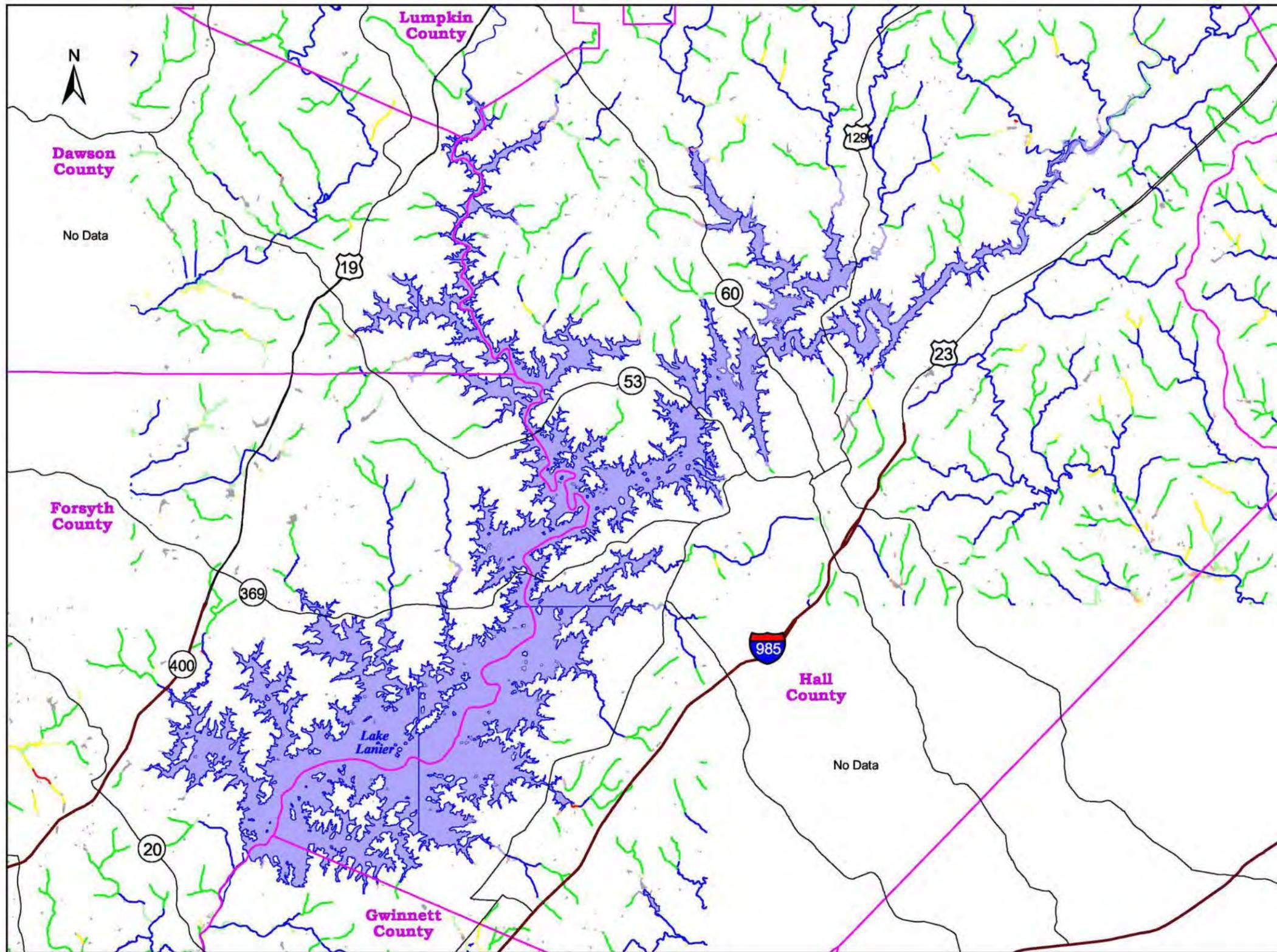
The National Wetlands Inventory (NWI) of the USFWS has identified and mapped most of the known wetlands in the conterminous United States, including those at Lake Lanier. Locations of wetlands within 1 mile of Lake Lanier are shown in Figure 3-15, and their types are listed in Table 3-34.

According to NWI data, there are 1,491 acres of wetlands within 1 mile of Lake Lanier (USFWS, 2002). Considering that the lake's surface water covers 39,038 acres, wetlands make up a relatively small portion of the shoreline and adjacent land. Wetlands at Lake Lanier are present mostly in coves and along tributaries in the upper part of the lake. In the lower part of the lake near the dam, the shoreline is steep and unfavorable to wetland vegetation. Daily and weekly fluctuations in water level for hydropower production, water consumption, and wave action from boat wakes also erode the lakeshore and make it nearly impossible for wetland vegetation to persist. Despite the generally unfavorable conditions, some littoral wetlands can be found in narrow bands along the shoreline in areas protected from wave action. Palustrine wetlands are usually found in coves and in the floodplains of lake tributaries. These wetlands have been further identified by their dominant vegetation—deciduous trees, shrubs, or emergent herbaceous vegetation. Palustrine wetlands with an unconsolidated bottom are mostly small ponds. Riverine wetlands are those found within a channel of continuously flowing water. The channels of the Chattahoochee and Chestatee Rivers are counted as riverine wetlands.

Table 3-34
Lake Lanier Wetlands

Wetland Type	NWI Code	Acres
Littoral, Unconsolidated Bottom	L2U	644
Palustrine, Emergent (Herbaceous)	PEM	117
Palustrine, Forested	PFO	282
Palustrine, Shrub-Scrub	PSS	222
Palustrine, Unconsolidated Bottom	PUB	130
Palustrine, Unconsolidated Shore	PUS	2
Riverine, Lower Perennial, Unconsolidated Bottom	R2U	60
Riverine, Upper Perennial, Unconsolidated Bottom	R3U	34
Total		1,491

Source: USFWS, 2002.



LEGEND

Wetland Types

-  Lacustrine
-  Palustrine Aquatic Bottom
-  Palustrine Emergent
-  Palustrine Forested
-  Palustrine Scrub Shrub
-  Palustrine Unconsolidated Bottom
-  Riverine

0 1.5 3 Miles

**Wetlands in the Vicinity
of Lake Lanier**

Figure 3-15

Source: USFWS, 2002.

3.10 CULTURAL RESOURCES

Six prehistoric and/or historic period archaeological sites that are eligible or potentially eligible for the National Register of Historic Places (NRHP) are present within the project lands (Gibbens, personal communication, 2002; USACE, Mobile District, 1997a). Three historic cemeteries (Little Hall Cemetery, Shockley Cemetery, and an unnamed cemetery at the University Yacht Club) are also located within the fee-owned lands. Table 3-35 lists the sites and the cemeteries. No standing historic structures are located within the government-owned lands.

3.10.1 Native American Resources

No Native American resources, including traditional cultural properties, have been identified in the project area, apart from archaeological sites. Four federally recognized Native American tribes are identified for Georgia: the Eastern Band of Cherokee Indians of North Carolina; the Muskogee (Creek) Nation of Oklahoma; the Seminole Nation of Oklahoma; and the Seminole Tribe of Florida, Dania, Big Cypress, Brighton, Hollywood, and Tampa Reservations. Only the Eastern Band of Cherokee Indians of North Carolina has been identified for the counties included in the project area (National Park Service, 2001).

The Works Progress Administration (WPA) conducted surveys in the Lake Lanier area during the late 1930s. These surveys identified 24 sites in Hall, Gwinnett, Dawson and Forsyth Counties. In

**Table 3-35
Historic Resources Located in the Project Area**

Resource Type	Description	Resource Status
Archaeological Site 9HL20	Prehistoric midden and eroded mound site	Eligible for NRHP
Archaeological Site 9HL54	Prehistoric stone pile	Potentially eligible for NRHP
Archaeological Site 9HL176	Prehistoric stone configuration	Potentially eligible for NRHP
Archaeological Site 9HL230	Remains of prehistoric occupation and of historic early settler residence (two stone vaults)	Potentially eligible for NRHP
Archaeological Site 9HL429	Prehistoric stone pile	Potentially eligible for NRHP
Archaeological Site 9LU7	Prehistoric site	Eligible for NRHP
Little Hall Cemetery	Nineteenth century cemetery	Protected status
Shockley Cemetery	Nineteenth century cemetery	Protected status
Unnamed cemetery at University Yacht Club	Nineteenth century cemetery	Protected status

1950 and 1951 the River Basin Surveys of the Smithsonian Institution were conducted, and a total of 60 sites were identified. The University of Georgia surveyed the government-owned lands at Lake Lanier in 1978. Approximately 6,000 acres of a total of 20,000 fee-owned lands were surveyed, and 540 prehistoric archaeological sites were recorded. Of these, 53 were initially recommended as potentially NRHP-eligible, but through consultation with the Georgia SHPO only 6 of these sites are now recommended as potentially eligible (USACE, Mobile District, 1994). An additional 480 acres of fee-owned lands at the lake were surveyed by Jacksonville State University.

A Historic Properties Management Plan was completed for Lake Lanier in 1997 (USACE, Mobile District, 1997a). The plan states that with the exception of some isolated tracts of fee-owned lands at the north end of the project, on the Chattahoochee and Chestatee Rivers, historic resource surveys have been completed for all fee-owned lands in the Lake Lanier project area. The plan provides a specific protection plan for historic resources on fee-owned lands.

The Lake Lanier Corps of Engineers Project Office has two SOPs regarding historic resources. SOP No. 2-18 concerns the use of metal detectors and the procedure for handling violations (USACE, Mobile District, no date b). Metal detectors may be used only in areas classified as “open.” Open areas at Lake Lanier include only Corps-maintained beach areas at the following parks: Buford Dam Park, Shoal Creek Campground, Old Federal Campground, Old Federal Dayuse, Shady Grove, Young Deer Creek, Bald Ridge Campground, Mary Alice, Sawnee, and West Bank. SOP No. 2-21 concerns vandalism to archaeological sites (USACE, Mobile District, no date c). The SOP directs that all violations are to be reported immediately to supervisors and action is to be coordinated through the cultural resources program coordinator. Violations include surface collections and unauthorized excavations.

In addition to these SOPs, federal laws and regulations and EOs also protect cultural resources considered eligible for listing on the NRHP, and certain Native American resources. These laws include the National Environmental Policy Act of 1969; the National Historic Preservation Act of 1966, as amended 1992, and regulations at 36 CFR Part 800, *Protection of Historic and Cultural Properties*; the Antiquities Act of 1906; the Archeological Resources Protection Act of 1979; the Archeological and Historic Preservation Act of 1974; the Native American Graves Protection and Repatriation Act of 1990 and 43 CFR 10 regulations; the American Indian Religious Freedom Act of 1978; EO 13007–*Indian Sacred Sites*, dated May 24, 1996; Presidential Memorandum dated April 29, 1994–*Government-to-Government Relations with Native American Tribal Governments*;

Curation of Federally-Owned and Administered Archaeological Collection (36 CFR Part 79); and EO 13175–*Consultation and Coordination with Indian Tribal Governments*, dated November 6, 2000.

3.10.2 Prehistoric Period Resources

Prehistoric occupation in Georgia is divided into four major periods: the Paleo-Indian Period (ca. 10,500 B.C. to ca. 8,000 B.C.), the Archaic Period (ca. 8,000 B.C. to ca. 1,000 B.C.), the Woodland Period (ca. 1,000 B.C. to ca. A.D. 1000), and the Mississippian Period (ca. A.D. 1000 to ca. A.D. 1600).

Five prehistoric sites and one site with both prehistoric and historic components considered eligible or potentially eligible for the NRHP are located within the fee-owned lands.

3.10.3 Historic Period Resources

One historic period archaeological site and three existing historic cemeteries are located in the project area. The historic period archaeological site (9HL230, which also includes a prehistoric component) is the remains of an early settler's residence. The 19th-century Little Hall Park Cemetery is fenced and maintained by the family and the Corps. The Shockley Cemetery is located in a densely wooded isolated, undeveloped tract and is maintained by Corps personnel. It is not fenced and is periodically monitored by Corps staff. The unnamed cemetery is located at the University Yacht Club. It is also in a wooded area, and it is mowed and maintained by the University Yacht Club and checked by Corps staff. It is not fenced.

3.10.4 Historic Architectural Resources

No standing historic structures are present in the project area.

3.11 AIR QUALITY

The Clean Air Act (CAA) provides the principal framework for national, state, and local efforts to protect air quality. Under the CAA, the U.S. Environmental Protection Agency's (EPA's) Office of Air Quality Planning and Standards (OAQPS) is responsible for setting standards, also known as National Ambient Air Quality Standards (NAAQS), for pollutants considered harmful to humans and the environment. OAQPS is also responsible for ensuring that these air quality standards are

attained (in cooperation with state, tribal, and local governments) through national standards and strategies to control pollutant emissions from automobiles, factories, and other sources (USEPA, OAQPS, 2001).

Table 3-36 shows NAAQS values for the six criteria pollutants. The CAA requires states to monitor ambient levels of these pollutants and to develop air quality management plans to ensure that the federal air quality standards are achieved and maintained. Georgia has an approved State Implementation Plan (SIP) to address the requirements of the CAA. Areas that fail to meet the NAAQS are designated as nonattainment areas and are potentially subject to regulatory enforcement.

Air quality around Lake Lanier is affected largely by emissions from the five surrounding counties—Gwinnett, Forsyth, Hall, Dawson, and Lumpkin. Each county has individual attainment/nonattainment classifications. As a result of the Clean Air Act Amendments of 1990, attainment/nonattainment classifications were made based on metropolitan areas and further delineated by county in the state of Georgia. The Atlanta metropolitan area, which includes Gwinnett and Forsyth Counties, is considered in attainment for all criteria pollutants except ozone.

Table 3-36
National Ambient Air Quality Standards (Primary)

Pollutant	Standard Value	Standard Type
Carbon Monoxide (CO)		
8-hour average	9 ppm	Primary
1-hour average	35 ppm	Primary
Nitrogen Dioxide (NO₂)		
Annual arithmetic mean	0.053 ppm	Primary & secondary
Ozone (O₃)		
1-hour average	0.12 ppm	Primary & secondary
Lead (Pb)		
Quarterly average	1.5 µg/m ³	Primary & secondary
Particulate (PM 10)		
Annual arithmetic mean	50 µg/m ³	Primary & secondary
24-hour average	150 µg/m ³	Primary & secondary
Sulfur Dioxide (SO₂)		
Annual arithmetic mean	0.03 ppm	Primary
24-hour average	0.14 ppm	Primary
3-hour average	0.50 ppm	Secondary

Source USEPA, OAQPS, 2001.

The other three counties in the study area are currently considered in attainment for all six criteria pollutants (Borel, personal communication, 2002).

Activities at Lake Lanier can affect air quality. Mobile emissions from automobiles and watercraft are a considerable source of air pollutants. Corps activities at the lake, including construction activity and heavy machinery use, can also contribute pollutant emissions. Air quality issues related to commuter traffic have been identified as well. Buford Dam Road becomes an alternative for approximately 4,000 vehicles per day that bypass Georgia State Highway 20 during peak traffic hours. The increase in the number of tourists traveling into and out of the area also affect air quality.

It is believed that air quality in the Atlanta area has been affected by pollutant transport from outside the Atlanta metropolitan airshed. To address this problem, the state issued an “NO_x SIP Call,” which established required control measures for nitrogen oxides (NO_x) in a local and regional context. The NO_x SIP Call is expected to cause a reduction in ozone precursors, including those transported from outside the study area, by May 31, 2004. Based on this expectation, the state produced an attainment demonstration for the Atlanta metropolitan area. This prediction was based on required local and regional control measures and air quality modeling. The attainment demonstration showed that the area would meet the current ambient air quality criteria in the future (Borel, personal communication, 2002).

Because of the revised but not implemented ozone standard, future attainment/nonattainment status has not been decided. The Governor of Georgia recommended attainment classifications based on the proposed standard using air quality information from 1997 to 1999. These attainment classifications did take into account the current activities at the lake. The final recommendation was to consider 21 counties in the state, including Dawson and Hall Counties, as in nonattainment. At the time, Dawson County was consistently violating the standard at one monitoring station. Hall County was recommended as in nonattainment because of increasing industry and traffic emissions. EPA agreed with the Governor’s recommendation (Borel, personal communication, 2002).

3.12 HAZARDOUS AND TOXIC SUBSTANCES AND POLLUTION

Potential hazardous spill areas at the lake include the marinas, boat ramps, parking lots, and roadway bridges. Oil and fuel from powerboats might be discharged into the lake if proper care is

not taken when performing maintenance or refueling. Hazardous and toxic substances can also be generated through the cleaning, painting, or repair of boats in the lake. In addition, the powerhouse, transformer yard, switchyard, and contractor's operation and maintenance facility store a variety of chemicals, such as oil, primers, rust inhibitors, paints, paint thinner, fuel (diesel/gasoline), and the like. These facilities have some form of containment, usually a concrete berm or floor drain, to minimize the potential effects of a leak or spill (USACE, Mobile District, 1997b).

Private contractors complete most of the maintenance work performed at Lake Lanier and are responsible for disposing of any hazardous waste generated during such activities (solvents, oils) according to applicable state regulations. Contractors use pesticides, herbicides, and fungicides on an as-needed basis and thus do not require storage on Corps property (Shinall, personal communication, 2002).

The Georgia EPD, part of the Georgia DNR, is responsible for handling any hazardous waste issues that occur in the Lake Lanier area. Three documented releases from leaking underground storage tanks have occurred at Lake Lanier since 1996. The releases occurred at Habersham, Aqualand, and Lan Mar, all of which are public marinas. The Georgia EPD sent a notification to each of the three facilities requiring preparation of a plan to investigate and remediate contamination of the soil and/or groundwater caused by a release from the underground storage tanks (Shinall, personal communication, 2002). In addition, 23 chemical and sewage spills were investigated and reported during 2000 (Hazardous Incident/Disaster Program Coordinator). There are no other known hazardous waste issues on the USACE property at Lake Lanier.

3.13 NOISE

Noise and *sound* are often used interchangeably. The sensation of sound is produced when pressure variations having a certain range of characteristics reach a responsive ear. Sound is the term describing pressure variations that are pleasant or useful for communication. Noise is generally defined as unwanted sound, and it is often made up of different frequency components.

Sound levels, reported in decibels (dB), are used to represent how people hear sound and to determine the impact of noise on public health and welfare. Table 3-37 presents a range of sound levels by various sources of noise. EPA recommends use of the day-night sound level for environmental noise to quantify the intrusiveness of nighttime noise where the A-weighted sound

Table 3-37
Sound Levels of Various Sources

Source	Sound Level (dB)
Near jet plane at takeoff	140
Gun muzzle blast	140
Threshold of pain	120
Loud rock music	115
Car horn	115
Thunder	110
Racing boat–283-ci engine with exhaust below waterline at 50 feet	105
Chainsaw	100
Inboard/outboard boat–352-ci engine with exhaust above waterline at 50 feet	90
Lawn mower at 50 feet	90
Inboard/outboard boat–350-ci engine with exhaust below waterline at 50 feet	85
Personal watercraft–750-cc engine in the water at 50 feet	81
Watercraft with single 175-hp outboard engine at 50 feet	81
Pop-up toaster	75
Alarm clock	75
Normal conversation	60
Rainfall	50
Light traffic	50
Refrigerator	40
Rustle of leaves	20
Normal breathing	10
Threshold of hearing	0

Sources: Bearden, 2000; Oskam and Mitchell, no date; PWIA, no date; USEPA, 1974.

level is used for industrial situations. The day-night sound level is the A-weighted equivalent sound level for a 24-hour period, with an additional 10-dB weighting imposed on the equivalent sound level occurring during the nighttime hours (10 p.m. to 7 a.m.).

Many federal agencies, such as EPA and the Federal Highway Administration, Department of Housing and Urban Development, Federal Aviation Administration, and Department of Defense, use the day-night sound level to protect the public from the impact of community noise (Cavanaugh and Tocci, no date) and apply an L_{dn} of 55 dB as a recommended outdoor limit (USEPA, 1974). These agencies recognize 65 dB as the noise level where residential land use becomes questionable, and areas where the level exceeds 75 dB are considered unacceptable for residential use. The World Health Organization (WHO) has identified the range of noise between 50 and 55 dB for a period of 16 hours as the annoyance threshold (WHO, 2001). Although some federal agencies use them, these values are only guidance values, not regulatory criteria. The control of environmental or community noise is left to state and local agencies. Georgia has a state-level regulation relating to motorboat noise level control. Marine noise is limited to 84 dB, using the SAE-J34 testing procedure.

Lake Lanier is used primarily for recreation, and a common byproduct of recreation is noise. Therefore, the majority of noise at Lake Lanier is caused by activities related to recreational activities, including watercraft use and traffic around the lake. The receptors of this noise are the recreational users themselves, as well as residents living adjacent to the lake, who also commonly use the lake for recreation. In general, this noise is acceptable to both residents and recreational users as long as applicable laws are obeyed.

SECTION 4.0

ENVIRONMENTAL AND SOCIOECONOMIC CONSEQUENCES

4.1 INTRODUCTION

This section presents the results of the analysis of the direct, indirect, and cumulative environmental and socioeconomic effects that would likely occur upon implementation of the No Action Alternative and Preferred Alternative. The methodologies and assumptions used in the analysis are described in Appendix H. In addition, this section identifies any adverse environmental effects that cannot be avoided; the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity; and any irreversible or irretrievable commitments of resources that would be involved in implementing the proposed action.

Direct versus Indirect Effects. The terms *effect* and *impact* are synonymous as used in this EIS. Effects may be beneficial or adverse and may apply to the full range of natural, aesthetic, historic, cultural, and economic resources of Lake Lanier and the surrounding area. Definitions and examples of direct and indirect impacts as used in this document are as follows:

- **Direct Impact.** A direct impact is one that would be caused directly by implementing one of the two alternatives and that would occur at the same time and place.
- **Indirect Impact.** An indirect impact is one that would be caused by implementing one of the two alternatives and that would occur later in time or farther removed in distance but would still be a reasonably foreseeable outcome of the action. Indirect impacts may include induced changes in the pattern of land use, population density, or growth rate, and indirect effects to air, water, and other natural resources and social systems.
- **Relationship of Direct versus Indirect Impacts.** For direct impacts to occur, a resource must be present. For example, if highly erodible soils were disturbed as a direct result of the use of heavy equipment during construction of a home, there could be a direct effect on soils due to erosion. This could further indirectly affect water quality if storm water runoff containing sediment from the construction site enters the lake.

Short-Term versus Long-Term Effects. Effects are also expressed in terms of duration. The duration of short-term impacts is considered to be 1 year or less. For example, the construction of a building would likely expose soil in the immediate area of construction. However, this effect would be considered short-term because it would be expected that vegetation would be reestablished on the disturbed area within a year of the disturbance.

Long-term impacts are described as lasting beyond 1 year. They can potentially continue into perpetuity, in which case they would also be described as permanent.

Cumulative Effects. Evidence is increasing that the most severe environmental degradation does not result from the direct effects of any particular action, but from the combination of effects of multiple, independent actions over time. As defined in 40 CFR 1508.7 (CEQ Regulations), a cumulative effect is the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.”

Some authorities contend that most environmental effects can be seen as cumulative because almost all systems have already been modified. Principles of cumulative effects analysis, as described in the CEQ guide *Considering Cumulative Effects under the National Environmental Policy Act*, are presented in Table 4-1.

Table 4-1
Principles of Cumulative Effects Analysis

-
- Cumulative effects are caused by the aggregate of past, present, and reasonably foreseeable future actions.
 - Cumulative effects are the total effects, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who (federal, nonfederal, or private) has taken the actions.
 - Cumulative effects need to be analyzed in terms of the specific resource, ecosystem, and human community being affected.
 - It is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.
 - Cumulative effects on a given resource, ecosystem, and human community are rarely aligned with political or administrative boundaries.
 - Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects.
 - Cumulative effects may last for many years beyond the life of the action that caused the effects.
 - Each affected resource, ecosystem, and human community must be analyzed in terms of the capacity to accommodate additional effects, based on its own time and space parameters.
-

Intensity of Effects. The following terms are used to describe the degree of direct and indirect impacts, whether they are adverse or beneficial.

- **Negligible.** The impact is at the lowest levels of detection.
- **Minor.** The impact is slight but detectable.
- **Moderate.** The impact is readily apparent.
- **Major.** The impact is severely adverse or exceptionally beneficial.

The descriptor “major” does not imply a significant impact (see below) unless specifically stated. Refer to the following section for a discussion of significance.

Significance. In accordance with CEQ regulations and implementing guidance, impacts are also evaluated in terms of their being significant. The term *significant*, as defined in 40 CFR 1508.27, part of the CEQ regulations for implementing NEPA, requires considerations of both context and intensity. *Context* means that the significance of an action must be analyzed in several settings, such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend on the effects on the locale rather than on the world as a whole. Both short- and long-term effects are relevant to the consideration of the significance of an impact.

Intensity refers to the severity of impact and includes the above ratings (i.e., negligible through major). Factors contributing to the evaluation of the intensity of an impact include, but are not limited to, the following:

- The balance of beneficial and adverse impacts, in a situation where an activity has both.
- The degree to which the action affects public health or safety.
- The unique characteristics of the geographic area where the action is proposed, such as proximity to parklands, historic or cultural resources, wetlands, prime farmlands, wild and scenic rivers, and ecologically critical areas.
- The degree to which the effects on the quality of the human environment are likely to be controversial.

- The degree to which the effects of the action on the quality of the human environment are likely to be highly uncertain or involve unique or unknown risks.
- The degree to which the action might establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
- Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
- The degree to which the action might adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP or might cause loss or destruction of significant scientific, cultural, or historical resources.
- The degree to which the action might adversely affect an endangered or threatened species or habitat that has been determined to be critical under the Endangered Species Act of 1973.
- Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

Mitigation. Where significant adverse impacts are identified, measures that would or could be used to mitigate these effects are discussed. Mitigation could include the following:

- Avoiding an impact altogether by stopping or modifying an action.
- Minimizing an impact by limiting the degree or magnitude of the action and the activities associated with its implementation.
- Rectifying an impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating an impact over time by preservation and maintenance operations during the life of the action.
- Compensating for an impact by replacing or providing substitute resources or environments.

Mitigation of adverse effects associated with implementing the proposed action is generally the responsibility of the U.S. Army Corps of Engineers, but it may be the responsibility of a non-Corps entity.

4.2 **PROPOSED ALTERNATIVES**

No Action Alternative

Since its creation and official designation in 1956, Lake Sidney Lanier has undergone modifications that reflect the dramatic changes that have occurred in the area surrounding it. The natural cycle of the lake is still the same as it has always been: The lake collects rainfall from the watershed above Buford Dam and has done so every year since the dam was completed. In years with abundant rainfall, the lake's level rises, while in drought years the lake's level falls. Imposed upon this natural cycle has been the enormous growth in the population of Atlanta and the areas surrounding it. Along with this growth have come roads, houses, and businesses, as well as a great demand for recreational opportunities for residents of Atlanta, residents around the lake, and vacationers from throughout the region and the nation. This growth has led to changes on and around Lake Lanier. Residences and businesses are now located along the lake's shoreline, as are private docks, marinas, and public recreation areas. The lake now receives more than 7 million visitors a year.

Like most areas that have grown dramatically over the past 50 years, the environment has sometimes paid a heavy price in terms of air pollution, water pollution, loss of vegetation, and loss of wildlife and their habitats. Despite the best efforts of the PMO, Lake Lanier has not escaped the adverse effects of these changes, and such impacts can only be expected to worsen as more areas around the lake are developed and the ever-increasing population demands more recreation and water from the lake.

The No Action Alternative, the consideration of which CEQ regulations prescribe, serves as a benchmark against which the other alternatives can be evaluated. Under the No Action Alternative, the Mobile District would make no changes in its operational and maintenance activities at Lake Lanier and would not update the existing SMP. No new management actions would be adopted, and no existing management activities would be modified. Shoreline allocations, actions on permit applications, and administration of permits would continue as at present. The total number of additional private boat docks that could be permitted under this alternative is 16,734, for a potential total of 25,327 docks. Activities under the Lake Lanier Master Plan and the OMP would continue unchanged.

By implementing the No Action Alternative, lake managers would essentially operate and manage Lake Lanier without accounting for the ever-increasing demands being placed on it. If the No Action Alternative were to be adopted, the area surrounding the lake and the lake itself could be expected to change in much the same way as they have in the past decade or so. Wildlife habitat around the lake would continue to decline as more homes are built. Many more boat docks would be installed on the lake, which would decrease public access to and use of the lake's shoreline. Navigation in and recreational use of coves would become increasingly difficult in areas densely populated with boat docks. Water quality would gradually degrade with the addition of sediment, bacteria, and other pollutants from erosion along the shoreline; failing or poorly maintained septic tanks; and dilapidated boat docks. The lake would gradually become less visually appealing with the additional boat docks, poorly maintained docks, intensified use of the mainland and island shorelines, and increased crowding at public recreation facilities. These anticipated effects of implementing the No Action Alternative are discussed in more detail later in this section.

Preferred Alternative

In an attempt to slow the degradation of the lake's water quality and aesthetic appeal and to provide for continuing use of the lake's resources, the Lake Lanier Project Office has examined the activities currently conducted under the O&M program and has recommended improvements in the way some of those activities are performed. The reasons behind the need to make improvements are (1) recognition that the current O&M program was not developed within the context of the current situation and the changes taking place beyond both the lake's boundaries and the control of lake managers, and (2) recognition that the management of the lake must respond to those changes if the ability of the lake to satisfy recreation and other project uses is to be preserved. The modified O&M program is referred to as the Preferred Alternative.

Implementation of the Preferred Alternative could occur at various levels. At a low level of implementation, only a few of the recommended improvements to the O&M program would be implemented. At a high level, most or all of the recommended improvements would be implemented. The analysis of the effects of implementing the Preferred Alternative, provided later in this section, corresponds to a high implementation level, in which all recommended improvements are implemented. The proposed modifications to ongoing O&M programs are summarized in Table 2-13.

The Preferred Alternative includes a change in the Shoreline Use Permitting Policy to account for the tremendous growth in the number of private boat dock permits and the demands that this growth has placed on the resources and facilities of Lake Lanier. The Corps has selected Scenario 2 from the *Private Boat Dock Carrying Capacity Study* as part of the Preferred Alternative. Scenario 2 bases future dock installation on the average length of shoreline occupied by docks now on the lake (88 feet, cable anchor-to-cable anchor, determined from actual on-the-ground measurements) and complies with the provisions of ER 1130-2-406, which stipulates that no more than 50 percent of the shoreline of an individual LDA may be occupied by private boat docks. The Preferred Alternative accounts for LDAs that now have more than 50 percent of their shoreline occupied by private boat docks by reducing the number of docks that could potentially be installed on the lake in the future by the excess number of docks now in overdeveloped LDAs.

If the Preferred Alternative is adopted, it is foreseen that the lake would benefit in many ways: Recreational opportunities would be expanded and distributed more evenly across the lake, some of the pressure on recreational facilities on the southern part of the lake would be relieved, the shoreline would be more vegetated and less susceptible to erosion, habitat for wildlife and fish would increase and improve, and Styrofoam pollution would be less of a problem. Changes in how use of the lake is managed would result in improved maintenance of private and community boat docks; more community docks and community boat launch facilities and fewer private boat docks; more coves kept open for navigation and recreation; improved public access to the shoreline; a lower boating density on the southern part of the lake; increased boat launching facilities in the northern part of the lake; and expanded opportunities for rafting, kayaking, and canoeing. Requirements associated with Shoreline Use Permits would result in better water quality maintenance because of better shoreline erosion control and policies linking the permits to septic tank maintenance and Styrofoam disposal. Finally, the beauty of the lake and the chances to enjoy it would be preserved and expanded by having fewer docks impeding access to the shoreline; more shoreline vegetation; a more even distribution of recreational facilities across the lake; reduced crowding at recreation facilities in the southern part of the lake; and enhanced opportunities to fish, hike, watch birds, and bike along the lake's shoreline.

4.2.1 Lake Lanier Water Resources

The Lake Lanier watershed was divided into three zones to examine the effects of the No Action Alternative on the water quality in Lake Lanier. Zone 1 is the government-controlled area, Zone 2 is private property adjacent to Zone 1, and Zone 3 is the regional area representing the upstream

watersheds that drain to Lake Lanier. The effects on surface water quality resulting from changes that might occur in Zones 1 and 2 under the No Action Alternative are discussed below. It is assumed for the purposes of this water quality analysis that new docks would be associated with LDAs adjacent to private property that is currently undeveloped. Although installation of additional private boat docks would have no direct effect on pollutant loads to Lake Lanier, indirect impacts could result if new residential housing was built in conjunction with these docks. Note that the Corps has no control over development on private property adjacent to the lake, and it is not known to what extent the Corps's dock permitting policy affects how adjacent land is developed. Development can and most likely will occur adjacent to LDAs even if new docks are not permitted. Effects on water quality resulting from changes in Zone 3 under the No Action Alternative are discussed in the *Cumulative Effects* portion of this section (Section 4.3) under the *Development in the Watershed* heading.

4.2.1.1 No Action Alternative

Short-term and long-term indirect negligible adverse effects would be expected under the No Action Alternative. Activities allowed under the current management plan that could affect water quality in Lake Lanier include dock installation under Shoreline Use Permits in LDAs, new shoreline activity, increased boating activity, and potential increases in pollutant runoff from public recreation areas. The conversion of forestland to residential lots can increase pollutant loadings through increasing both the volume of storm water runoff and the load of pollutants to the lake. More residential development would result in the conversion of an estimated 11,985 acres of forestland to residential lots in Zone 2. The increased pollutant loading resulting from this change was estimated and compared with year 1997 loading conditions, which reflect existing land use and established loads from the Lake Lanier watershed and the immediate watershed areas draining directly into the lake. Table H-7 in Appendix H presents the year 1997 conditions and the estimated increases in loadings for the Lake Lanier watershed by zone.

Surface Water Quality. Under the No Action Alternative, the annual average sediment loads from Zone 1 would be expected to contribute 0.25 percent of the sediment load to the lake as a whole, a negligible adverse effect. Loads from Zone 2 would be expected to contribute 87 percent of the sediment load to the lake as a whole, an indirect major adverse effect.

Under the No Action Alternative, the annual average total phosphorus (TP) loads from Zone 1 would be expected to contribute 1.4 percent of the phosphorus load to the lake as a whole, a negligible adverse effect. The average annual TP load from Zone 2 would contribute 38 percent of the phosphorus load to the lake as a whole, an indirect major adverse effect.

Under the No Action Alternative, the annual average total nitrogen (TN) loads from Zone 1 would be expected to contribute approximately 2.5 percent of the nitrogen load to the lake as a whole, a negligible adverse effect. The average annual nitrogen load from Zone 2 would contribute 32 percent of the nitrogen load to the lake as a whole.

Boats and boating activity would be expected to have negligible adverse effects on water quality. Increased boating activity and in-lake boat storage could affect water quality through fueling operations (accidental spills) and storm water runoff from parking lots.

It is not expected that the growing number of boats and increased boating activity would have a direct impact on fecal coliform or biological oxygen demand loadings typically associated with marine sanitation device (MSD) discharges. The state of Georgia has classified Lake Lanier as a “no discharge” zone, meaning that watercraft are prohibited from having the capability to discharge MSD waste to the lake.

Groundwater Resources. No effects on groundwater quality or quantity would be expected under the No Action Alternative. Groundwater quality in the Lake Lanier area is generally considered to be good under current management practices.

4.2.1.2 Preferred Alternative

Short-term and long-term indirect negligible adverse effects would be expected under the Preferred Alternative. An estimated 1,448 acres of land would be changed from forested to light residential land use to construct the houses that would be associated with the potential 2,022 new docks under the Preferred Alternative. Increased pollutant loadings to the lake were estimated and compared with the year 1997 loading condition. Table H-4 in Appendix H quantifies the relative effects of the land use alterations on loadings to the lake.

Surface Water Quality. Negligible adverse effects to sedimentation would be expected under the Preferred Alternative. The annual average sediment load from Zone 1 would be expected to contribute approximately 0.3 percent of the sediment load to the lake as a whole, a negligible

adverse effect. The annual average sediment load from Zone 2 would increase by approximately 2 percent, or contribute approximately 85 percent of the sediment load to the lake as a whole.

Negligible effects to nutrient loads would occur because of alteration of landuse conditions with the implementation of the proposed changes to the operations and management activities in the immediate watershed of Lake Lanier. Under the Preferred Alternative, the annual average TP loads from Zone 1 would be expected to contribute approximately 1.3 percent of the TP load to the lake as a whole, a negligible adverse effect. The annual average TP contribution from Zone 2 is expected to be approximately 36 percent of the TP load to the lake as a whole. Under the Preferred Alternative, the annual average TN contribution from Zone 1 is expected to be about 2.2 percent of the TN load to the lake as a whole. The annual average TN contribution from Zone 2 would be approximately 29 percent of the TN load to the lake as a whole.

Negligible adverse effects on water quality would be expected from additional boats and boating activity under the Preferred Alternative. Increased boating activity and in-lake boat storage could affect water quality through fueling operations (accidental spills) and storm water runoff from parking lots in parks. No changes to fecal coliform or biological oxygen demand loadings typically associated with MSD discharges are expected.

Groundwater Resources. Long-term, indirect, minor beneficial effects to groundwater would be expected in the high lake level scenario. The more stringent program modifications proposed for shoreline management and water quality O&M are expected to have a beneficial effect on groundwater quality in the area.

Under shoreline management O&M improvements, maintaining a minimum 100-foot vegetative shoreline buffer, improving shoreline vegetation with additional planting of native species, and continuing to deny requests for vegetation removal will reduce the potential for surface pollutants to reach groundwater sources. The increased vegetation can serve as a filter to catch pollutants before they can be transported to the groundwater.

Under water quality O&M improvements, confirming that households are serviced by municipal or public treatment system, requiring that individual or collective septic systems are certified by a professional engineer that they will not adversely affect the lake's water quality, and requiring any property owner seeking to renew a Shoreline Use Permit show that their septic system poses no threat to water quality by proving that it was cleaned within the past 2 years or certifying with a professional engineer that the septic system poses no threat to the lake's water quality, could

limit pathogens, nitrate, phosphorus, and other pollutants entering groundwater. The O&M improvements will encourage better public maintenance practices for individual and collective septic systems and can limit pollutant inputs to groundwater from septic system malfunction.

The potential increase in the number of septic systems adjacent to the lake is not expected to adversely affect groundwater resources. Generally, septic system malfunctions result in release of pollutants to the surface. Under such a situation, pollutants would be more likely to enter nearby surface water bodies via storm water runoff than to enter groundwater resources. The potential effect of septic system malfunction on surface water quality is incorporated into the Surface Water Quality discussion above.

4.2.2 Land Use, Land Cover, and Land Use Controls

4.2.2.1 No Action Alternative

Land Use. The continuing implementation of the current O&M program at Lake Lanier would not be expected to affect land use on Corps property. Long-term indirect moderate adverse effects would occur within Zone 2, or the lands immediately adjacent to government-owned property around the lake, and no impacts on land use would be expected in Zone 3 from implementation of the No Action Alternative. Residential development, assuming that each additional dock was associated with an additional home that occupies an average of 0.72 acre, would be expected to convert 11,985 acres (18.73 mi²) from forest land use to low-density urban land use on property adjoining the lake. Conversion of land from forest to a developed land use is considered adverse because of the inherently greater risks to water quality, aesthetics, wildlife, and other natural qualities of the lake associated with having developed land surrounding the lake. The potential indirect impacts of the change in land use in Zone 2 on other resource areas are addressed in the Biological Resources, Cultural Resources, Recreation and Recreational Facilities, Visual and Aesthetic Resources, and Water Quality sections.

Land Cover. Long-term direct and indirect moderate adverse effects on land cover on government property (Zone 1) and on property adjacent to government property (Zone 2) would be expected if the No Action Alternative were implemented. Within Zone 1, continued overuse of the islands by visitors could result in the loss of vegetative cover on the islands. Continued vegetation clearing on government property by landowners with adjacent property, expansion of boat trailer parking facilities, or development of new public recreation facilities could result in

some land cover changes from forest to open or semi-wooded. Land cover changes within Zone 2 would primarily be from forest to low-density urban.

Implementation of the No Action Alternative is not expected to have any impact on land cover within Zone 3.

Land Use Controls. No conflicts with existing state, county, or local land use plans, policies, or controls would be anticipated to occur if the No Action Alternative was implemented, and thus no impacts on land use controls would be expected.

4.2.2.2 Preferred Alternative

Land Use. Long-term direct negligible beneficial effects on land use in Zone 1 (government property) and long-term indirect minor adverse effects on land use in Zone 2 (private property adjacent to government property) would be expected to result from implementation of the Preferred Alternative. Encouraging existing private dock permit holders to convert to community docks could result in an increase in Protected Shoreline Area if after a community dock is installed, the shoreline is rezoned from LDA to Protected Shoreline Area. An increase in Protected Shoreline Area would be beneficial to wildlife and habitats, shoreline protection (erosion control), and public access. This beneficial effect is analyzed as being negligible because of the voluntary and therefore uncertain nature of converting from private docks to community docks.

Conversion of forest land use to low-density urban land use within Zone 2 surrounding the lake would have an adverse effect on the lake. If the assumptions for dock installation and home development (0.72 acre per home and one home per private dock) are used, the additional 2,022 private docks that could be permitted and installed under the Preferred Alternative would result in 1,448 acres (2.26 square miles) of forest land use being converted to residential land use. This effect is considered to be adverse because of the indirect effects (discussed under the appropriate resource area analyses in this section) on aesthetics, water quality, and biological resources, as mentioned above. It is considered to be minor in comparison to the effects anticipated from implementing the No Action Alternative, under which 8.3 times as much forest would be converted to residential land use.

Land Cover. Many proposed O&M program improvements would have long-term direct minor to moderate beneficial effects on land cover within Zone 1 at Lake Lanier, and some proposed O&M program improvements could have long-term direct minor adverse effects on land cover in

Zone 1. Table 4-2 summarizes the expected direct effects on land cover from implementation of the Preferred Alternative.

Long-term indirect minor adverse effects on land cover would be expected to occur in Zone 2 from implementation of the Preferred Alternative. A total of 1,448 acres of forest cover in Zone 2 would be converted to residential areas. No effects on land cover within Zone 3 would be expected to result from implementing the Preferred Alternative.

Land Use Controls. No conflicts with existing state, county, or local land use plans, policies, or controls would be anticipated to occur if the Preferred Alternative was implemented, and thus no impacts on land use controls would be expected.

4.2.3 Infrastructure

4.2.3.1 No Action Alternative

Long-term indirect negligible and minor adverse effects on infrastructure resources would be expected from the implementation of the No Action Alternative. About 175 new Shoreline Use Permits are issued per year, and the potential total number permitted under the No Action Alternative would be 25,327. The installation of the additional boat docks, along with associated access paths to those docks, would be expected to have minor effects on landfill capacity because dock construction would generate negligible quantities of waste. Electrical outlets associated with the new boat docks would create a negligible additional electrical demand on the existing system. Increased residential development on lands contiguous to Corps property would create additional demands on infrastructure over time. Some existing road infrastructure may need to be upgraded to allow for the increase in community traffic. Although minor, new residential development would place additional demands on potable water supplies, wastewater treatment capabilities, and storm drainage as well. As discussed in Section 3.8.1 (Soils), some soils in areas around Lake Lanier have limited functional capabilities for septic systems. The total acreage of these areas is small and would not create an impediment to development. Solid waste disposal would be affected by the construction of new housing and associated infrastructure, as well as by the increased population. Further development would also place additional demands on police, fire, and rescue services.

**Table 4-2
Anticipated Effects on Land Cover Under the Preferred Alternative**

Proposed O&M Program Improvement	Anticipated Effects
<i>Shoreline Management:</i>	
Maintaining a vegetative (forested) shoreline buffer consisting of native woody shrubs and trees (understory and overstory) along all shoreline allocation zones, excluding Prohibited Areas.	<i>Beneficial:</i> Long-term direct moderate. Would increase forest cover along the shoreline. <i>Adverse:</i> None
Improving shoreline vegetation through additional planting of native species.	<i>Beneficial:</i> Long-term direct minor. Would increase vegetative cover. <i>Adverse:</i> None
Approving or renewing Specified Acts Permits when work is for the purpose of wildlife habitat enhancement or forest stand improvement.	<i>Beneficial:</i> Long-term direct minor. Would lead to some forest cover increase and improvement. <i>Adverse:</i> None
Requiring all open areas where grass mowing is not authorized under the existing Shoreline Use Permits to be revegetated by the permittee or at the Corps' discretion.	<i>Beneficial:</i> Long-term direct moderate. Would cause some change from lawn cover to forest. <i>Adverse:</i> None
Encouraging those with grandfathered authorization to mow to cease mowing project lands.	<i>Beneficial:</i> Long-term direct moderate. Would create some change from lawn cover to forest, though this improvement is not a requirement so the magnitude of the effect would depend on landowner cooperation. <i>Adverse:</i> None
<i>Island Management:</i>	
Encouraging day uses (e.g., bank fishing, sunbathing, wading, hiking, swimming, birdwatching, and picnicking).	<i>Beneficial:</i> Long-term direct minor. To the extent that campers are responsible for loss of vegetation on the islands, this would be reduced. <i>Adverse:</i> None
Increasing O&M actions to establish the islands as wildlife sanctuaries through vegetation, timber stand, and habitat management activities.	<i>Beneficial:</i> Long-term direct minor. Would increase forest cover on the islands. <i>Adverse:</i> None
<i>Nonnative Plant Management:</i>	
Developing programs to provide better control of invasive and noxious species (e.g., kudzu, English ivy, and poison ivy).	<i>Beneficial:</i> Long-term direct negligible. Would decrease the spread of noxious species; may not change vegetative cover. <i>Adverse:</i> None
<i>Erosion Management:</i>	
Requiring that owners plant natural vegetation or install riprap or other shoreline or bank stabilization measures when applying for a new Shoreline Use Permit, renewal of a Shoreline Use Permit for a private boat dock or community boat dock, or upon granting or renewing USACE outgrants.	<i>Beneficial:</i> Long-term direct minor. Would increase vegetative cover along the shoreline. <i>Adverse:</i> None

**Table 4-2
Anticipated Effects on Land Cover Under the Preferred Alternative**

Proposed O&M Program Improvement	Anticipated Effects
<i>Day Use Park Operations:</i>	
Giving preference to funding the development of the northern portion of the lake (above Brown's Bridge) and shifting emphasis from boating-related activities and facilities (e.g., ramps) to lake-related activities (e.g., swimming, use of beaches) and facilities (i.e., campgrounds, picnic areas, and beaches).	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. Some facility development could involve forest clearing and conversion to open area or recreational facilities.
Establishing additional boat launch facilities in the northern portion of the lake, but only to offset the number of launch facilities that are expected to be closed in the southern parts of the lake.	<i>Beneficial:</i> Long-term direct minor. Launch facilities closed in the southern part of the lake might become revegetated. <i>Adverse:</i> Long-term direct minor. Some clearing of forest would occur to establish launch facilities.
Establishing additional foot trails in forested areas and on the points of Protected Areas for expanding nonconsumptive uses such as the watchable wildlife program.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct negligible. Some tree and shrub clearing would be associated with establishing the foot trails.

4.2.3.2 Preferred Alternative

Long-term indirect minor beneficial and minor adverse effects could be expected with implementation of the Preferred Alternative. Requiring that prior to the issuance of a Shoreline Use Permit for a community boat dock, an applicant clearly show that wastewater generated by the residential development will not adversely affect the lake's water would increase the operating efficiency and effectiveness of both treatment and septic systems. Demands on potable water systems, electrical systems, landfills, solid waste disposal facilities, and storm drainage systems would increase less under the Preferred Alternative than under the No Action Alternative because the potential number of private boat docks would be limited to 10,615 rather than 25,327. Funding the development of the northern portion of the lake (above Brown's Bridge) and shifting the emphasis from boating-related activities and facilities to lake-related activities and facilities would decrease the intensity of use and crowding in the southern portion of the lake. This would be expected to reduce congestion on area roads in the southern portion of the lake during peak periods of use and increase traffic on surrounding roads in the northern portion.

4.2.4 Socioeconomic Conditions

4.2.4.1 No Action Alternative

Operation and Maintenance. No effects on socioeconomic conditions would be expected. Continuation of the current O&M activities at Lake Lanier would not affect the regional economy. The O&M activities would not result in a change in ROI employment, personal income levels, or the region's output of goods and services.

Economic Effect of Lake Level Fluctuations. Long-term minor adverse effects could be expected. An analysis was conducted to see if fluctuations in lake elevations (i.e., due to drought or rain) would affect lake visitation.¹ Low water levels can create unsafe boating conditions, ground marinas and private dock slips, make beaches undesirable for use, and affect the overall physical attractiveness of the lake. Together, these factors could reduce the number of recreational visitors to the lake and therefore the level of consumer spending in the ROI.

An analysis of lake elevation levels and USACE monthly visitor data indicated that there is no significant correlation between lake elevation levels and visitor attendance for historical lake level fluctuations (from 1,059 feet msl to 1,071 feet msl) (see Tables A-2 and A-3 in Appendix A). Visitation levels generally followed a seasonal trend, increasing during the spring and summer months and diminishing during the fall and winter. Furthermore, anecdotal evidence suggests that decreases in visitation during the peak season are related more to short-term weather conditions, such as precipitation on weekends, than to lake levels (Williams, personal communication, 2002).

The lake level analysis was then taken one step further. It was assumed that if the lake levels dropped below historical levels, attendance *would* decrease. Since the actual impact of unusually low water levels on lake attendance could not be accurately predicted, three different visitor scenarios were analyzed: a 10 percent drop in annual attendance, a 25 percent drop in annual attendance, and a 50 percent drop in annual attendance.² The estimated drop in attendance was measured against projected visitation levels that were based on data from the USACE. This projected visitation is referred to as the baseline scenario.

¹ The Lake Lanier O&M activities addressed in this EIS do not result in lake level fluctuations. The lake elevation changes due to natural conditions beyond the control of the USACE.

² Given the high degree of uncertainty associated with these scenarios, the modeling results should be used as an indication of the range of economic consequences from significantly lower lake water levels rather than a forecast of a particular outcome.

This study also took into account the potential decrease in dock construction activity. If lake elevation drops below 1,063 feet msl, the Drought Management Action Plan would be implemented. Under this plan, no new docks can be permitted. Because new private docks could not be built, a negative economic impact would be expected because of the decrease in construction sales.

A regional economic model was used to estimate the potential economic impacts from the 10, 25, and 50 percent decrease in recreational visitors, along with the reduction in economic activity from a decrease in dock construction (see Appendix A for a detailed description of the model). Table 4-3 lists the impacts on employment, gross regional product (GRP), and population under each visitor reduction scenario.³ Results are presented as the actual value (in numbers of people or in dollars) and as the percentage difference from the baseline scenario. For example, under the baseline scenario, regional employment was projected to be 546,341. Under the 10 percent scenario, regional employment was projected to be at 545,748, or a 0.109 percent reduction from baseline.

Table 4-3
Summary of Results:
Employment, GRP, and Population Decreases from Baseline Conditions by 2020

	Employment (thousands)	GRP (billion fixed 92\$)	Population (thousands)
Baseline Scenario	546.341	40.675	1,186.267
10 Percent Scenario	545.748	40.659	1,185.075
% Decrease from Baseline	-0.109	-0.038	-0.100
25 Percent Scenario	544.895	40.638	1,183.372
% Decrease from Baseline	-0.265	-0.092	-0.244
50 Percent Scenario	543.463	40.600	1,180.508
% Decrease from Baseline	-0.527	-0.184	-0.485

As shown in the table, economic indicators for employment, GRP, and population, even with a 50 percent decrease in recreational visitors, would drop about 0.5 percent or less from baseline conditions. The magnitude of these adverse impacts would be small, especially in comparison with the size of the regional economy. However, it should be noted that these decreases in

economic activity would be focused on the service and retail sectors of the local economy. Specifically, businesses that are linked to recreational activity at Lake Lanier (such as boat dock builders, outdoor equipment supply stores, souvenir shops, restaurants, and boat rental and sales) would be affected the most, experiencing direct employment and income reduction from the decrease in the number of visitors to the lake.

4.2.4.2 Preferred Alternative

Operation and maintenance. Long-term minor adverse effects on socioeconomic conditions would be expected. Under the Preferred Alternative, a new Shoreline Use Permitting Policy would be implemented. This policy would decrease the potential number of additional private boat docks to 2,022, or about 1,500 fewer docks than under the No Action Alternative.⁴ However, the economic impacts from this decrease in construction spending would be negligible when distributed over the five-county ROI and the 20-year study period (see Appendix A).

No economic effects would be expected from other O&M proposed program improvements (e.g., maintenance of shoreline vegetation, erosion management, endangered species management, island management, nonnative plant management). These improvements would not affect the regional economy. There would be no change in personal income levels or the region's output of goods and services. It is possible that a few rangers could be hired to handle any additional workload created by the proposed O&M program improvements. However, this would not have a measurable effect on the ROI economy.

Economic Effect of Lake Level Fluctuations. Long-term minor adverse effects could be expected. As discussed under the No Action Alternative, an analysis of USACE visitor data and lake elevation levels was conducted to see if historical changes in lake elevation (due to drought or rain) would affect lake visitation and therefore consumer spending in the ROI.⁵ The study indicated that there is no significant correlation between lake elevation levels and visitor attendance for historical lake level fluctuations (see Tables A-2 and A-3 in Appendix A).

³ GRP is a measure of a region's total output of goods and services.

⁴ Given current human resource constraints, 175 is the maximum number of permits that can be issued per year. Therefore, under the No Action Alternative, up to 3,500 additional docks could be built on the lake within the 20-year study period (175 x 20 = 3,500). Under the Preferred Alternative, because of changes in the Shoreline Use Permitting Policy, only 2,022 additional private boat docks could be permitted.

⁵ It should be emphasized that the Lake Lanier O&M activities addressed in this EIS do not result in lake level fluctuations. The lake elevation changes due to natural conditions are beyond the control of the USACE.

Therefore, historical fluctuations in lake elevation would not be expected to affect recreational visitors or consumer spending.

However, if lake levels dropped below historical levels, it was assumed that visitor attendance and new dock construction would be affected. If lake elevation were to drop below 1,063 feet msl, the Drought Management Action Plan would be implemented. Under this plan, no new docks can be permitted. For lake visitation, since the actual impact of unusually low water levels on lake attendance could not be accurately predicted, three different visitor scenarios were analyzed: a 10 percent drop in annual attendance, a 25 percent drop in annual attendance, and a 50 percent drop in annual attendance. A regional economic model was used to estimate the potential economic impacts under each scenario (see Appendix A for a detailed description of the model). The model results showed that even with a 50 percent decrease in recreational visitors and the decrease in new dock construction, economic indicators for employment, GRP, and population would drop only about 0.5 percent or less from baseline conditions, resulting in long-term minor adverse effects to the ROI economy (see Section 4.2.4.1, Table 4-3).

4.2.5 Visual and Aesthetic Resources

4.2.5.1 No Action Alternative

Implementation of the No Action Alternative would be expected to have long-term direct minor to major adverse effects on the aesthetics and visual resources of Lake Lanier. A significant adverse effect would be expected if the current private boat dock permitting policy continues to be implemented into the future. Installation of 16,734 additional private boat docks would severely affect the aesthetic quality of the Lake Lanier environment and potentially affect public safety because of reduced navigation within coves and along the shoreline. The number of boat docks on the lake, the quality of boat dock maintenance, and the spacing of boat docks were raised as scoping issues for this EIS (refer to Section 1.6.1). The additional docks that could be added under the No Action Alternative would also be expected to be significantly controversial among those who use the lake and live near it.

The duration and intensity of the expected results are described in Table 4-4.

**Table 4-4
Anticipated Effects on Aesthetics and Visual Resources Under the No Action Alternative**

Current O&M Program Policy	Anticipated Effects
<i>Shoreline Management:</i>	
Continuing implementation of the existing Shoreline Use Permitting Policy.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct major significant. Implementation of the No Action Alternative would potentially result in the installation of 16,734 new private boat docks, which would create a less visually appealing shoreline.
Permitting private boat docks in new residential developments.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct moderate. LDAs that currently have no or few docks would become populated with docks.
Continuing to permit private docks without the encouragement to convert to community docks.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. Few LDAs that now have private docks would be expected to convert to community docks.
(1) Allowing incomplete inspection and enforcement of private and community boat dock maintenance standards; (2) Allowing cited defects or deficiencies in a boat dock to remain unrectified for 30 days or longer; (3) Renewing Shoreline Use Permits for private or community boat docks with cited defects.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. Poorly maintained docks would be expected to be found along the shoreline and persist in a poorly maintained state for a long period of time in some instances.
(1) Permitting boats at private or community docks to be longer than slips; (2) Permitting the mooring of boats to other boats.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. Excessively large boats at docks and many boats at single docks are generally considered to be visually unappealing.
Allowing the use of boat slips to be used for boats or personal watercraft that have mufflers above the waterline—a violation of state law.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct negligible. Noise is an aspect of aesthetics, and boats or other watercraft with mufflers above the waterline are particularly loud.
<i>Island Management:</i>	
(1) Continuing to implement existing camping and day use policies on the islands; (2) Continuing to implement minimal O&M actions for vegetation, timber stand, shoreline protection and stabilization, and habitat management activities on the islands.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. Overuse of the islands is causing deterioration of vegetation and shorelines.
<i>Erosion Management:</i>	
Continuing to implement minimal adjacent landowner requirements for shoreline vegetation or other shoreline or bank stabilization measures associated with Shoreline Use Permit renewal or with granting or renewing USACE outgrants.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct moderate. Existing and future landowners with Shoreline Use Permits would be expected to continue to clear vegetation to gain improved views of the lake and to create manicured-lawn-type lakefront property.

**Table 4-4
Anticipated Effects on Aesthetics and Visual Resources Under the No Action Alternative**

Current O&M Program Policy	Anticipated Effects
<i>Water Quality Management:</i>	
Continuing to issue Shoreline Use Permits without requirements to demonstrate that wastewater generated by a residential development or private residence will not adversely affect the lake's water quality.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. A 15 percent septic system failure rate is assumed, and as development continues around the lake, this will account for an increasing quantity of water contamination, potentially leading to visual deterioration of the lake.
<i>Sections 10/404 Permitting:</i>	
Continuing to permit the use of sea walls/bulkheads.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. Seawalls and bulkheads tend to fail, and those that do fail have an adverse visual impact.
<i>Pollution Abatement:</i>	
Continuing to prohibit the use of beaded Styrofoam and require that all new dock flotation systems, and repairs to existing flotation systems, use encapsulated flotation materials, while not requiring that owners certify that they have properly disposed of any previously used Styrofoam or that only encapsulated flotation materials are in place for continued use of the boat dock.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. Newly permitted docks would not have Styrofoam flotation, but some older docks would be expected to continue to contribute visually unsightly Styrofoam beads to the shoreline.
<i>Day Use Park Operations:</i>	
Maintaining but not modernizing recreational sites.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct negligible. Some deterioration of facilities over time would be expected.
Permitting development on the lake where demand pressure is greatest and for the type of facilities (boating-related or non-boating-related) in greatest demand.	<i>Beneficial:</i> Long-term direct minor. Development would be expected to occur primarily in the southern portion of the lake, leaving the northern portion, except around Gainesville, relatively undeveloped. <i>Adverse:</i> Long-term direct moderate. Development would be expected to occur primarily in the already-overused southern portion of the lake, with increasing development in the northern portion of the lake as Gainesville grows, and pressure would be expected to be greatest for boating-related facilities.

Landscape Visibility. Landscape visibility, specifically the additional acres from which boat docks would be visible from the lake and surrounding land, was discussed in Section 3 as the metric by which the impacts of the No Action Alternative and Preferred Alternative would be

quantified. The intensity of the effect of additional boat docks on the aesthetics of the lake is based on the landscape visibility changes that could occur. Figure 4-1 depicts areas of the lake from which the 8,359 existing private and community boat docks⁶ and the potential 16,734 new boat docks that could be permitted under the No Action Alternative would be clearly visible. Using the 0.75-mile visibility range discussed in Section 3.0, one or more docks would be visible from 78 percent (30,584 acres) of the lake's surface after all 16,734 new docks were installed. Currently, one of the 8,359 docks is visible from 75.6 percent (29,507 acres) of the lake surface (Table 4-5). Docks would be more visible from the shoreline as well. One or more boat docks are currently visible from 557 miles of the shoreline, and after an additional 16,734 docks were installed, one or more docks would be visible from an additional 35 miles (a 6 percent increase) of the shoreline.

Although the total area of the lake from which one or more boat docks would be clearly visible from the surface of the lake would change by less than 4 percent (1,077 acres), there would be large increases in lake acreages from which many boat docks would be visible (Table 4-5):

- There would be a 214 percent increase in lake acreage from which 41 to 80 boat docks would be visible (from 3,384 to 10,639 acres).
- There would be a 2,763 percent (or 27-fold) increase in lake acreage from which 81 to 120 boat docks would be visible (from 195 acres to 5,583 acres).
- There would be a 716-fold increase in lake acreage from which more than 121 docks would be visible (from 4 to 2,864 acres).
- The above-mentioned increases would decrease the area of the lake from which few docks (1 to 40) would be visible by 37 percent (from 25,924 to 11,497 acres).

⁶ Note that the actual number of docks on the lake (8,348 private docks and 11 community docks) is used for visibility analysis. Community docks, therefore, have not been translated into private-dock equivalents here.

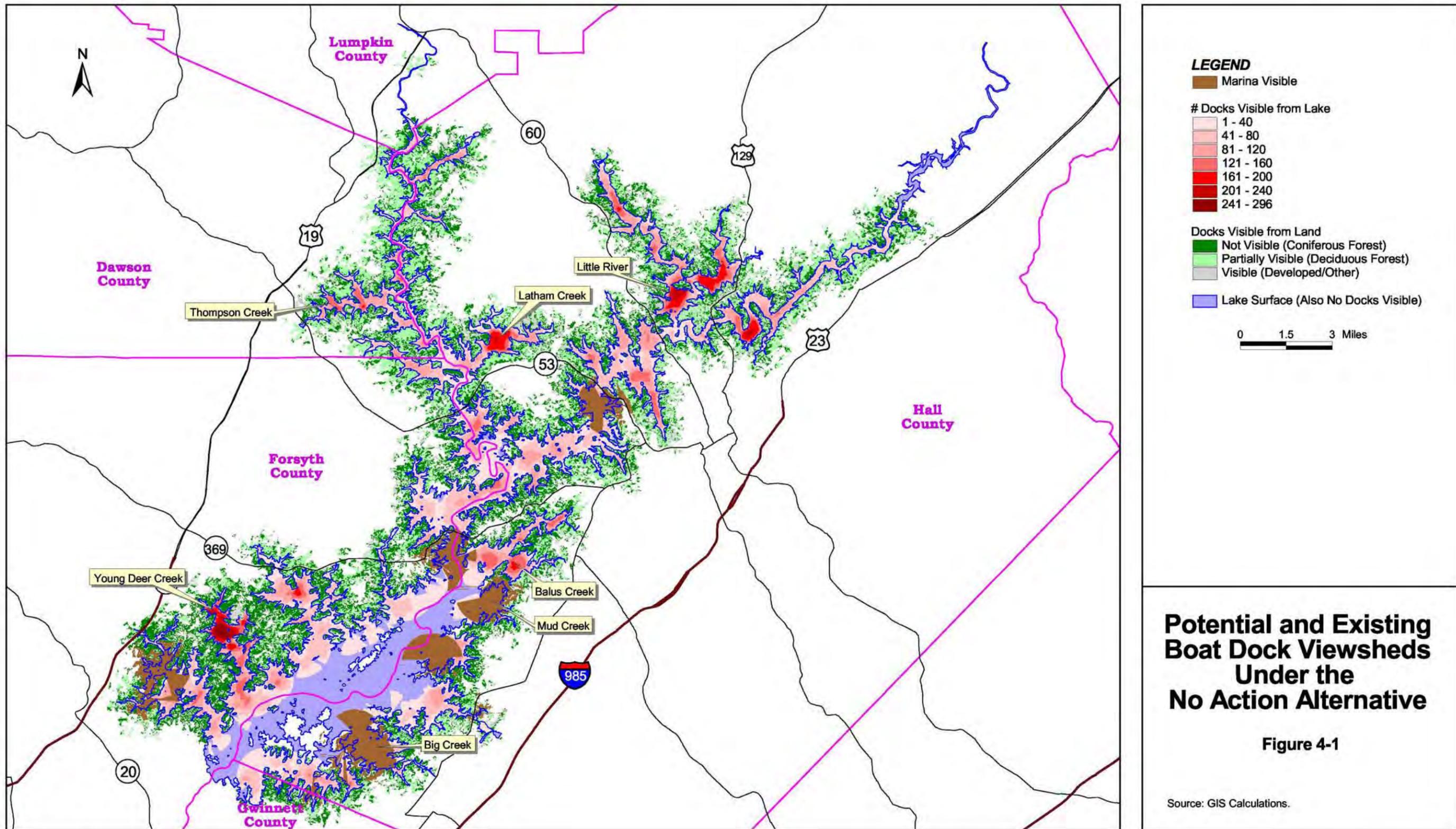


Table 4-5
Acreeage of Lake From Which Boat Docks Would Be Clearly Visible

Existing Docks and Alternatives Plus Existing Boat Docks				
Number of Visible Docks	Existing Docks		No Action Alternative Plus Existing	
	Lake Acreage	% Lake Area	Lake Acreage	% Lake Area
1-40	25,924	66.4	11,497	29.5
41-80	3,384	8.7	10,639	27.3
81-120	195	0.5	5,583	14.3
121 plus	4	0.0	2,864	7.3
TOTAL	29,507	75.6	30,584	78.3
Number of Visible Docks	Existing Docks		Preferred Alternative Plus Existing	
	Lake Acreage	% Lake Area	Lake Acreage	% Lake Area
1-40	see above		24,631	63.1
41-80			5,235	13.4
81-120			343	0.9
121 plus			7	0.0
TOTAL			30,217	77.4

Source: GIS calculations.

The 16,734 new boat docks that would be allowed under the No Action Alternative, when added to the 8,359 existing boat docks, would make boat docks clearly visible from large contiguous areas of the lake surface. When compared to Figure 3-14 in Section 3.0, which shows the existing boat dock viewsheds, the most notable areas affected would be Young Deer Creek, Big Creek, Mud Creek, and Balus Creek on the south section of Lake Lanier; Latham Creek and Thompson Creek on the Chestatee River north section; and the Gainesville Speedway area and Little River areas of the Chattahoochee River north section (Figure 4-1).

Figure 4-1 also shows the area from which potential new boat docks would be visible from land surrounding the lake under the No Action Alternative. Depending on vegetative cover and season of the year, one or more docks would be visible from 49,560 acres of land surrounding the lake after all 16,734 new docks were installed. The 8,359 existing docks are now visible from 43,715 acres of land surrounding the lake.

4.2.5.2 Preferred Alternative

Implementation of the Preferred Alternative would be expected to have long-term direct negligible to major beneficial effects on aesthetics at Lake Lanier. A significant beneficial effect would be expected from implementation of a new Shoreline Use Permitting Policy. The duration and intensity of the expected effects are summarized in Table 4-6.

**Table 4-6
Anticipated Effects on Aesthetics and Visual Resources Under the Preferred Alternative**

Proposed O&M Improvement	Anticipated Effects
<i>Shoreline Management:</i>	
<p>(1) Maintaining vegetative (forested) shoreline buffer consisting of native woody shrubs and trees (understory and overstory) along all shoreline allocation zones, excluding Prohibited Areas; (2) continuing to deny requests for vegetation removal with the exception of removal of hazardous trees; (3) approving or renewing Specified Acts Permits when work is for the purpose of wildlife habitat enhancement or forest stand improvement; (4) requiring all open areas where grass mowing is not authorized under the existing Shoreline Use Permits to be revegetated by the permittee or at the Corps's discretion; (5) encouraging those with grandfathered authorization to mow to cease mowing project lands; (6) allocating budget resources to provide for vigorous enforcement of prohibitions against unauthorized removal of vegetation.</p>	<p><i>Beneficial:</i> Long-term direct moderate. These improvements would be expected to result in visible improvement of the shoreline. <i>Adverse:</i> None</p>
<p>Implementing a new Shoreline Use Permitting Policy. Policy changes include 50 percent utilization of LDAs per ER 1130-2-406; Based on total length of LDA shoreline excess number of private boat docks in overdeveloped LDAs is subtracted from the total that can be permitted in underdeveloped LDAs.</p>	<p><i>Beneficial:</i> Long-term direct major significant. The Preferred Alternative would result in 14,712 fewer docks than would implementation of the No Action Alternative and would, compared to the No Action Alternative, ensure a more appealing shoreline in the future. LDAs with no or few docks and LDAs that are not yet at capacity for docks but which have many docks would be protected from significant additional visual and aesthetic deterioration. <i>Adverse:</i> None</p>
<p>Requiring the use of community docks in all new residential developments.</p>	<p><i>Beneficial:</i> Long-term direct minor. A single community dock is visually less detractive than many individual docks. <i>Adverse:</i> Community docks that have many slips can be visually disturbing.</p>
<p>Allowing communities that install courtesy docks rather than private docks to build a private ramp within the community for ready access by its residents.</p>	<p><i>Beneficial:</i> Long-term direct minor. Courtesy docks would be smaller and less visually detractive than community docks. <i>Adverse:</i> None</p>
<p>Encouraging existing private dock permittees to convert to community docks followed by rezoning of the shoreline from LDA to protected.</p>	<p><i>Beneficial:</i> Long-term direct negligible. Conversion to community docks would be a visual improvement, but would not be required and would depend on dock owner cooperation. <i>Adverse:</i> None</p>
<p>Implementing vigorous inspection and enforcement of private and community boat dock maintenance standards.</p>	<p><i>Beneficial:</i> Long-term direct minor. Fewer poorly maintained docks would be found along the shoreline. <i>Adverse:</i> None</p>

**Table 4-6
Anticipated Effects on Aesthetics and Visual Resources Under the Preferred Alternative**

Proposed O&M Improvement	Anticipated Effects
Requiring the mooring of boats in boat slips and prohibiting the regular mooring of boats to other boats.	<i>Beneficial:</i> Long-term direct minor. In areas where more boats are at docks than the dock has slips, a visual improvement would result by reducing the number of boats at the docks. <i>Adverse:</i> None
Prohibiting the use of boat slips, approved through issuance of Shoreline Use Permits, to accommodate boats or personal watercraft (e.g., Jet Skis, Wave Runners), of any size, having mufflers above the waterline—a violation of state law. State law stipulates that mufflers must be at or below the waterline.	<i>Beneficial:</i> Long-term direct negligible. Noise is an aspect of aesthetics, and this improvement would result in a more pleasing noise environment by eliminating access to the lake from docks for boats in violation of the law. <i>Adverse:</i> None
<i>Island Management:</i>	
Prohibiting camping on islands, but encouraging day uses (e.g., bank fishing, sunbathing, wading, hiking, swimming, birdwatching, and picnicking).	<i>Beneficial:</i> Long-term direct minor. Islands would be expected to improve visually after this improvement was implemented. <i>Adverse:</i> None
Increasing O&M actions to establish the islands as wildlife sanctuaries through vegetation, timber stand, and habitat management activities.	<i>Beneficial:</i> Long-term direct minor. Islands would have a more natural appearance as a result of this improvement. <i>Adverse:</i> None
Establishing an Adopt-An-Island program, or something similar, as a source of funding for shoreline protection and stabilization activities.	<i>Beneficial:</i> Long-term direct minor. Reducing the quantity of severely eroding shoreline on islands would improve them aesthetically. <i>Adverse:</i> None
<i>Nonnative Plant Management:</i>	
Developing programs to provide better control of noxious species (e.g., kudzu, English ivy, and poison ivy) by encouraging adjacent owners' and volunteers' efforts and providing educational and outreach programs to inform the public about desirable and undesirable plant species.	<i>Beneficial:</i> Long-term direct negligible. This improvement probably would create only minor improvements in the naturalness of the shoreline. <i>Adverse:</i> None
<i>Erosion Management:</i>	
(1) Requiring that owners plant natural vegetation or install riprap or other shoreline or bank stabilization measures when applying for a new Shoreline Use Permit, renewal of a Shoreline Use Permit for a private boat dock or community boat dock, or upon granting or renewing USACE outgrants; (2) Allowing permit or lease applicants to mitigate effects of their use of the shoreline by constructing mitigation measures at locations other than the sites that are the subject of proposed or renewed permitted activities or leases.	<i>Beneficial:</i> Long-term direct moderate. All land owners with Shoreline Use Permits or those applying for a first permit potentially would be affected, and the amount of unattractive shoreline in LDAs due to erosion would decrease. <i>Adverse:</i> None

**Table 4-6
Anticipated Effects on Aesthetics and Visual Resources Under the Preferred Alternative**

Proposed O&M Improvement	Anticipated Effects
<i>Water Quality Management:</i>	
(1) Requiring that before issuance of any Shoreline Use Permit for a community boat dock, applicants clearly show that wastewater generated by the residential development will not adversely affect the lake's water quality; (2) requiring any adjacent property owner seeking to renew a Shoreline Use Permit for a private boat dock to indicate whether his or her residence uses a septic system and, if so, to clearly show that the septic system poses no threat to the lake's water quality.	<i>Beneficial:</i> Long-term direct minor. Septic systems can be significant sources of bacterial and nutrient pollution and lead to algae blooms or excessive plant growth. Prevention of that type of pollution would improve lake aesthetics. <i>Adverse:</i> None
Providing for immediate revocation of any Shoreline Use Permit for a private boat dock permit or privileges in a Shoreline Use Permit for a community boat dock upon disposal to Lake Lanier of human waste from a watercraft or disposal to Lake Lanier of any pollutant in connection with use of a watercraft.	<i>Beneficial:</i> Long-term direct negligible. Some pollution may be prevented or arrested because of this improvement, but few boats would be expected to be affected. <i>Adverse:</i> None
<i>Sections 10/404 Permitting:</i>	
Discontinuing the use of seawalls and bulkheads and requiring riprap or biostabilization only.	<i>Beneficial:</i> Long-term direct minor. The number of failing seawalls and bulkheads would be decreased and their negative visual impact would be reduced. <i>Adverse:</i> None
<i>Pollution Abatement:</i>	
(1) Continuing to prohibit use of beaded Styrofoam and requiring that all new dock flotation systems and repairs to existing flotation systems use encapsulated flotation materials; (2) requiring that prior to Shoreline Use Permit renewal, owners certify that (a) they have properly disposed of any previously used Styrofoam and (b) only encapsulated flotation materials are in place for continued use of the boat dock.	<i>Beneficial:</i> Long-term direct moderate. Increased effort to control Styrofoam floatation pollution would ensure that the aesthetically negative effect of deteriorated Styrofoam beads along the shoreline would decrease. <i>Adverse:</i> None
Accepting volunteer services to collect Styrofoam or other failed dock flotation materials.	<i>Beneficial:</i> Long-term direct minor. More Styrofoam currently along the shoreline would be removed than if project personnel alone were to accomplish the task. <i>Adverse:</i> None
<i>Day Use Park Operations:</i>	
Emphasizing the modernization of recreational sites that have substantial investments in infrastructure (e.g., waterborne toilets, showers, boat ramps, picnic facilities, playgrounds).	<i>Beneficial:</i> Long-term direct moderate. Modernized facilities would be more aesthetically appealing. Evidence also indicates that visitors maintain facilities better when they are new. <i>Adverse:</i> None

Table 4-6
Anticipated Effects on Aesthetics and Visual Resources Under the Preferred Alternative

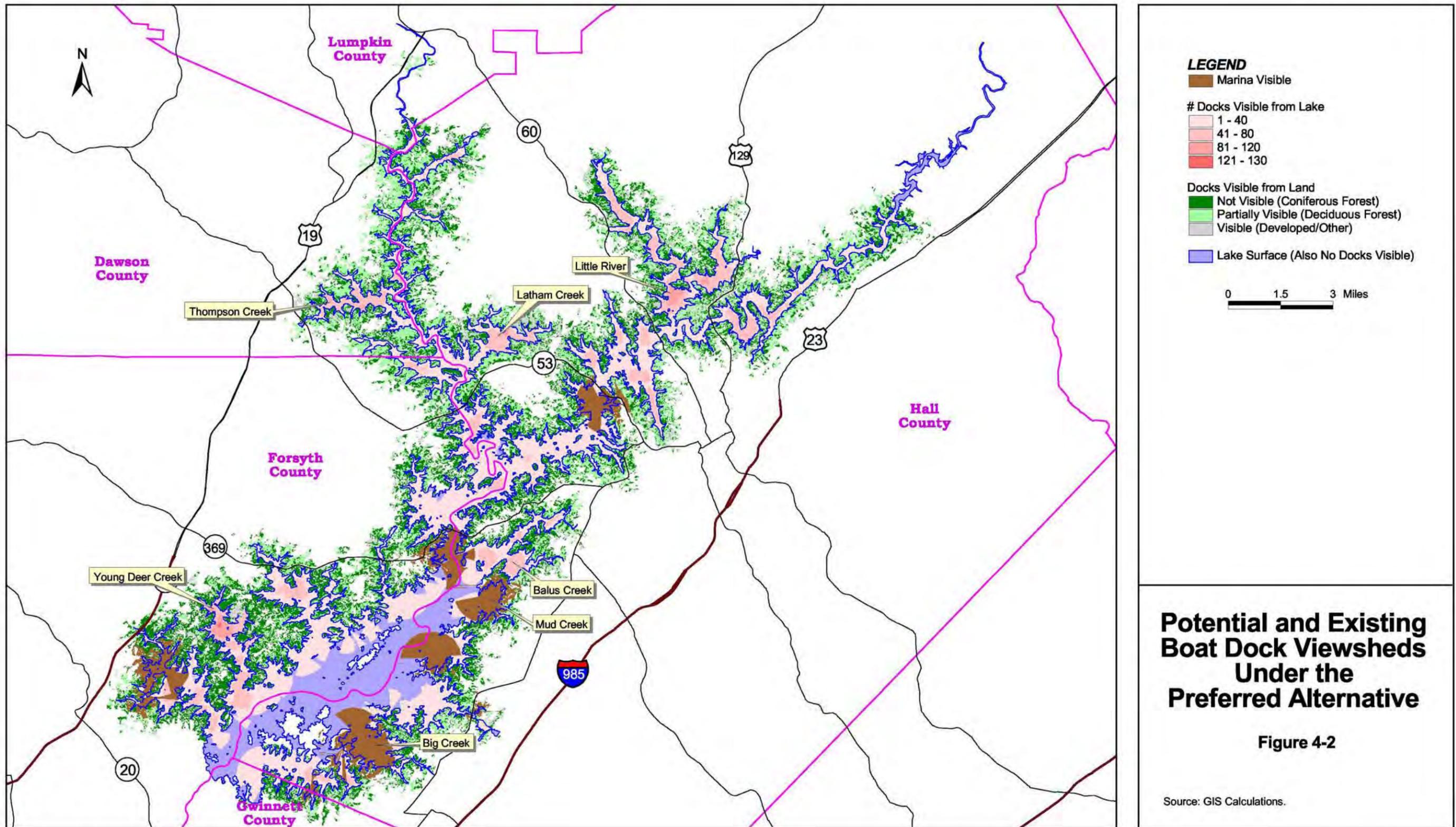
Proposed O&M Improvement	Anticipated Effects
Giving preference to funding the development of the northern portion of the lake (above Brown's Bridge) and shifting emphasis from boating-related activities and facilities (e.g., ramps) to lake-related activities.	<p><i>Beneficial:</i> Long-term direct moderate. Such a development policy would relieve recreational pressure on the southern portion of the lake and at the same time encourage use of the northern lake, where recreational pressure is not as great, creating a more appealing recreational environment.</p> <p><i>Adverse:</i> Long-term direct minor. Policy-directed development of the northern portion of the lake would decrease the area's visual appeal.</p>

Landscape Visibility. As discussed above, landscape visibility, measured as the additional acres from which boat docks would be visible from the lake and surrounding land, was mentioned in Section 3.0 as the metric by which the aesthetic impacts would be quantified. A significant beneficial effect on the aesthetics of the lake could be realized by implementing the Preferred Alternative instead of the No Action Alternative. Figure 4-2 depicts areas of the lake from which the 8,359 existing boat docks and the 2,022 additional boat docks that could be installed under the Preferred Alternative would be clearly visible. Using the 0.75-mile visibility range discussed in Section 3, one or more docks would be visible from 77 percent of the lake's surface after all 2,022 new docks were installed. The existing and new docks would be visible from 30,217 acres of the lake, compared to 29,507 acres from which one or more existing boat docks are visible.

Installing the additional 2,022 docks under the Preferred Alternative would increase the length of shoreline from which a dock is visible by 26 miles, compared to 35 miles under the No Action Alternative. There are currently 557 miles of shoreline from which at least one dock can be seen.

Although the total area of the lake from which one or more boat docks would be clearly visible from the surface of the lake would change by less than 3 percent (710 acres), Table 4-5 illustrates that the amount of lake acreage from which many docks would be visible would increase:

- There would be a 55 percent increase in lake surface from which 41 to 80 boat docks would be visible (from 3,384 to 5,235 acres).
- There would be a 76 percent increase in lake surface from which 81 to 120 boat docks would be visible (from 195 to 343 acres).



- There would be only a small area from which more than 121 docks would be visible (from 4 to 7 acres).

The above-mentioned increases would decrease the area of the lake from which few docks (1 to 40) would be visible by 3 percent (from 25,924 to 24,631 acres) (Table 4-5).

The 2,022 new boat docks that would be allowed under the Preferred Alternative, when added to the 8,359 existing boat docks, would make boat docks clearly visible from large contiguous areas of the lake surface. When compared to Figure 3-14 in Section 3.0, which shows the viewsheds of existing boat docks, the most notable of these large areas would be the same areas most affected by the No Action Alternative, namely, Young Deer Creek, Big Creek, Mud Creek, and Balus Creek on the south section of Lake Lanier; Latham Creek and Thompson Creek on the Chestatee River north section; and the Gainesville Speedway area and Little River areas of the Chattahoochee River north section. The last two areas would not be affected as much under the Preferred Alternative as under the No Action Alternative (Figure 4-2).

Figure 4-2 also shows the area of land surrounding the lake from which existing and new boat docks would be visible under the Preferred Alternative. Depending on vegetative cover and season of the year, one or more docks would be visible from 47,006 acres of land surrounding the lake. The 8,359 existing boat docks are visible from 43,715 acres of land surrounding the lake. Figure 4-3 provides a comparison of the effects of the Preferred Alternative and the No Action Alternative relative to baseline conditions in terms of landscape visibility.

4.2.6 Recreation and Recreational Facilities

4.2.6.1 No Action Alternative

Long-term direct negligible to moderate adverse effects and long-term indirect negligible and minor beneficial effects would be expected under the No Action Alternative. Adverse effects would be expected to far outweigh the beneficial effects of implementing the No Action Alternative. Table 4-7 describes the anticipated effects of maintaining the current O&M program, or of not implementing proposed improvements, and assesses the duration and intensity of the anticipated effects.

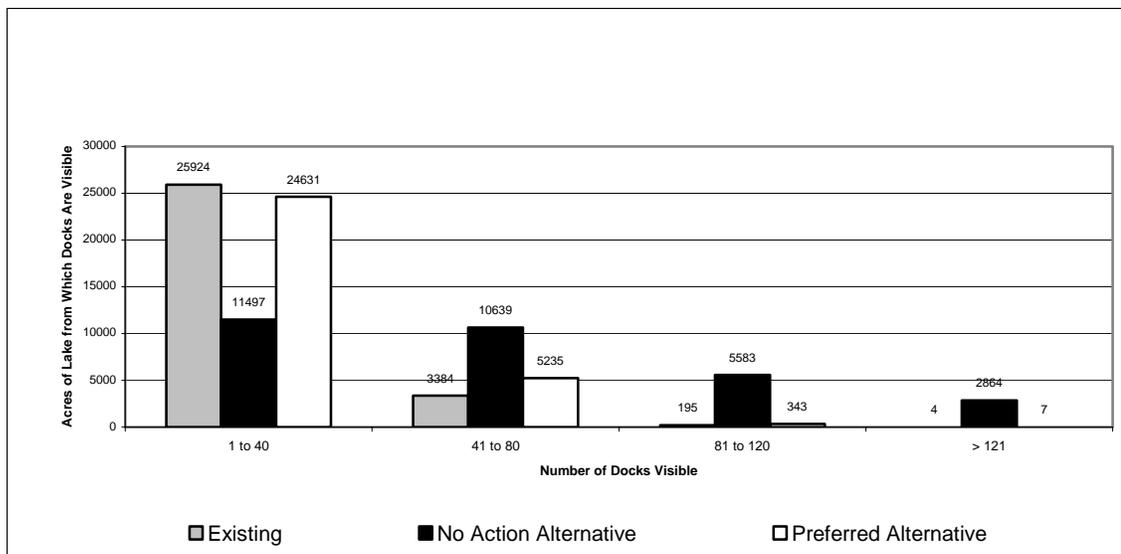


FIGURE 4-3. COMPARISON OF EXISTING LANDSCAPE VISIBILITY TO LANDSCAPE VISIBILITY UNDER THE NO ACTION ALTERNATIVE AND PREFERRED ALTERNATIVE.

**Table 4-7
Anticipated Effects on Recreation and Recreational Resources
Under the No Action Alternative**

O&M Activity	Anticipated Effects
<i>Shoreline Management:</i>	
Adding a total of 16,734 private boat docks; <i>not</i> imposing an 82-foot boundary footage length requirement to qualify for a private boat dock; <i>not</i> requiring the use of community docks in all new residential developments.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct moderate. By imposing no new limitations on private boat dock installation, dock density would increase in more areas to levels unsafe for navigation, and the potential maximum boating density on the lake would be increased.
<i>Not</i> allowing communities that install courtesy docks rather than private docks to build a private ramp within the community for ready access by its residents.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. If no courtesy docks are allowed, more private docks would be installed and since fewer residents will have access to ramps, more crowding would occur at public access sites.
<i>Not</i> limiting the size of boat slips, <i>not</i> requiring the mooring of boats in boat slips, and <i>not</i> prohibiting the regular mooring of boats to other boats.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct negligible. Continued impedance of navigation where this is a problem.
<i>Island Management:</i>	
<i>Not</i> increasing O&M actions to establish the islands as wildlife sanctuaries.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. Minor degradation of islands, which would limit their use for recreation.

**Table 4-7
Anticipated Effects on Recreation and Recreational Resources
Under the No Action Alternative**

O&M Activity	Anticipated Effects
<i>Day Use Park Operations:</i>	
Increasing the capacity of boat ramps to park <i>more</i> than the current capacity of 2,470 boat trailers.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. Continued growth in the number of trailer parking spaces—and launch ramps to handle increased capacity—resulting in increased on-lake boat density.
<i>Not</i> modernizing recreational sites that have substantial investments in infrastructure.	<i>Beneficial:</i> Long-term direct negligible. The sites would be less crowded than if they were modernized. <i>Adverse:</i> Long-term direct minor. Without modernization, existing facilities would slowly deteriorate.
<i>Not</i> increasing the number of locations and facilities suitable for bank fishing.	<i>Beneficial:</i> None <i>Adverse:</i> Long-term direct minor. Without additional bank fishing facilities as use of the lake increases, either more people will have to boat to go fishing, increasing boat density, or fewer people will be able to fish from the bank.
Developing <i>both</i> the northern and southern portions of the lake and <i>not</i> shifting emphasis from boating-related activities and facilities to lake-related activities.	<i>Beneficial:</i> Long-term direct moderate. More recreational facilities would be available to visitors in more parts of the lake. <i>Adverse:</i> Long-term direct and indirect moderate. Presumably, pressure on southern facilities will increase, since this is the part of the lake closest to and most accessible from Atlanta. Some users would be expected to shift their use to the northern lake, increasing pressure on facilities there. As Gainesville develops, more crowding on the northern lake would be expected.
Establishing additional boat launch facilities in the northern portion of the lake <i>beyond</i> the number of launch facilities that are expected to be closed in the southern part of the lake, or without closing facilities in the southern part.	<i>Beneficial:</i> Long-term direct moderate. More boating facilities would be available on the lake. <i>Adverse:</i> Long-term direct minor. The potential maximum boating density on the lake would increase.
<i>Not</i> strictly enforcing vehicle and trailer parking at public access sites, especially during peak use periods; <i>not</i> establishing sites in the northern portion of the lake to be used exclusively for bank fishing.	<i>Beneficial:</i> Long-term direct moderate. More people would be accommodated daily at public access sites. <i>Adverse:</i> Long-term direct minor. Continued overuse at public access sites, increasingly as more public access sites are developed; increased potential maximum boating density.
<i>Special Events:</i>	
<i>Not</i> closing the Clark's Bridge area to boat traffic more frequently to accommodate frequent rowing events	<i>Beneficial:</i> Long-term direct negligible: Presumably, there would be fewer rowing events, or they would be more difficult to operate in the presence of boat traffic. <i>Adverse:</i> Long-term direct negligible. Rowing events would be held less frequently or would interfere with boat traffic in the area.

Private boat docks on Lake Lanier are a considerable economic burden on lake management staff (USACE, Mobile District, 1985). Boat dock permits have a 5-year term, which means that on average one-fifth of the permits must be renewed each year, in addition to the processing of any new requests received during the year. (Approximately 175 new requests are received each year.) Currently (2000), this implies the renewal of 1,732 boat dock permits every year. Under the No Action Alternative, with a maximum of 25,327 private boat docks, project staff would have to review 5,065 permits per year, or approximately 20 per day. Researchers who conducted the 1984 boating capacity study at Lake Lanier calculated that in 1984 the burden of reviewing 1,500 permits, conducting boat dock inspections, and handling office administration associated with boat dock permits created a net annual cost to the government of between \$91,000 and \$188,000 (1984 dollars) and required the full-time or part-time efforts of the Resource Manager, three rangers, two clerks, and six technicians. The administrative and economic burdens would be considerably increased with implementation of the No Action Alternative.

Other continuing O&M program activities under the No Action Alternative might indirectly affect recreation at the lake, primarily in an aesthetic sense; effects on aesthetics are discussed in Section 4.2.5.

4.2.6.2 Preferred Alternative

Implementation of the Preferred Alternative would be expected to have long-term direct negligible to major beneficial effects and long-term direct negligible to minor adverse effects on recreation and recreational resources. The Preferred Alternative would be expected to result in fewer private boat docks, more community docks, a greater limitation on the potential number of boats that could be on the lake simultaneously (though not necessarily on the actual number of boats on the lake simultaneously), an increased variety of recreational opportunities, and a redistribution of recreational use and recreational resources across the lake. Table 4-8 lists the anticipated effects of implementing the O&M program improvements proposed under the Preferred Alternative and assesses the duration and intensity of the effects.

**Table 4-8
Anticipated Effects on Recreation and Recreational Resources
Under the Preferred Alternative**

O&M Improvement	Anticipated Effects
<i>Fisheries and Wildlife:</i>	
Establishing a proactive deer management program.	<i>Beneficial:</i> Long-term direct negligible. Good for hunters, establishing a new opportunity with little impact. <i>Adverse:</i> None
<i>Shoreline Management:</i>	
Maintaining vegetative (forested) shoreline buffer consisting of native woody shrubs and trees (understory and overstory) along all shoreline allocation zones, excluding Prohibited Areas.	<i>Beneficial:</i> Long-term direct minor. While not essentially recreation program improvements, shoreline improvements would be beneficial to those participating in wildlife viewing along the shoreline. <i>Adverse:</i> None
Implementing a new Shoreline Use Permitting Policy that would result in only 2,022 additional private boat docks.	<i>Beneficial:</i> Long-term direct moderate. Limits the density of docks in LDAs, the overall number of docks on the lake, and interference with navigation. <i>Adverse:</i> Long-term direct minor. Areas where the new docks are installed would be less navigable.
Requiring an 88-foot boundary frontage for a new boat dock and a 6-foot depth at the end of the dock.	<i>Beneficial:</i> Long-term direct moderate. Limits the number of boat docks. <i>Adverse:</i> None
Requiring the use of community docks in all new residential developments.	<i>Beneficial:</i> Long-term direct moderate. Limits the number of private docks; provides boating access for all residents of an area. <i>Adverse:</i> None
Allowing communities that install courtesy docks rather than private docks to build a private ramp within the community for ready access by its residents.	<i>Beneficial:</i> Long-term direct minor. Encourages community, not private docks, and provides access for all residents, reducing pressure on and need for additional public ramps. <i>Adverse:</i> None
Encouraging existing private dock permit holders to convert to community docks.	<i>Beneficial:</i> Long-term direct negligible. This could result in a reduction in the number of private docks. <i>Adverse:</i> None
Implementing vigorous inspection and enforcement of private and community boat dock maintenance standards.	<i>Beneficial:</i> Long-term direct minor. There might be fewer dilapidated or poorly maintained private facilities on the lake. <i>Adverse:</i> None
Providing that Shoreline Use Permits for private or community boat docks limit the size of boats to the length of the slip.	<i>Beneficial:</i> Long-term direct minor. Navigation would be improved in coves affected by this provision. <i>Adverse:</i> None
Requiring the mooring of boats in boat slips and prohibiting the regular mooring of boats to other boats.	<i>Beneficial:</i> Long-term direct minor. Congestion in some coves would be reduced and navigation improved. <i>Adverse:</i> None

**Table 4-8
Anticipated Effects on Recreation and Recreational Resources
Under the Preferred Alternative**

O&M Improvement	Anticipated Effects
<i>Island Management:</i>	
Increasing O&M actions to establish the islands as wildlife sanctuaries.	<i>Beneficial:</i> Long-term direct minor. Islands would be better for wildlife viewing and general recreation. <i>Adverse:</i> None
<i>Campground Operations:</i>	
Pursuing the leasing of the War Hill Park Campground to Dawson County.	<i>Beneficial:</i> Long-term direct minor. Would provide the only marina on the Chestatee River. <i>Adverse:</i> None
Converting campground sites to day use sites in the southern portion of the lake and developing new campground sites in the northern portion of the lake.	<i>Beneficial:</i> Long-term direct moderate. More users per week would be able to use the converted facilities, and the quantity of facilities in northern lake would increase. <i>Adverse:</i> Long-term direct moderate. Recreational pressure on the northern lake would increase, and intensified use of the converted southern sites could cause some deterioration to the facilities.
<i>Environmental Education:</i>	
Establishing an Environmental Education Center.	<i>Beneficial:</i> Long-term direct minor. Create an additional educational recreation opportunity. <i>Adverse:</i> None
<i>Day Use Park Operations:</i>	
Maintaining the current capacity of public boat ramps to park not more than 2,470 boat trailers.	<i>Beneficial:</i> Long-term direct negligible. Limit the density of boats on the lake by limiting the capacity of boat ramp launches. <i>Adverse:</i> None
Continuing the closure and/or leasing of recreational areas where public utilization is low. The areas under consideration are listed in Table 2-9.	<i>Beneficial:</i> Long-term direct minor. These sites are primarily in the northern lake, so leasing could enhance recreational opportunities there. <i>Adverse:</i> None
Emphasizing the modernization of recreational sites that have substantial investments in infrastructure.	<i>Beneficial:</i> Long-term direct moderate. Improve conditions for recreation while not increasing the potential maximum boating capacity. <i>Adverse:</i> Long-term direct moderate. Modernization could increase recreational use pressure at the sites.
Increasing the number of locations and facilities suitable for bank fishing.	<i>Beneficial:</i> Long-term direct minor. Increase capacity for non-boating, low-impact recreation. <i>Adverse:</i> None
Giving preference to funding the development of the northern portion of the lake and shifting emphasis from boating-related activities and facilities to lake-related activities.	<i>Beneficial:</i> Long-term direct moderate. Reduce pressure on recreational facilities in the southern lake, expand opportunities in the southern lake, overall accommodating more people without an increase in recreational pressure. <i>Adverse:</i> Long-term direct minor. Until facilities are provided on the northern lake, pressure on southern facilities would grow as the region grows.

**Table 4-8
Anticipated Effects on Recreation and Recreational Resources
Under the Preferred Alternative**

O&M Improvement	Anticipated Effects
Establishing additional boat launch facilities in the northern portion of the lake only to the extent that launch facilities are closed in the southern portion of the lake.	<i>Beneficial:</i> Long-term direct minor. No increase in potential maximum boating capacity, but a redistribution to reduce density in the crowded southern lake area. <i>Adverse:</i> Long-term direct minor. Closing facilities on the southern lake would increase pressure on facilities that remain open.
Strictly enforcing vehicle and trailer parking at public access sites, especially during peak use periods, and closing boat launch facilities as parking lots become full.	<i>Beneficial:</i> Long-term direct minor. Reduce congestion at sites, reduce overuse on peak use days and weekends. <i>Adverse:</i> Long-term direct minor. Strict enforcement would deny some people access to the lake.
Establishing additional foot trails in forested areas and on the points of Protected Areas.	<i>Beneficial:</i> Long-term direct minor. Increase recreational variety and opportunities without increasing boating density on the lake. <i>Adverse:</i> None
<i>Special Events:</i>	
Closing the Clark's Bridge area to boat traffic more frequently to accommodate frequent rowing events.	<i>Beneficial:</i> Long-term direct negligible. This would accommodate the rowing events for participants and observers. <i>Adverse:</i> Long-term direct negligible. Boaters in the area during events would be inconvenienced.

The administrative and economic burdens associated with approving and renewing boat dock permits would be considerably less under the Preferred Alternative. A maximum of 10,615 private docks would increase the yearly permit review burden to 2,123 permits, or approximately 9 per day. Fewer additional staff would be necessary to accomplish this task than under the No Action Alternative, and the Preferred Alternative would implement many of the measures recommended to the project in 1984 to limit the density of boats on the lake and to keep the administrative and economic burdens of permit review from becoming overwhelming. These recommendations include the following:

- Limit boat storage on government land and water, including private boat docks and commercial marinas.
- Provide control gates at entrances to public ramp parking areas that could be closed when the lot is full.

- Maintain the capacity of boat launching ramps and parking facilities that the lake had at the time of the study (1984).
- Provide one or two marinas with limited storage capacity (dry only) at the northern end of the lake above Brown's Bridge.
- Increase the number and authority of patrols on the lake.
- Increase user education.

4.2.7 Geology and Soils

4.2.7.1 No Action Alternative

Long-term indirect minor adverse impacts and long-term indirect negligible beneficial effects on geology and soils would be expected from implementation of the No Action Alternative. Continued development adjacent to USACE property around Lake Lanier would have minor adverse effects. Some increase in soil disturbance would be expected in previously undisturbed areas. Soil disturbance and sediment runoff would occur during residential home and boat dock access path construction. Increases in soil disturbance would create more potential for sheet and rill erosion, which could potentially increase sedimentation into the lake. An increase in impervious surfaces such as rooftops and roads would increase surface runoff and thereby increase the potential for erosion.

Minor adverse impacts on soils would be expected from landowners with property adjacent to government property continuing to clear vegetative buffers illegally. The reduction in vegetative cover could increase soil erosion. If grassy cover was to remain in modified areas and bare soil was not exposed, the amount of soil erosion would be limited. An increase in boating traffic could increase shoreline erosion due to wave action caused by boat wakes.

Negligible adverse impacts and negligible beneficial and adverse impacts on soils would be expected from the installation of private boat docks. Installation of docks could temporarily increase soil erosion when docks are anchored to the shoreline. Docks also reduce shoreline erosion by attenuating waves and boat wakes. Users of boat docks might cause some soil disturbance as they walk over soils to access docks. In addition, the small potential increase in boating activity under this alternative might increase wave action and thus cause some shoreline erosion.

4.2.7.2 Preferred Alternative

Long-term indirect minor beneficial and adverse effects would be expected. Several proposed modifications to the Shoreline Management Plan would have the potential to help control stream bank erosion and subsequent sediment deposition in Lake Lanier. The required installation of native vegetation or riprap, if necessary, when renewing or being granted a Shoreline Use Permit and the proposed creation of a vegetative buffer would lessen overall stream bank and shoreline erosion. The problem of vegetation removal would be reduced by the initiative to punish violating homeowners by revoking their Shoreline Use Permits. Requiring community docks instead of individual private docks and encouraging existing private dock permittees to convert to community docks would decrease the erosion caused by the placement and use of dock access footpaths. Minor beneficial effects on soils would be expected by increasing O&M actions to establish the islands as wildlife sanctuaries and establishing an adopt an island program by potentially decreasing overall erosion from the islands.

Minor adverse effects would be the result of increasing both boating activity and the number of boat docks. Increasing the number of boat docks might cause an increase in the number of boats on the lake. Expanding boating activity could increase the amount of wave action on the lake, causing additional shoreline erosion. Increasing the number of boat docks and therefore the number of footpaths could increase the amount of erosion caused by storm water runoff.

4.2.8 Ecological Systems

4.2.8.1 No Action Alternative

Long-term direct and indirect minor beneficial and adverse impacts on ecological systems would be expected under the No Action Alternative. Minor adverse impacts on vegetative communities would also be expected. Vegetation would continue to be destroyed by illegal cutting of trees and clearing of underbrush on project lands. Current penalties for cutting vegetation on project lands have not been sufficient to deter this behavior. The loss of forest and increase in residential development, as discussed in Section 4.2.2, would decrease the extent of forest communities.

Minor adverse impacts on terrestrial wildlife would be expected under the No Action Alternative. As forests decrease and lawns increase in shoreline areas, generalist species such as white-tailed deer and Canada geese would be expected to increase under the No Action Alternative. Without a deer management program, deer browsing could reduce or eliminate some species of plants.

Minor beneficial and adverse effects on aquatic wildlife would be expected from approving and installing 16,734 potential new boat docks. Minor adverse effects on aquatic plants would be expected because boat docks block light to the water that plants and some aquatic wildlife need to grow (Chmura, 1978). Minor benefits to fish would be expected because floating docks and breakwaters function as fish attractors and provide structure for other aquatic organisms (USACE, 1993). Effects on water resources, as discussed in Section 4.2.1, and on geology and soils, as cited in Section 4.2.7, could have minor adverse impacts on aquatic organisms.

Minor adverse and beneficial effects on vegetation and wildlife would be expected from continuing to conduct forest management on Lake Lanier under a multiple use concept. Before conducting timber sales, the Corps would continue to complete a Timber Availability Memorandum. Minor benefits would be expected from continuing to perform thinning prescriptions to maintain healthy and vigorous residual stands of timber. Lake Lanier would continue to use thinning to reduce the basal area of pine stands to 60 to 80 square feet per acre to maintain vigorous growth of trees and minimize the risk of southern pine beetle mortality. Removal of hazardous trees around the lake would reduce the benefits of standing dead timber to wildlife, even though it would benefit public safety. Minor adverse effects of timber management on vegetation would also be expected from soil disturbance and soil compaction by log skidders and other equipment.

No impacts on sensitive species would be expected under the No Action Alternative because only one federal candidate plant species, Georgia aster, is thought to persist within a mile of the lake and it would be unlikely to be affected by O&M activities.

The anticipated effects of implementing the No Action Alternative on ecological systems are summarized in Table 4-9.

4.2.8.2 Preferred Alternative

Long-term direct and indirect minor beneficial effects and long-term direct minor adverse effects on ecological systems would be expected under the Preferred Alternative. Minor beneficial effects on vegetative communities would be expected from maintaining (and in some cases replanting) a vegetative buffer of native woody shrubs and trees around the lake. Revegetation would be expected to increase food and cover available for native wildlife and also to reduce soil erosion that could lead to accelerated sedimentation in the lake. Using native species to replant the shoreline would be expected to restore native plant communities on project lands, as would

developing programs to provide better control of noxious species (e.g., kudzu, English ivy, and poison ivy). Denying requests for vegetation removal, with the exception of hazardous trees, would be expected to minimize new adverse impacts on shoreline vegetation. Timber management programs described in the No Action Alternative would also be implemented under the Preferred Alternative.

Table 4-9
Anticipated Effects on Ecological Systems Under the No Action Alternative

O&M Activity	No Action Alternative
Continue with the existing deer management program.	<i>Beneficial:</i> None. <i>Adverse:</i> Without a more effective deer management program, deer browsing could reduce or eliminate some species of plants palatable to deer.
Maintain vegetation along the lake shoreline as currently done.	<i>Beneficial:</i> None. <i>Adverse:</i> It is currently illegal to cut vegetation on project lands, but some areas are cleared or thinned by landowners and this practice would be expected to continue and possibly increase in the future.
Continue with existing efforts to control illegal vegetation cutting on project lands.	<i>Beneficial:</i> None. <i>Adverse:</i> Current penalties for cutting vegetation on project lands have not been sufficient to deter illegal cutting.
Permit adjacent landowners to construct new private boat docks.	25,327 total boat docks possible under the No Action Alternative could affect 334.3 acres or 0.86 percent of the total lake. <i>Beneficial:</i> Floating docks and breakwaters function as fish attractors and provide structure for other aquatic organisms. <i>Adverse:</i> Boat docks block light to the water that plants need to grow.
Continue with existing efforts to control noxious plants and use native plant species on project lands.	<i>Beneficial:</i> None. <i>Adverse:</i> Without new programs to educate landowners, nonnative plants would be expected to continue to displace native vegetation in some parts of the lakeshore.
Conduct multiple-use forest management on Lake Lanier for timber production, wildlife habitat, air and water quality, soil, aesthetics, and recreation.	<i>Beneficial:</i> Multiple use management would be expected to increase the growth of forests, reduce the risks of southern pine beetle infestations, protect water quality, and protect other ecological and cultural resources. <i>Adverse:</i> None.
Require that all new dock flotation systems use encapsulated flotation materials.	<i>Beneficial:</i> Encapsulated flotation materials are less likely to pollute the lake with Styrofoam, which waterfowl can mistake for food. <i>Adverse:</i> None.

Minor beneficial effects on wildlife would be expected from establishing a vegetative buffer around the lake and replanting cleared areas with native trees and shrubs. Replanting trees in the buffer would increase the quality of habitat for terrestrial species adapted to forested habitats.

Aquatic species would also be expected to benefit from establishing and protecting vegetation on the shoreline. Shoreline trees produce woody debris that naturally falls into the water and creates cover for fish and invertebrates. Beneficial effects on terrestrial wildlife and vegetation would be expected from granting Specified Acts Permits for the purpose of wildlife habitat or forest stand improvement and coordinating with Georgia DNR to establish a proactive deer management program that used bowhunting or other discrete methods to harvest deer.

Negligible to minor beneficial and adverse effects on aquatic organisms would be expected from approving and constructing an additional 2,022 potential new boat docks. The adverse effects of docks on aquatic plants by creating shade in the water, and the benefits of docks to fish by providing fish structure are described under the No Action Alternative (Section 4.2.8.1). Indirect minor adverse effects on vegetation and wildlife would be expected from approving new boat docks because they would be expected to be accompanied by new development that could destroy or displace vegetation and wildlife.

The anticipated effects of implementing the Preferred Alternative on ecological systems are summarized in Table 4-10.

4.2.9 Cultural Resources

4.2.9.1 No Action Alternative

No effects or minor adverse effects on cultural resources would be expected under the No Action Alternative due to increases in vandalism and erosion. Erosion can disturb archaeological sites, and existing measures to limit surface and shoreline erosion would not be changed. Under the existing O&M program, protecting areas of recreational or cultural significance is a secondary goal of bank stabilization.

4.2.9.2 Preferred Alternative

No effects, negligible adverse effects, or minor beneficial effects on cultural resources would be expected. Archaeological sites can be disturbed by erosion and vandalism, and the risk of disturbance to cultural and historic resources from erosion would be less under the Preferred Alternative than under the No Action Alternative. Proposed O&M program improvements that would reduce erosion would account for the reduced risk to cultural resources.

Table 4-10
Anticipated Effects on Ecological Systems Under the Preferred Alternative

O&M Activity	Preferred Alternative
Coordinating with Georgia DNR to establish a deer management program that includes using discreet hunting methods to improve the condition of the herd.	<i>Beneficial:</i> Would be expected to reduce deer browse on vegetation palatable to deer. <i>Adverse:</i> None.
Maintaining a vegetative shoreline buffer of native woody shrubs and trees along the shoreline, except in Prohibited Areas.	<i>Beneficial:</i> Riparian forest buffers have been shown to benefit wildlife, capture sediment and nutrients in runoff, and also reduce nutrients in subsurface flow. A 100-foot vegetated buffer along 752 miles of shoreline could protect as many as 7,833 acres of natural vegetation. <i>Adverse:</i> None.
Revoking Shoreline Use Permits for all violations involving the unauthorized removal of vegetation.	<i>Beneficial:</i> Allowing for the revocation of Shoreline Use Permits for unauthorized removal of vegetation on project lands would be expected to provide a strong deterrent to future unauthorized tree cutting and brush clearing. <i>Adverse:</i> None.
Permit adjacent landowners to construct new private boat docks.	10,615 total boat docks possible under the Preferred Alternative could affect 140.1 acres or 0.36 percent of the total lake. <i>Beneficial:</i> Floating docks and breakwaters function as fish attractors and provide structure for other aquatic organisms. <i>Adverse:</i> Boat docks block light to the water that plants need to grow.
Developing programs to provide better control of noxious plants and encouraging the use of native plant species to revegetate project lands.	<i>Beneficial:</i> Using native species to replant shoreline areas now managed as mowed lawns or nonnative species would be expected to restore native plant communities on project lands. <i>Adverse:</i> None.
Conduct multiple-use forest management on Lake Lanier for timber production, wildlife habitat, air and water quality, soil, aesthetics, and recreation.	<i>Beneficial:</i> Multiple use management would be expected to increase the growth of forests, reduce the risks of southern pine beetle infestations, protect water quality, and protect other ecological and cultural resources. <i>Adverse:</i> None.
Discontinuing the use of seawalls/bulkheads, and requiring either riprap or biostabilization.	<i>Beneficial:</i> Discontinuing the use of sea walls/bulkheads and requiring riprap or biostabilization would be expected to re-establish native woody vegetation along the shoreline in areas with moderate water level fluctuations. <i>Adverse:</i> None.
Require that all new dock flotation systems use encapsulated flotation materials.	<i>Beneficial:</i> Under the Preferred Alternative encapsulated flotation would continue to be required, and further benefits to wildlife would be expected from requiring, prior to Shoreline Use Permit renewal, that owners certify that they have properly disposed of any previously used Styrofoam in a landfill. <i>Adverse:</i> None.

4.2.10 Air Quality

4.2.10.1 No Action Alternative

Long-term indirect minor adverse impacts would be expected from implementation of the No Action Alternative. Continuing to implement the existing O&M program would be expected to result in increases in air emissions from construction, automobiles, and watercraft. The installation of 16,734 boat docks and the expected accompanying construction of new houses associated with those docks would increase air emissions around the lake. The automotive emissions from the occupants of the new houses would also add new emissions. Watercraft emissions would increase with increases in boating activity.

4.2.10.2 Preferred Alternative

Long-term indirect minor adverse and beneficial effects would be expected. An increase in the number of boat docks on Lake Lanier would have the potential to increase the number of watercraft on the lake and therefore the amount of mobile source emissions. Emissions from construction activities associated with homes with docks would be less under the Preferred Alternative but would still result in short-term, periodic air pollutant emissions.

Decreasing the potential number of boat docks could reduce the amount of boating activity on the lake and therefore potentially decrease emissions from boats. Overall, maintaining the current capacity of parking spaces at public boat ramps could also help control the number of boats and boat emissions on the lake.

4.2.11 Hazardous and Toxic Substances and Pollution

4.2.11.1 No Action Alternative

Long-term indirect minor adverse effects would occur from implementation of the No Action Alternative. The installation of an additional 16,734 boat docks would increase boating-related activities along the shoreline, such as boat maintenance and fueling. These activities would be expected to result in some increase in the amounts of potentially harmful substances—including cleansers used for boat cleaning, boat motor oil products and solvents, boat paints, and other maintenance products—spilled into Lake Lanier or on land near the lake. Expanded public boat launching facilities would increase the amount of pollutants leaked or spilled onto parking lots. Additional boating activity would increase the amount of oil and fuel from boat motors released to the lake.

4.2.11.2 Preferred Alternative

Long-term indirect minor beneficial effects would occur from implementation of the Preferred Alternative. Limiting the number of private boat docks on the shoreline would reduce the potential for spills and leaks of hazardous or toxic compounds. Although boating-related activities would be expected to increase in the future, limiting the number of boats on the lake through some of the O&M program improvements (e.g., not increasing public parking at boat launching facilities) would also limit the potential for hazardous and toxic spills.

4.2.12 Noise

4.2.12.1 No Action Alternative

Long-term indirect minor adverse impacts would be expected under the No Action Alternative. Continuing to implement the O&M program with no revisions would be expected to result in increased noise from construction, automobiles, and watercraft. Under this alternative, 16,734 more boat docks could be installed on the lake, more public boat launching lanes would be available, and less vigorous enforcement of a law prohibiting boats with mufflers above the waterline would occur. All these factors could increase noise levels on the lake. The construction of new homes off Corps property with which new docks would be associated would add to noise levels over the short term. Further reduction of vegetation along the lake's shoreline would reduce the noise buffering effect of vegetation.

4.2.12.2 Preferred Alternative

Long-term direct and indirect minor beneficial effects would be expected. Limiting the number of boat docks on Lake Lanier could slow the growth of boating activity and thereby lessen the increase in noise from watercraft. Creation of a vegetative buffer along the shoreline would reduce noise because vegetation has noise-absorbing qualities. A more restrictive policy for boat mooring and not increasing the number of public boat launch ramps could limit and help control the overall amount of watercraft noise on the lake. A beneficial effect would also be expected from stricter enforcement of the prohibition against boats and personal watercraft that have mufflers above the waterline.

4.2.13 Summary of Effects

4.2.13.1 No Action Alternative

The No Action Alternative would lead to a significant, long-term, direct adverse effect on the aesthetics of the lake. Continuing to implement the current private boat dock permitting policy would allow the addition of 16,734 private boat docks to the lake along LDAs, and the lake could then have a total of 25,327 private boat docks along its shoreline. That would equate to one private dock for every 74 feet of LDA shoreline. Such a dramatic change in boat dock density would reduce public safety at the lake by limiting the space available for navigation in many coves and along many stretches of shoreline. Based on comments received from the Scoping Meeting for the EIS, permitting such a high density of private docks would also be controversial among nearby residents, recreational users of the lake, and environmental organizations.

Other aspects of the No Action Alternative would lead to reduced shoreline vegetation, more shoreline erosion, decreased wildlife habitat along the mainland and island shorelines, and water pollution problems (Table 4-11). Over the 20-year period between baseline conditions (2000) and 2020 (the period considered in the EIS), an increase in demand for facilities and visitation to the lake would lead to greater boater and visitor density in the southern part of the lake. The Corps would respond to these changes under the No Action Alternative by developing even more recreational facilities in the southern part of the lake which would result in more boating traffic on the southern part of the lake. Public safety would suffer with the additional traffic. Navigation in and recreational use of coves would be more difficult because of the additional docks.

Under the No Action Alternative, minor additional demands would be placed on infrastructure resources—landfill capacity; road infrastructure; potable water supplies; wastewater treatment capabilities; storm drainage; solid waste disposal facilities; and police, fire, and rescue services—but these effects would generally be dwarfed in comparison to the demands placed on these resources by normal growth and development within the greater Atlanta area. The region's economy would not be affected by the No Action Alternative unless the lake level dropped to a level at which the Corps would suspend issuing permits for boat docks or visitation at the lake was affected, but these economic effects would be small in the context of the regional economy.

**Table 4-11
Summary of Environmental and Socioeconomic Effects**

Resource Area	Effects Under the No Action Alternative	Effects Under the Preferred Alternative
Lake Lanier Watershed	Minor degradation of water quality due to sedimentation, bacteria, and petroleum compounds.	Some improvement to water quality due to reduced sedimentation, less bacterial pollution, and less Styrofoam from dock floatation.
Groundwater	No effects.	Minor improvements due to the required 100-foot vegetative shoreline buffer and better public maintenance practices for septic systems.
Land Use, Land Cover, and Land Use Controls	Degradation of vegetative cover and habitats along the shoreline and on the islands.	More dense vegetative cover on shorelines, and ecological improvements to island habitats.
Infrastructure	Minor increased demand for utilities and infrastructure.	Minor increased demand for utilities and infrastructure.
Socioeconomics	Minor stimulation of the local economy.	Negligible effects.
Visual and Aesthetic Resources	Significant deterioration in the aesthetic quality of the lake's shoreline due to private docks.	Significant preservation of the lake's aesthetic quality due to limiting the number of private boat docks on the lake's shoreline.
Recreation and Recreational Facilities	Increased crowding at recreation facilities on the southern lake and increased boating density on the southern lake.	Redistribution of lake use and recreational facilities across the lake and more opportunities for all types of recreational activities.
Geology and Soils	Minor increases in shoreline and soil erosion.	Reduced shoreline erosion and sediment in the lake.
Ecological Systems	Reduced vegetation and wildlife habitat along the shoreline and on the islands, more exotic and nuisance plant species.	Improved island and mainland vegetative cover, healthier and more diverse wildlife populations, more native vegetation and less nuisance plants.
Cultural Resources	Minor losses of cultural and historic resources on Corps property.	Reduced likelihood of disturbance of cultural and historic resources on Corps property.
Air Quality	Minor, localized increases in air pollution from boats and automobiles.	Reduced likelihood of localized increases in automobile and boat emissions.
Hazardous and Toxic Substances	Minor increases in gas and oil spills in parking lots and from boats.	Negligible increases in gas and oil spills in parking lots and from boats.
Noise	Potentially more noise from boats in the southern part of the lake and reaching shoreline residents.	Reduction in noise to shoreline residents due to more vegetation and no increase in noise from boats.

The No Action Alternative would have only minor effects on the resource areas of air quality, cultural resources, noise, and hazardous and toxic substances. Table 4-12 summarizes the environmental and socioeconomic consequences of the No Action Alternative for each resource area.

4.2.13.2 Preferred Alternative

Adopting the Preferred Alternative would have a significant, long-term, direct beneficial effect on the lake. The lake would have 14,712 fewer docks along LDAs under the Preferred Alternative than it would have under the No Action Alternative. The 10,615 private docks that could be on the lake under the Preferred Alternative would increase the number of docks by only 2,022 more than the lake had in 2000. Whereas under the No Action Alternative the lake would have a dock for every 74 feet of LDA shoreline, under the Preferred Alternative LDAs would have a dock for every 176 feet. In addition to the aesthetic benefits of a less cluttered shoreline, fewer docks would allow for better navigation in coves and along the shoreline, better public safety, and greater public access to the shoreline (Table 4-11). The policy to limit the number of docks on the lake would also be less controversial among lake residents, lake users, and environmental organizations than continuing to implement the current dock permitting policy.

The Preferred Alternative is a response by the Corps to the significantly changed environment around Lake Lanier. Explosive growth has occurred in the Greater Metropolitan Atlanta region, and Lake Lanier managers see a need to improve the management of the lake to respond to this growth and the pressure it creates on the lake's resources. The Preferred Alternative includes improvements to the Corps's O&M program that would protect vegetative communities and wildlife habitats along the lake's shoreline, reduce the amount of Styrofoam and boat dock debris on the shoreline, decrease shoreline erosion, and maintain and enhance island habitats for wildlife and recreational enjoyment. Project staff would modernize the heavily used recreational facilities on the lake and create additional recreational facilities to redistribute boating and recreational pressure from the southern part of the lake to the northern part. This redistribution could reduce boating density and crowding at recreational facilities in the southern portion of the lake.

Table 4-12.
Alternatives Impacts Comparison Analysis

Resource Areas	No Action Alternative		Preferred Alternative	
	Direct Effects	Indirect Effects	Direct Effects	Indirect Effects
Lake Lanier Water Resources		○		○
Land Use, Land Cover, & Land Use Controls	⊖	⊖	⊖	⊖
Infrastructure		⊖		⊖
Socioeconomics	⊖	⊖	⊖	⊖
Visual and Aesthetic Resources	⊖		⊕	
Recreation & Recreational Facilities	⊖	⊕	⊕	
Geology & Soils		⊖		⊖
Ecological Systems	⊖	⊖	⊖	⊕
Cultural Resources	⊖	⊖	⊖	⊖
Air Quality		⊖		⊖
Hazardous and Toxic Substances & Pollution		⊖		⊕
Noise		⊖	⊕	⊕

Impacts Legend

- Long-term Effect
- Minor to Negligible Effect
- Beneficial Effect
- Short-term Effect
- Major to Moderate Effect
- Adverse Effect
- Significant Effect

Examples:

- Long-term negligible/minor adverse effects
- Short- and long-term major/moderate adverse effects
- Short- and long-term moderate/major adverse & long-term significant beneficial effects
- No effects

The impacts on infrastructure, air quality, cultural resources, noise, and hazardous and toxic pollution under the Preferred Alternative would be minimal. Table 4-12 summarizes the environmental and socioeconomic consequences of the Preferred Alternative for each resource area.

4.3 CUMULATIVE EFFECTS

CEQ regulations define a cumulative impact as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.”

Two actions pose potential for creation of cumulative effects, that is, environmental or socioeconomic effects when considered in combination with those considered in this EIS due to Corps operation and maintenance activities that will be conducted at Lake Lanier. They are imposition of a water allocation formula within the Apalachicola-Chattahoochee-Flint (ACF) River Basin that could affect water levels at Lake Lanier on a permanent basis and continuing development near the lake and within the larger watershed draining to the lake.

Water Allocation. The ACF River Basin Commission is developing a water allocation formula to provide an equitable sharing of basin water among the three states of Alabama, Florida, and Georgia (USACE, Mobile District, 1998). This action could require that Lake Lanier be permanently maintained at one of three elevation levels: high, medium, or low. The high lake level scenario would maintain the lake level between 1,067 feet msl and 1,071 feet msl, which is the same as under the alternatives analyzed in the EIS. This scenario would pose no cumulative effects. A decision to maintain the lake at a medium lake level of between 1,057 and 1,066 feet msl or a low lake level of between 1,043 and 1,056 feet msl, however, could cause cumulative effects. The lower lake levels would result in a reduction in shoreline length, would affect dock placements and densities and result in issuance of fewer dock permits, and would create increased acreages among the four classifications of shoreline at the lake. Some recreational areas could be closed due to a lower lake level, or access to the lake could be limited at some locations, and the aesthetics of the lake would be changed.

Development. Development is expected to continue on private lands immediately adjacent to the lake and within watershed areas above the lake’s immediate environs. Development would occur primarily in the form of new residential and commercial construction, which would be

accompanied by additional roads and other infrastructure elements. The increased population that would accompany growth and development would place greater demands on lake resources and potentially lead to further development of facilities at the lake. Air pollution, noise, congestion on roads, and other effects that normally accompany growth would be anticipated.

In combination with the actions evaluated in this EIS, the two above actions could create cumulative effects to Lake Lanier's water quality. The overall watershed loadings to the lake dominate the Lake Lanier system and provide the bulk of the loadings to the lake. Development would have the most direct influence in creating adverse effects to water quality due to increases in concentrations of total phosphorus and total nitrogen, and a decrease in dissolved oxygen. Average annual total phosphorus loading from the total watershed would increase by approximately 33 percent, with the majority of the load originating in the upper watershed of the Chattahoochee River. The average annual total nitrogen loading from the total watershed would increase by approximately 26 percent. A lower lake level under a water allocation formula decision would cause the dissolved oxygen concentrations to drop, though the greatest change would occur in the bottom layer of the lake where anoxic conditions prevail. Neither alternative evaluated in this EIS would affect this outcome because of the overriding influence that runoff from the watershed has on the lake's water quality.

An ACF River Basin allocation decision reducing lake levels at Lake Lanier and continued residential development would compound effects to recreation and recreational facilities. In a medium or low lake level scenario there would be fewer boat docks. A lower lake level, however, would decrease the surface area of the lake and therefore exacerbate the effect of the amount of boating activity on the lake due to the concentration of boating activity on a smaller surface area. Implementation of the Preferred Alternative would reduced these effects, however, because there would be fewer boat docks allowed to be installed and boating activity would be distributed more evenly across the lake.

4.4 MITIGATION SUMMARY

The Corps will take necessary measures to mitigate any significant adverse effects that might occur from implementation of the alternative that is selected. Only one significant adverse effect has been found to be expected from implementation of one of the alternatives: A significant, long-term, direct adverse effect on the aesthetics of the lake under the No Action Alternative. To mitigate the adverse aesthetic effects of a shoreline densely populated with private boat docks, the

Corps would adhere strictly to the dock installation and spacing requirements, continue to issue citations to owners of poorly maintained and dilapidated docks, and encourage or require the use of earth-tone or green-colored materials to help docks blend with the background.

4.5 UNAVOIDABLE ADVERSE EFFECTS

Both of the alternatives evaluated in the EIS would result in some adverse environmental effects beyond that which could be reduced through mitigation. The principal unavoidable adverse effects on the environment are summarized below.

Visual and Aesthetic Resources. Some loss of scenic attractiveness and scenic integrity would be associated with the implementation of either the No Action Alternative or the Preferred Alternative. Implementing the No Action Alternative, under which 16,734 new boat docks could be permitted, would have significantly more visual and aesthetic impact than implementing the Preferred Alternative, under which only 2,022 new boat docks could be permitted.

Recreation. The potential density of boats on the lake—which is related to the number of private and community docks, marina slips, and boat launch ramps on the lake—would be expected to increase under either of the alternatives considered in the EIS. Conflicts between boaters, navigation difficulties associated with additional docks, and boating accidents would all be expected to increase in the future. Water-related accidents and fatalities on Lake Lanier, however, have actually decreased over the past 15 years even as the number of watercraft has increased.

4.6 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Irreversible and irretreivable resource commitments are related to the use of nonrenewable resources and the effects that use of these resources would have on future generations. Irreversible effects primarily result from use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretreivable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of a proposed action (e.g., extinction of a threatened or endangered species).

No irreversible commitments of resources would be expected to result directly from implementing either of the alternatives evaluated in this EIS. Land and natural resources (flora, fauna, water) within the area addressed by the alternatives would be managed with sound

stewardship, minimal damage, and a long-term goal of sustainability and the avoidance of irreversibility. A direct action governed by the alternatives, shoreline use permitting, would result in changes to the aesthetics of the lake environment. Once private boat docks are permitted and installed along the shoreline, it is practical to assume that they will remain installed indefinitely even with changes in ownership of adjoining private property. This loss of aesthetic value, therefore, would be irretrievable. The loss would be most evident under the No Action Alternative with the potential permitting of an additional 16,734 private docks.

4.7 SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Significant conflicts between short-term use and long-term sustainability of the lake environment are not foreseen under the Preferred Alternative. Under the No Action Alternative, shoreline permitting policies would result in extensive shoreline development and enhanced development activities in the watershed that in turn are likely to result in increased sediment loadings to the lake. Although the sediment loadings have the potential to be significant in their immediate vicinity, there would be no significant effect on the overall system. These short-term disturbances in the watershed during construction activities, however, could result in long-term localized accumulations of sediments, which might adversely affect benthic aquatic life. Under the No Action Alternative, nutrient loadings would have only a minor impact on the overall system. Because most of the nutrient loadings come from the upstream watersheds, significant alteration would have to occur in the watersheds in the immediate vicinity of the lake to have more than minor effects on the loadings to the system. The increases in nutrient loadings resulting from Corps activities are not likely to result in long-term adverse effects on the aquatic ecological productivity of the lake.

In the long term, vegetation management and clearing along the shoreline, as well as in the watershed, might result in minor adverse effects on biological productivity for terrestrial systems for each alternative. Clearing vegetative cover would reduce foraging and breeding habitat for species of wildlife, such as neotropical migrant birds, bats, and white-tailed deer. Reducing this habitat would place further strain on species, such as the white-tailed deer, that are currently exceed normal carrying capacity in certain locations.

For visual and aesthetic resources, conflicts between short-term use of the environment and long-term sustainability are not likely with the Preferred Alternative. Because boat docks could, at

least in theory, be removed, neither alternative forecloses future options for use of the lake's shoreline. It would be unlikely, however, that shoreline areas would revert back to their predevelopment condition once they were rezoned as LDA and development occurred.

SECTION 5.0

LIST OF REVIEWERS AND PREPARERS

LIST OF REVIEWERS

Mike Betteker
M.S. Environmental Science and
Engineering, Virginia Polytechnic Institute
and State University
B.S. Biology, Florida Institute of
Technology
Years of Experience: 24

Tom Magness
M.S., Geography, University of Wisconsin
B.S., Engineering, United States Military
Academy
Years of Experience: 30

Sean Donahoe
M.S., Biology, West Virginia State
University
B.S., Biology, Fairmont State College
B.S., Mathematics, Fairmont State College
Years of Experience: 14

LIST OF PREPARERS

Susan Bartow
M.E.M, Water Resource Ecology, Duke
University
B.A., Biology, Ithaca College
Years of Experience: 9

John Beckman
M.E.M, Water and Air Resources, Duke
University
B.A., Biology, University of California,
Santa Cruz
Years of Experience: 6

Paula Bienenfeld
Ph.D., Anthropology, SUNY-Binghamton
M.A., Anthropology, SUNY-Binghamton
B.A., Anthropology, University of Michigan
Years of Experience: 23

Michelle Cannella
Graduate Studies, Mineral Economics,
Pennsylvania State University
B.S., Mineral Economics, Pennsylvania
University
Years of Experience: 5

Eric Dohner
M.S., Marine Science, University of South
Florida
B.S., Marine Biology, Millersville State
College
Years of Experience: 21

Mustafa S. Faizullahoy
M.S., Civil and Environmental Engineering,
Old Dominion University,
B.S., Civil Engineering, Osmania
University, India,
Experience: 4

Quent Gillard
Ph.D., Geography, University of Chicago
M.S., Geography, Southern Illinois
University
B.A., Geography, University of Nottingham
Years of Experience: 27

Alan Karnovitz
M.P.P., Public Policy, University of
Pennsylvania, Wharton School
B.S., Biology of Natural Resource Science,
University of California, Berkeley
Years of Experience: 20

Katherine Labuhn
B.S. E. Civil and Environmental
Engineering, University of Michigan
Experience: 2

LIST OF PREPARERS (CONTINUED)

Martha Martin
B.A., English, Capital University
Years of Experience: 22

Ryan Murley
M.S., Environmental and Engineering
Geosciences, Radford University
B.S., Geology, Radford University
Years of Experience: 1

Sam Pett
M.S., Environmental Science, University of
Massachusetts-Boston
B.S., Wildlife Biology/Zoology, Michigan
State University
Years of Experience: 11

John Reba
Graduate Studies, Environmental
Engineering, George Washington University
B.S., Environmental Science, Virginia
Polytechnic Institute and State University
Years of Experience: 2

Rebecca Schmidt
B.S., Integrated Science and Technology,
James Madison University
Years of Experience: 2

Patrick Solomon
M.S., Geography, University of Tennessee
B.A., Geography, State University of New
York College at Geneseo
Years of Experience: 8

Nancy R. Sullins
MPH, Environmental Quality and
Hazardous Materials Management,
University of SC
B.S., Biology, University of South Carolina
Experience: 20

SECTION 6.0

REFERENCES

- Bailey, R.G. 1995. *Description of the Ecoregions of the United States*. Misc. Publ. No. 1391 (rev.) U.S. Forest Service, Washington, DC. 108 pp.
- Bearden, D.M. 2000. RS20531; *Noise Abatement and Control: An Overview of Federal Standards and Regulations*. Congressional Research Service Report for Congress. <<http://www.cnie.org/nle/rsk-52.html>>. Accessed October 3, 2001.
- Botsford, J.H. 1969. "Using Sound Levels to Gauge Human Response to Noise." *Sound and Vibration* 3(16).
- Brown, C.L., and L.K. Kirkman. 1990. *Trees of Georgia and Adjacent States*. Timber Press, Portland, Oregon.
- Bureau of Economic Analysis. 2001. *Regional Accounts Data, Per Capita Personal Income*. <<http://www.bea.doc.gov/bea/regional/reis/drill.cfm>>. Accessed January 8, 2002.
- CapitolImpact.com. 2002. *Law Enforcement Agencies List Page*. <<http://www.capitolimpact.com>>. Accessed January 9, 2002.
- Chmura, G.L., and N.W. Ross. 1978. *The Environmental Impacts of Marinas and Their Boats: A Literature Review with Management Considerations*. University of Rhode Island Sea Grant Marine Advisory Service, Marine Memorandum 45 (P-675), Narragansett, Rhode Island. 32 pp.
- Couch, C.A. 1993. *Proceedings of the 1993 Georgia Water Resources Conference*, ed. Kathryn J. Hatcher. Institute of Natural Resources, The University of Georgia, Athens, Georgia.
- Dawson County Chamber of Commerce. 1999. *Dawson County Chamber of Commerce Web Site*. <<http://www.dawson.org>>. Accessed January 9, 2002.
- Dawson County Sheriff's Office. No date. *Dawson County Sheriff, Sheriff's Welcome*. <<http://www.dawsoncountysheriff.org>>. Accessed January 9, 2002.
- Georgia Department of Industry Trade and Tourism. 2001. *Georgia Economic Profile*. <<http://www.georgiainfosource.com>>. Accessed January 9, 2002.
- Georgia Department of Labor, Workforce Information and Analysis Division. 2002. *Georgia QuickStats! Labor Force, Employment, and Unemployment Data*. <<http://quickstats.dol.state.ga.us>>. Accessed January 8, 2002.
- Georgia Department of Natural Resources, Environmental Protection Division (GDNR). 1997a. *Chattahoochee River Basin Management Plan 1997*. Georgia Department of Natural Resources, Environmental Protection Division, Atlanta, Georgia.

- Georgia Department of Natural Resources, Environmental Protection Division (GDNR). 1997b. *Chattahoochee River Basin Management Plan 1997*. <<http://www.dnr.state.ga.us/dnr/environ>>. Accessed June 26, 2001.
- Georgia Natural Heritage Program (GNHP). 2001. *Special Concern Species Known from within One Mile of Lake Sidney Lanier (listed by quadrangle), Dawson, Forsyth, Gwinnett, and Hall Counties, Georgia*. Georgia Department of Natural Resources, Wildlife Resources Division, Social Circle, Georgia. Report generated August 2, 2001.
- GORP. 2001. *Lake Sidney Lanier*. <http://www.gorp.com/gorp/resources/us_nra/ace/ar.htm>. Accessed September 11, 2001.
- Gwinnett County Board of Commissioners. 2002. *Gwinnett County Government: Police*. <<http://www.co.gwinnett.ga.us>>. Accessed January 9, 2002.
- Haith, D.A., R. Mandel, and R.S. Wu. 1996. *Generalized Watershed Loading Functions, Version 2.0 User's Manual*. Cornell University, Department of Agriculture and Biological Engineering, Ithaca, New York.
- Hall County Government. 1999. *Hall County, Georgia*. <<http://www.hallcounty.org>>. Accessed January 9, 2002.
- Hatcher, K.J., M.A. Callaham, M.A. Nearing, O. Pancorbo, B.C. Patten, L.F. Rogers, J. Sellers, and M.J. Van Den Avyle. 1994. *Diagnostic/Feasibility Study of Lake Lanier, Georgia*. Prepared for Georgia Environmental Protection Division, Atlanta, Georgia.
- Hughes, E.D. 2001. *Lake Sidney C. Lanier, A Study of the Economic Impact of Recreation*. Marine Trade Association of Metropolitan Atlanta, Buford, Georgia.
- Krakow, Greg. 2001. Letter from Greg Krakow, Data Manager, Georgia Department of Natural Resources Natural Heritage Program, Social Circle, Georgia, to Eric T. Dohner, Principal Scientist, Tetra Tech, Inc., Lawrenceville, Georgia. August 3, 2001.
- Lake Lanier Project Management Office. 2001. *Park Operations–Program Descriptions*. Lake Lanier Project Management Office, Buford, Georgia.
- Lake Lanier Project Management Office. 2002. *Visitation Data and Percent of Visitation by Activity Type*. Lake Lanier Project Office, Buford, Georgia.
- LTI. 1998. *Development of Linked Watershed and Water Quality Models for Lake Lanier*. Prepared for the Upper Chattahoochee Basin Group, Gainesville, Georgia.
- Michelin. 1997. *USA Recreational Sites*. Michelin, New York.
- National Park Service. 1994. *Report to Congress. Report on Effects of Aircraft Overflights on the National Park System*. National Park Service, Washington, DC.
- National Park Service. 2001. *2001 Native American Consultation Database (NACD) Query Results, NAGPRA Contact(s) Only Report, for State of Georgia, and Counties of Gwinnett, Lumpkin, Hall, Forsyth, and Dawson*. <<http://kirk.cast.uark.edu/nps/nacdnew/nacdrepo.generateReport>>. Accessed June 29, 2001, and July 7, 2001.

- NRCS (Natural Resources Conservation Service). 1998. *Riparian Forest Buffer Conservation Practice Job Sheet No. 391*. U.S. Department of Agriculture, Washington, DC.
- Natureserve: An online encyclopedia of life [Web application]. 2000. *Comprehensive Report: Red-cockaded Woodpecker. Version 1.0*. Arlington, Virginia. Association for Biodiversity Information. <<http://www.natureserve.org>>. Accessed October 9, 2000.
- Natureserve: An online encyclopedia of life [Web application]. 2001a. Species Report: *Aster georgianus*. Version 1.5. Arlington, Virginia, USA: Association for Biodiversity Information. <<http://www.natureserve.org>>. Accessed November 29, 2001.
- Natureserve: An online encyclopedia of life [Web application]. 2001b. Species Report: *Platanthera integrilabia*. Version 1.5. Arlington, Virginia, USA: Association for Biodiversity Information. <<http://www.natureserve.org>>. Accessed November 29, 2001.
- Natureserve: An online encyclopedia of life [Web application]. 2001c. Species Report: *Etheostoma scottii*. Version 1.5. Arlington, Virginia, USA: Association for Biodiversity Information. <<http://www.natureserve.org>>. Accessed November 29, 2001.
- Natureserve: An online encyclopedia of life [Web application]. 2001d. Species Report: *Etheostoma etowahae*. Version 1.5. Arlington, Virginia, USA: Association for Biodiversity Information. <<http://www.natureserve.org>>. Accessed November 29, 2001.
- Natureserve: An online encyclopedia of life [Web application]. 2001e. Species Report: *Cyprinella callitaenia*. Version 1.5. Arlington, Virginia, USA: Association for Biodiversity Information. <<http://www.natureserve.org>>. Accessed November 29, 2001.
- Noise Pollution Clearinghouse. 2001. *About Noise, Noise Pollution*. <<http://www.nonoise.org>>. Accessed August 22, 2001.
- Occupational Safety and Health Administration (OSHA). 2001. *SIC Division I: Services*. <<http://155.103.6.10/cgi-bin/sic/sicser3?I>>. Accessed May 15, 2001.
- Perales, M.K. 1998. *Profiling Private Dock and Marina-Slip Holders at Corps of Engineers Projects*. Natural Resources Technical Note ECN-02. U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi.
- QAR, Inc. 2001. *Lake Sidney Lanier Visual Resources: Field Trip Report*. Q Analysis and Research, Inc., Bend, Oregon.
- Schneider, C.B., and S.W. Sprecher. 2000. *Wetlands Management Handbook*. ERDC/EL SR-00-16. Wetlands Regulatory Assistance Program, Environmental Laboratory. U.S. Army Corps of Engineers, Research and Development Center, Vicksburg, Mississippi.
- Stanyard, William and Ellen Ehrenhard. 1997. *Cultural Resource Survey of Proposed Reservoir Systems 9, 10, and 18, Hall County, Georgia*. Garrow & Associates, Inc. Atlanta, Georgia.
- Tucker, S.S. 2001. Letter from Sandra S. Tucker, Field Supervisor, U.S. Fish and Wildlife Service, Athens, Georgia, to Eric Dohner, Tetra Tech, Inc., Lawrenceville, Georgia. August 13, 2001.

- U.S. Army Corps of Engineers (USACE). 1990. Environmental Regulation 1130-2-406. *Shoreline Management at Civil Works Projects*. Prepared by Department of the Army, U.S. Army Corps of Engineers, Washington, DC.
- U.S. Army Corps of Engineers (USACE). 1993. *Engineering and Design: Environmental Engineering for Small Boat Basins*. CECW-EH-W Engineer Manual 1110-2-1206. U.S. Army Corps of Engineers, Washington, DC. 20 pp.
- U.S. Army Corps of Engineers (USACE), Mobile District. No date, a. *Birds of Lake Lanier*. U.S. Army Corps of Engineers, Mobile District, Mobile, Alabama.
- U.S. Army Corps of Engineers (USACE), Mobile District. No date, b. *SOP: Use of Metal Detectors and Procedure for Handling Violations*. SOP No. 2-18. Revised February 1996. U.S. Army Corps of Engineers, Mobile District, Mobile, Alabama.
- U.S. Army Corps of Engineers (USACE), Mobile District. No date, c. *SOP: Vandalism to Archeological Sites (Dist. Historic Properties Plan)*. SOP NO. 2-21. Revised February 1996. U.S. Army Corps of Engineers, Mobile District, Mobile, Alabama.
- U.S. Army Corps of Engineer District (USACE), Mobile District. 1974. *Final Environmental Impact Statement. Buford Dam and Lake Sidney Lanier, Georgia (Flood Control, Navigation and Power)*. U.S. Army Corps of Engineers, Mobile District, Mobile, Alabama.
- U.S. Army Corps of Engineers (USACE), Mobile District. 1985. *Study of Recreational Boating and Lakeshore Management Needs at Lake Sidney Lanier, Georgia*. U.S. Army Corps of Engineers, Mobile District, Mobile, Alabama.
- U.S. Army Corps of Engineers (USACE), Mobile District. 1987. *Updating of the Master Plan: Lake Sidney Lanier, Chattahoochee River, Georgia*. Prepared by U.S. Army Corps of Engineers, Mobile District, Mobile, Alabama.
- U.S. Army Corps of Engineers (USACE), Mobile District. 1988a. *Lakeshore Management Plan for Lake Sidney Lanier*. U.S. Army Corps of Engineers, Mobile District, Mobile, Alabama.
- U.S. Army Corps of Engineers (USACE), Mobile District. 1988b. *Lake Sidney Lanier Lakeshore Management Plan, Exhibit VII, Native Trees and Shrubs of the Lake Lanier Area*. <http://www.wam.usace.army.mil/op/rec/lanier/mgt_pln/3/lakesho3.html>. Accessed January 25, 2001.
- U.S. Army Corps of Engineers (USACE), Mobile District. 1994. *1994 Historic Resources Survey of the 1966 Olympic Venue Clark's Bridge Public Use Area Lake Sidney Lanier, Hall County, Georgia*. U.S. Army Corps of Engineers, Mobile District, Environment and Resources Planning Section, Mobile, Alabama.
- U.S. Army Corps of Engineers (USACE), Mobile District. 1996. *Lake Sidney Lanier Operations Manual*. Prepared by U.S. Army Corps of Engineers, Lake Sidney Lanier, Georgia.
- U.S. Army Corps of Engineers (USACE), Mobile District. 1997a. *1997 Lake Sidney Lanier, Georgia Historic Properties Management Plan, Preliminary Review Draft*. U.S. Army Corps of Engineers, Mobile District, Environment and Resources Planning Section, Mobile, Alabama.

- U.S. Army Corps of Engineers (USACE), Mobile District. 1997b. *Spill Pollution Control and Countermeasures (SPCC) Plan*. U.S. Army Corps of Engineers, Mobile District, Mobile, Alabama.
- U.S. Army Corps of Engineers (USACE), Mobile District. 1998. *Draft Environmental Impact Statement, Water Allocation for the Apalachicola-Chattahoochee-Flint (ACF) River Basin, Alabama, Florida, and Georgia*. U.S. Army Corps of Engineers, Mobile District, Mobile, Alabama.
- U.S. Army Corps of Engineers (USACE), Mobile District. 1999. *Project Operational Management Plan (OMP): Lake Sidney Lanier, Chattahoochee River, Georgia*. U.S. Army Corps of Engineers, Lake Sidney Lanier, Georgia.
- U.S. Army Corps of Engineers (USACE), Mobile District. 2001a. *Hunting at Lake Lanier: 2001–2002 Waterfowl Hunting Rules for Lake Lanier*. <<http://www.sam.usace.army.mil/op/rec/lanier/hunt.htm>>. Accessed December 5, 2001.
- U.S. Army Corps of Engineers (USACE), Mobile District. 2001b. *Notice to Navigation Interests: Secrets of Fishing Lake Lanier*. <<http://www.sam.usace.army.mil/op/rec/lanier/fish-sec.htm>>. Accessed December 5, 2001.
- U.S. Army Corps of Engineers (USACE), Mobile District. 2001c. *Draft Scoping Report on the Operation and Maintenance of Lake Sidney Lanier EIS*. U.S. Army Corps of Engineers, Mobile District, Mobile, Alabama.
- U.S. Army Corps of Engineers (USACE), Mobile District. 2002. *Buford Elevation Data*. <<http://water.sam.usace.army.mil/gage/bufelev.htm>>. Accessed April 1, 2002.
- U.S. Army Corps of Engineers (USACE), Vicksburg District. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. U.S. Army Corps of Engineers, Vicksburg District, Waterways Experiment Station, Vicksburg, Mississippi.
- U.S. Army Corps of Engineers (USACE), Vicksburg District. 2001. *Recreation Economic Assessment System (REAS)*. U.S. Army Corps of Engineers, Vicksburg District, Engineer Research and Development Center (USACE ERDC), Vicksburg, Mississippi.
- U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS). 1960. *Soil Survey of Forsyth County, Georgia*. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with Georgia Agricultural Experiment Stations.
- U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS). 1972. *Soil Survey of Dawson, Lumpkin, and White Counties, Georgia*. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with Georgia Agricultural Experiment Stations.
- U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS). 1977. *Soil Survey of Barrow, Hall, and Jackson Counties, Georgia*. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with Georgia Agricultural Experiment Stations.
- U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS). 1990. *An Update for the Soil Survey of Gwinnett County, Georgia*. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with Georgia Agricultural Experiment Stations.

- U.S. Department of Commerce, Bureau of the Census (USDOC, Census). 1995. *Population of Counties by Decennial Census: 1900 to 1990*. <<http://www.census.gov/population/cencounts/ga190090.txt>>. Accessed January 7, 2002.
- U.S. Department of Commerce, Bureau of the Census (USDOC, Census). 2001a. *State and County QuickFacts*. <<http://www.census.gov>>. Accessed January 7, 2002.
- U.S. Department of Commerce, Bureau of the Census (USDOC, Census). 2001b. *Profiles of General Demographic Characteristics 2000*. <<http://www.census.gov/prod/cen2000/dp1/2kh13.pdf>>. Accessed January 8, 2002.
- U.S. Department of Commerce, Bureau of Economic Analysis (USDOC, BEA). 2001. *Total Full-time and Part-time Employment by Industry*. <<http://www.bea.doc.gov/bea/regional/reis/action.cfm>>. Accessed January 4, 2002.
- U.S. Environmental Protection Agency (USEPA). 1993. *Managing Measures for Sources of Nonpoint Source Pollution in Coastal Waters*. U.S. Environmental Protection Agency. <<http://www.epa.gov/OWOW/NPS/MMGI/Chapter5/index.html>>.
- U.S. Environmental Protection Agency (USEPA). 2000. *Envirofacts Warehouse, Water Discharge Permits*. <http://www.epa.gov/enviro/html/pcs/pcs_query_java.html>. Accessed March 28, 2002.
- U.S. Environmental Protection Agency, Office of Air Quality, Planning and Standards (USEPA OAPQS). 2001. *Air Quality*. <<http://www.epa.gov/oar/oapqs/cleanair.html>>. Accessed March 15, 2002.
- U.S. Fish and Wildlife Service (USFWS). 1987. *Habitat Management Guidelines for the Bald Eagle in the Southeast Region*. Third revision. U.S. Fish and Wildlife Service. 9 pp.
- U.S. Fish and Wildlife Service (USFWS). 1993a. *Recovery Plan for Three Granite Outcrop Plant Species. Jackson, Mississippi*. U.S. Fish and Wildlife Service. 41 pp.
- U.S. Fish and Wildlife Service (USFWS). 1993b. *Michaux's Sumac Recovery Plan*. U.S. Fish and Wildlife Service, Atlanta, Georgia. 30 pp.
- U.S. Fish and Wildlife Service (USFWS). 2001a. *ESA Basics: Over 25 Years of Protecting Endangered Species*. <<http://endangered.fws.gov/pubs/esa%20basics.pdf>>. Accessed April 13, 2001.
- U.S. Fish and Wildlife Service (USFWS). 2001b. Candidate and Listing Priority Assignment Form: *Aster georgianus*. <<http://es.southeast.fws.gov/pdf/GA.PDF>>. Accessed December 3, 2001.
- U.S. Fish and Wildlife Service (USFWS). 2001c. Candidate and Listing Priority Assignment Form: *Platanthera integrilabia*. <<http://es.southeast.fws.gov/pdf/WFO.PDF>>. Accessed December 3, 2001.
- U.S. Fish and Wildlife Service (USFWS). 2002. National Wetlands Inventory GIS Data. <<http://gis.state.ga.us>>. Accessed March 4, 2002.
- U.S. Forest Service. 1995. *Landscape Aesthetics: A Handbook for Scenery Management*, Agriculture Handbook No. 701. U.S. Department of Agriculture. Washington, DC.

U.S. Geological Survey (USGS). 2000. *Droughts in Georgia*. U.S. Geological Open-File Report 00-380. U.S. Geological Survey.

U.S. Geological Survey (USGS). 2002. *Ground Water Atlas of the United States—Alabama, Florida, Georgia, South Carolina, HA 730-G*. <http://sr6capp.er.usgs.gov/gwa/ch_g/G-text8.html>. Accessed March 16, 2002.

Wahus, Aaron. 2002. *Bank Stabilization Projects*. <<http://www.wes.army.mil/el/wq/abstracts/wahus3.html>>. Accessed March 13, 2002.

Worth, John E. 1998. *Before Creek and Cherokee: The Colonial Transformation of Prehistoric Georgia*. <<http://members.aol.com/jeworth/gbotxt.htm>>. Accessed February 22, 2002.

SECTION 7.0

PERSONS CONSULTED

Borel, Karen. Environmental Protection Agency Region 4. March 12, 2002.

Carter, Ed. Forsyth County Environmental Health Department. March 11, 2002.

Crutchfield, Roy. U.S. Department of Agriculture, Natural Resources Conservation Service.
March 14, 2001.

Durniak, Jeffrey. Regional Fisheries Supervisor, Fisheries Section, Georgia Department of Natural Resources.

Fugit, Todd. Arkansas Soil and Water Conservation Commission. October 12, 2001.

Garner, Carl. Consultant, Tumbling Springs, Arkansas. August 29, 2001.

Gibbens, Dorothy. U.S. Army Corps of Engineers, Mobile District. February 2002.

Hargis, Edwin. Greers Ferry Lake Management Office. March 19, 2001, May 29, 2001, and
October 5, 2001.

Hart, Steve. U.S. Army Corps of Engineers. January 31, 2002.

Hill, Wayne. Chairman, Gwinnett County Board of Commissioners.

Howard, J. Michael. Arkansas Geologic Commission. October 4, 2001.

Hyatt, Scott. Park Ranger. Lake Sidney Lanier, U.S. Army Corps of Engineers, Mobile District.

Imhoff, Steve. Arkansas Historic Preservation Program. October 4, 2001.

Jarrett, Mark. Hall County Environmental Health Department. March 4, 2002.

Jones, Kelly. Park Ranger. Lake Sidney Lanier, U.S. Army Corps of Engineers, Mobile District.

Lovelady, Chris. Chief Ranger, Lake Sidney Lanier, U.S. Army Corps of Engineers, Mobile District.

Lundstrom, Russell. Park Ranger. Lake Sidney Lanier, U.S. Army Corps of Engineers, Mobile District.

Miller, Roger. Arkansas Department of Health, Engineering Division. October 4, 2001.

Nash, Charlotte. County Administrator, Gwinnett County.

Norton, Darryl. Cleburne County Health Department. June 7, 2001.

- Osborne, Cindy. Arkansas Natural Heritage Commission. April 4, 2001.
- Pendly, Darnell, and Dan Pendley. Pendly Appraisers. March 18, 2002.
- Porter, Richard. Operations Superintendent, Water Reclamation, Gwinnett County Department of Public Utilities.
- Ramlet, Marshall. Van Buren County Health Department. June 7, 2001.
- Rodgers, Mike. U.S. Army Corps of Engineers, Little Rock District. July 30, 2001.
- Rogers, Susan. U.S. Fish and Wildlife Service. October 3, 2001.
- Sasse, Blake. Arkansas Game and Fish Commission. May 17, 2001.
- Scarborough, James. Deputy Director, Gwinnett County Department of Public Utilities.
- Schraeder, Tony. U.S. Geological Survey, Little Rock, Arkansas. October 4, 2001.
- Shinall, James. Environmental Compliance Coordinator. Allatoona, Carters, and Lanier Operations Projects, U.S. Army Corps of Engineers, Mobile District. Cartersville, Georgia. February 28, 2002.
- Sims, Paul. Office of Statewide Planning, Little Rock, Arkansas. October 9, 2001.
- Sternberg, Joseph. Gwinnett County Environmental Health Department. March 4, 2002.
- Stone, Darrell. Landscape Architect. Lake Sidney Lanier, U.S. Army Corps of Engineers, Mobile District.
- Taylor, Pat. Park Manager. Lake Sidney Lanier, U.S. Army Corps of Engineers, Mobile District.
- Tobin, Melvin. U.S. Fish and Wildlife Service. January 31, 2001.
- Topper, Erwin. Operations Manager, Lake Sidney Lanier, U.S. Army Corps of Engineers, Mobile District.
- Van Buren County Water Department, Department Manager. June 13, 2001.
- Vaughn, Memphis. Hydraulic Engineer, Water Management Section. U.S. Army Corps of Engineers, Mobile District.
- Wahus, Aaron. Park Ranger. U.S. Army Corps of Engineers, Mobile District. February 28, 2002.
- Waits, Lindal. State Highway Department, Programs and Contracts Department. October 9, 2001.
- Warner, Richard. Historic Preservation Division, Louisiana State Historic Preservation Office. February 2002.
- Watson, John. Real Estate Specialist. Lake Sidney Lanier, U.S. Army Corps of Engineers, Mobile District.

Williams, Mark. Chief Ranger. Lake Sidney Lanier, U.S. Army Corps of Engineers, Mobile District.
February 28, 2002.

Zeutenhorst, Karla. U.S. Army Corps of Engineers Lanier Project Management Office. March 13, 2002.

SECTION 8.0

GLOSSARY

Aesthetics. The study, science, or philosophy of beauty and judgments concerning beauty. In scenery management, it describes landscapes that give visual and sensory pleasure.

Attribute. An inherent landscape characteristic.

Background. The distant part of a landscape. The landscape area located from 4 miles to infinity from the viewer.

Balance. A visual stability produced, and an equilibrium established, in a landscape by natural forces or human intervention.

Characteristic. Quality that constitutes a character or that characterizes a landscape; a distinguishing trait, feature, or quality.

Color. The property of reflecting light of a particular wavelength that enables the eye to differentiate otherwise indistinguishable objects.

Conservation pool elevation. The lake elevation level under normal conditions of rainfall and runoff.

Contrast. Diversity or distinction of adjacent parts; effect of striking differences in form, line, color, or texture of a landscape.

Deviation. Departure from the existing landscape character or from landscape character goals.

Distinctive. Describes extraordinary and special landscapes that are attractive and stand out from common landscapes.

Disturbance. A discrete event, either natural or human-induced, that causes a change in the existing condition of an ecological system.

Edge. The line where an object or area begins or ends. Edge serves to define borders, limits, or boundaries.

Existing scenic integrity. Current state of the landscape, considering previous human alterations.

Feature. A visually distinct or outstanding part, quality, or characteristic of a landscape.

Flood pool elevation. The lake elevation during flood conditions.

Form. Structure, mass, or shape of a landscape. Often defined by edges or outlines of landforms, rockforms, vegetation patterns, or waterforms, or the enclosed spaces created by these attributes.

Gross Regional Product (GRP). The total value of goods and services produced in a region.

Harmony. Combination of parts of a landscape into a pleasing or orderly whole. A proportionate arrangement of form, line, color, and texture.

Hydrologic Unit Code (HUC). A unique code assigned to hydrologic drainage basins of the United States. Each HUC consists of two to eight digits based on major geographic region, subregion, accounting unit, and cataloging unit (watershed).

Intactness. Quality of being untouched or unaltered, especially by anything that harms or diminishes character.

Landform. One of the attributes or features that make up the earth's surface, such as a plain, mountain, or valley.

Landscape. An area composed of interacting ecosystems that repeat because of geology, landform, soils, climate, biota, and human influences throughout the area.

Landscape Character. Particular attributes, qualities, and traits of a landscape that give it an image and make it identifiable or unique.

Landscape Unit. A small area of land that, at a microscale, has similar existing landscape character attributes.

Landscape Visibility. Accessibility of the landscape to viewers, with respect to their ability to see and perceive the landscape.

Line. An intersection of two planes; a point that has been extended; a silhouette of form. In landscapes, ridges, skylines, structures, changes in vegetation, or individual trees or branches may be perceived as line.

Most Probable Number (MPN). Part of a unit of measure used to express bacteria counts, that is, Most Probable Number (MPN) per 100 milliliters.

National Geodetic Vertical Datum (NGVD). A fixed reference adopted as a standard geodetic datum for elevations determined by leveling. Established in 1929; also referred to as National Geodetic Vertical Datum of 1929 and Sea Level Datum of 1929.

Natural Landscape Character. Landscape character that originated from natural disturbances, such as wildfires, glaciation, succession of plants from pioneer to climax species, or indirect effects of humans, such as inadvertent plant succession through fire prevention.

Nonpoint source pollution. Polluted runoff, which occurs as water from rain, snowmelt, or irrigation washes downhill across the land and drains into drainage ditches, streams, lakes, wetlands, or groundwater supplies within a watershed.

Pattern. An arrangement of parts, elements, or details that suggests a design or somewhat orderly distribution.

Point Source Discharge. A stationary location or fixed facility from which pollutants are discharged; any single identifiable source of pollution (e.g., pipe, outfall, ditch, ship, ore pit, factory smokestack).

Scenery. General appearance of a place or a landscape, or features of a landscape.

Scenic. Of or relating to landscape scenery; pertaining to natural or natural-appearing scenery: constituting or affording pleasant views of natural landscape attributes or positive cultural elements.

Scenic Attractiveness. The scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, rockform, waterform, and vegetation pattern.

Scenic Integrity. State of naturalness or, conversely, state of disturbance created by human activities or alteration. Integrity is stated in degrees of deviation from the existing landscape character.

Scenic Quality. The essential attributes of landscape that, when viewed by people, elicit psychological and physiological benefits to individuals and, therefore, to society in general.

Seen Area. The total landscape area observed upon landform screening. Seen areas can be divided into zones of immediate foreground, foreground, middleground, and background. Some landscapes are seldom seen by the public.

Subordinate. Inferior to, or placed below, another in size, importance, brightness, and the like; used to describe landscape features that are secondary in visual impact or importance.

Texture. Visual interplay of light and shadow created by variations in the earth's surface. Grain or nap of a landscape or a repetitive pattern of tiny forms. Visual texture can range from smooth to coarse.

Unity. The quality or state of being whole; a condition of harmony.

View. Something that is looked toward or kept in sight, especially a broad landscape or panorama.

Viewshed. The total visible area from a single observer position, or the total visible area from multiple observer positions.

Visual. A mental image attained by sight.

Visual Absorption Capability. A classification system used to denote the relative ability of a landscape to accept human alterations without loss of character of scenic quality.

SECTION 9.0

DISTRIBUTION LIST

Federal Agencies

Ms. Beverly Banister
Water Management Division
U.S. Environmental Protection Agency
Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-3104

Mr. Kevin Cheri
National Park Service
Chattahoochee River NRA
1978 Island Ford Parkway
Atlanta, GA 30350-3400

Ms. Elizabeth Estill
Regional Forester
U.S. Forest Service
Region 8
1720 Peachtree Road, NW
Atlanta, GA 30309

Ms. Sandy Tucker
Field Supervisor
U.S. Fish and Wildlife Service
Athens Field Office
247 South Milledge Avenue
Athens, GA 30605

U.S. Environmental Protection Agency
Office of Federal Activities, Room 7241
Ariel Rios Building, South-Oval Lobby
1200 Pennsylvania Avenue, NW
Washington, DC 20460

U.S. Environmental Protection Agency
4EN: Compliance Assurance and Enforcement
Division, Region 4
61 Forsyth Street SW
Atlanta, GA 30303

U.S. Fish and Wildlife Service
Athens Field Office
247 South Milledge Avenue
Athens, GA 30605

State Agencies

Mr. Lonice Barrett, SHPO
Historic Preservation Division
Department of Natural Resources
156 Trinity Avenue, SW, Suite 101
Atlanta, GA 30303-3600

Mr. Harold Reheis
Georgia Environmental Protection Division
4220 International Parkway, Suite 101
Atlanta, GA 30354

Mr. David Waller
Director, Wildlife Resources Division
Georgia Department of Natural Resources
2117 U.S. Highway 278, SE
Social Circle, GA 30025-4711

Mr. Phillip White
Georgia Environmental Protection Division
205 Butler Street
Suite 1058, East Tower
Atlanta, GA 30334

Local/Regional Agencies

Mr. Gary Barr
Dawsonville Public Works
PO Box 6
Dawsonville, GA 30543

Mr. Clark Beusee
Dawson Courthouse
Courthouse, Public Square
PO Box 128
Dawsonville, GA 30534

Ms. Catherine Brulet
Government Affairs Manager
Atlanta Regional Commission
40 Courtland Street NE
Atlanta, GA 30303

Ms. Rosalyn Chambers
Dawson County Water and Sewer
PO Drawer 769
Dawsonville, GA 30534

Mr. Melvin Cooper
City of Gainesville
830 Green Street, NE
Gainesville, GA 30501

Mr. J. Carlyle Cox
City Manager
City of Gainesville
PO Box 2496
Gainesville, GA 30503

Forsyth County Department of Planning
110 East Main Street, Suite 100
Cumming, GA 30040

Mr. Thomas M. Furlow
Director of the Department of Public Utilities
Gwinnett County Department of Public Utilities
75 Langley Drive
Lawrenceville, GA 30045

Ms. Mayme Garrett
Acting Deputy Director
City of Atlanta, Bureau of Recreation
City Hall East
675 Ponce DeLeon Avenue
Atlanta, GA 30308

Mr. Stephen Gooch
Lumpkin County Public Works
99 Courthouse Hill Suite A
Dahlonega, GA 30533

Mr. John Herd
Cumming Public Works
301 Veterans Memorial Boulevard
Cumming, GA 30040

Mr. Ben Hulse
Executive Director
Georgia Mountain Regional Development
Commission
PO Box 1720
Gainesville, GA 30503

Mr. Jerry Kinsey
Director
Forsyth County Parks and Recreation
PO Box 2417
Cumming, GA 30028

Mr. Chuck Langley
Director
Gainesville Public Works
PO Box 2496
Gainesville, GA 30503

Mr. Jay Lowery
Bureau Director
City of Atlanta, Bureau of Parks
City Hall East
675 Ponce DeLeon Avenue, NE
Atlanta, GA 30308

Lumpkin County
26 Johnson St., Suite A
Dahlonega, GA 30533

Mr. Stevie Mills
Forsyth County Administrator
110 East Main Street, Suite 210
Cumming, GA 30040

Mr. Michael O'Sheild
Gwinnett County Watershed Preservation and
Education Program
Gwinnett County Department of Public Utilities
75 Langley Drive
Lawrenceville, GA 30045

Mr. Dane Perry
Forsyth County Department of Planning
110 East Main Street, Suite 210
Cumming, GA 30040

Ms. Sharon Plunkett
Operations Director
Gwinnett County Parks and Recreation
75 Langley Drive
Lawrenceville, GA 30045

Ms. Mary Sue Ridings
Technician
Upper Chattahoochee Soil and Water
Conservation District
101 E. Maple Street
Cumming, GA 30028

Mr. Bob River
Public Works and Utilities Director
Hall County Public Works and Utilities
PO Drawer 1345
Gainesville, GA 30503

Mr. Truman Tolefree
Acting Director
City of Atlanta, Bureau of Recreation
City Hall East
675 Ponce DeLeon Avenue
Atlanta, GA 30308

Ms. Linda Williams
Dawson County Chamber of Commerce
PO Box 299
Dawsonville, GA 30534

Mr. Mike Williams
Gwinnett County Department of Planning and
Development
75 Langley Drive
Lawrenceville, GA 30045

Elected Officials

Representative Bob Barr
1207 Longworth House Office Building
Washington, DC 20515-1007
Senator Casey Cagle
Georgia Senate
421-C State Capitol
Atlanta, GA 30334

Senator Max Cleland
461 Dirksen Senate Office Building
Washington, DC 20510-1005

Representative Brooks Coleman
Georgia House of Representatives
501 Legislative Office Building
Atlanta, GA 30334

Representative Nathan Deal
2437 Rayburn House Office Building
Washington, DC 20515-1009

Senator Carol Jackson
Georgia Senate
421-B Capitol
Atlanta, GA 30334

Representative Thomas Knox
Georgia House of Representatives
504 Legislative Office Building
Atlanta, GA 30334

Representative John Linder
1727 Longworth House Office Building
Washington, DC 20515-1011

Senator Zell Miller
257 Dirksen Senate Office Building
Washington, DC 20510-1006

Representative James Mills
Georgia House of Representatives
401 Legislative Office Building
Atlanta, GA 30334

Representative Charlie Norwood
1707 Longworth House Office Building
Washington, DC 20515-1010

Senator David Shafer
Georgia Senate
322-B Legislative Office Building
Atlanta, GA 30334

Representative Clint Smith
Georgia House of Representatives
607 Legislative Office Building
Atlanta, GA 30334

Mr. Michael Sosebee
Council Member
City Council of Dawsonville
City Hall
PO Box 6
Dawsonville, GA 30534

Mayor Myrtle W. Figueras
Mayor
City of Gainesville
PO Box 2496
Gainesville, GA 30503

Mr. Mark Musselwhite
Ward 1
City of Gainesville
PO Box 2496
Gainesville, GA 30503

Mr. Bob Hamrick
Ward 2
City of Gainesville
PO Box 2496
Gainesville, GA 30503

Mr. George Wangemann
Ward 4
City of Gainesville
PO Box 2496
Gainesville, GA 30503

Mr. Don Roberts
Chairman of Board of Commissioners
Dawson County Commissioner's Office
86 Highway 53 West, Suite 01
Dawsonville, GA 30534

Mr. John Kieffer
Chairman (District 1)
Forsyth County Board of Commissioners
110 East Main Street, Suite 210
Cumming, GA 30040

Mr. F. Wayne Hill
Chairman
Gwinnett County Commissioners Office
75 Langley Drive
Lawrenceville, GA 30045

Mr. Garry Gibbs
Chairman
Hall County Board of Commissioners
711 Green Street, Suite 21
Gainesville, GA 30503

Mr. Charles Trammell
Chairman
Lumpkin County Board of Commissioners
99 Courthouse Hill Suite A
Dahlonega, GA 30533

Private Organizations

Steve Bach
Parsons Engineering
290 Amberwood Lane
Lawrenceville, GA 30044

James Barrels
Lake Lanier Association
6080 Shadburg Ferry Road
Buford, GA 30518

Janet Bennett
Dockside Grill on Lanier
1921 Fernwood Drive
Lawrenceville, GA 30043

Darcie Boden
Upper Chattahoochee Riverkeepers
Director of Headwaters Conservation
PO Box 1720
Gainesville, GA 30506

Kyle Burrell
Trout Unlimited
82 East Pinecrest Drive
Clayton, GA 30525

Jim Callison
Lake Lanier Association
4346 Pilgrim Mill Road
Cumming, GA 30041

Tom Child
Marine Specialties, Inc.
3696 Browns Bridge Road
Gainesville, GA 30504

Mike Duvall
Lake Lanier Association
4758 Log Cabin Road
Gainesville, GA 30504

Bob Ferguson
Lake Lanier Association
131 Herons Point
Dawsonville, GA 30534

Charles Fritz
Lake Lanier Association
2419 Kings Point Drive
Dunwoody, GA 30338

Alyse Getty
Parsons Engineering
756 Amber Lane
Lawrenceville, GA 30043

Tiffannie Hill
Georgia Mountains RDC
PO Box 1207
Gainesville, GA 30501

Ben Hulsey
Georgia Mountains RDC
PO Box 1720
Gainesville, GA 30503

Jacqueline Joseph
Lake Lanier Association
6259 Woodlake Drive
Buford, GA 30518

Rich and Beverly King
Lake Lanier Association
4210 Etcetera Lane
Cumming, GA 30041

Milo Ippolito
Atlanta Journal Constitution
6455 Best Friend Road
Norcross, GA 30092

John Maddox
Parsons Engineering Science, Inc.
5390 Triangle Parkway
Suite 100
Norcross, GA 30092

Robert and Beth Mundy
Camping on Boating
4535 Sugarloaf Parkway
Lawrenceville, GA 30044

Jim Scarbrough
Gwinnett County Department of Public Utilities
684 Winder Highway
Lawrenceville, GA 30044

Kirby Cay Scheimann
Aqualand Marina
4743 Amsterdam Lane
Flowery Branch, GA 30542

William Schwendler, Jr.
Lake Lanier Property Owners Association
5260 Wynterhall Court
Dunwoody, GA 30338-3738

Ronald Seder
Lake Lanier Association
6355 Barberry Hill Place
Gainesville, GA 30506

Earl Shaddix
Land N Sea Distributing
196 Kingsport Drive
Lawrenceville, GA 30045

Charles Shidier
Sherwin Williams
2455 Kilgere Road
Buford, GA 30519

Jeff and Sally Thompson
Lake Lanier Association
3140 Carlton Road
Cumming, GA 30041

Craig Timmons
Georgia Institute of Technology
School of Public Policy, Researcher
Atlanta, GA 30332-0345

Leith Ann Valletti
Parsons Engineering Science, Inc.
5390 Triangle Parkway
Suite 100
Norcross, GA 30092

Donald Ward
Lake Lanier Association
8555 Lake Hollow Drive
Gainesville, GA 30506

Private Citizens

David and Linda Ayers
6624 Gaines Ferry Road
Flowery Branch, GA 30542

Bob and Marcia Bumbalough
6026 Lake Lanier Heights Road
Buford, GA 30518

Judy Chasey
3123 Lee Circle
Buford, GA 30518

Tom Corbin
2130 Silver Circle
Gainesville, GA 30501

Keith Doerrer
6305 Julian Road
Gainesville, GA 30506

Wayne Duran
4950 Oak Grove Drive
Cumming, GA 30040

Dieter Franz
3653 North Stratford Road
Atlanta, GA 30342

George and Honey Gfroerer
2509 Overlook Way
Atlanta, GA 30345

Robert Grenner
2030 Ridge Gate Drive
Cumming, GA 30041

Edward Hill
PO Box 741109
Riverdale, GA 30274

Dale Hopfer
2646 Kirkwood Drive
Lawrenceville, GA 30044

Karen and Don Jones
101 Lambets Way
Alpharetta, GA 30005

Albert Kabo
7102 Glen Meadow Drive
Norcross, GA 30092

Jack Kelly
5229 Doluin Lane
Buford, GA 25518

Ed Krol
8888 Long Beach Circle
Dunwoody, GA 30350
Dennis Lancaster
5336 BBS Way
Gainesville, GA 30504

Larry Larsen
2175 Chattahoochee Drive
Duluth, GA 30097

Kay LeJeane
6634 Garrett Road
Buford, GA 30518

Amit Marmur
2657 Lenox Road
Apartment 40
Atlanta, GA 30324

Nick and Glenn Martin
G.H. Martin Boathouses and Docks, Inc.
2070 Old Dawsonville Highway
Gainesville, GA 30501

Rick Marton
USCG Auxiliary
Towboat US/Forever Resorts
7382 Heard Road
Cumming, GA 30041

Steve McDonald
381 Ashbourne Trail
Lawrenceville, GA 30043

Susan Norman
Forsyth County News
Veterans Memorial Boulevard
Cumming, GA 30041

David Nottingham
3345 Wilkerson Drive
Gainesville, GA 30506

Renee Oys
5785 Enchantress Lane
Buford, GA 30518

Flo Perry
6267 Woodlake Drive
Buford, GA 30518

John Phillips
Georgia Mountains RCD
PO Box 1720
Gainesville, GA 30503

Mark Pyle
543 Martins Grove Road
Dahlonega, GA 30533

David Reddaway
4019 Treemont Lane
Sunawee, GA 30024

Don and Linda Reeder
6565 Dogwood Terrace
Gainesville, GA 30506

Bobby Rider
6006 Lake Lanier Heights Circle
Buford, GA 30518

Mike Rottmann
5235 Seven Oaks Parkway
Alpharetta, GA 30005

J. Sblendorio
6089 Rockingham Way
Gainesville, GA 30506

Torre Smitherman
5374 Amhurst Drive
Norcross, GA 30092

Carl and Rae Lynne Swigart
3705 Henderson Road
Cumming, GA 30041

Jenni Tolliver
12085 Leeward Walk Circle
Alpharetta, GA 300054376

Lie and Gloria Varner
6652 Garrett Road
Buford, GA 30518

Jim and Barbara Williams
2071 Lullwater Place
Lawrenceville, GA 30043

Jim and Kim Wilson
6379 Lakeview Drive
Buford, GA 30518

Carrie Young
Gwinnett Daily Post
166 Buford Drive
Lawrenceville, GA 30044

Native American Tribes

Mrs. Joyce A. Bear
Muscogee (Creek) Nation of Oklahoma
PO Box 580
Okmulgee, OK 74447

Mr. Perry Beaver
Muscogee (Creek) Nation of Oklahoma
PO Box 580
Okmulgee, OK 74447

Mr. James Billie
Seminole Tribe of Florida
6300 Stirling Road
Hollywood, FL 33024

Mr. Billy L. Cypress
Seminole Tribe of Florida
Ah Tha Thi Ki Museum
HC 61, Box 31A
Clewiston, FL 33440

Mr. Jerry G. Haney
Seminole Nation of Oklahoma
PO Box 1498
Wewoka, OK 74884

Mr. Leon Jones
Eastern Band of Cherokee Indians
Qualla Boundary
PO Box 455
Cherokee, NC 28719

Ms. Kathy McCoy
Eastern Band of Cherokee Indians
PO Box 455
Cherokee, NC 28719

Mr. Ted Underwood
Seminole Nation Business and Corporate
Regulatory Commission
PO Box 1768
Seminole, OK 74868

APPENDIX A
REMI MODEL AND
SOCIOECONOMIC IMPACTS

APPENDIX A

REMI MODEL AND SOCIOECONOMIC IMPACTS

Introduction

The proposed action for this EIS is to implement improvements to operations and maintenance activities at Lake Lanier. Although these improvements encompass numerous activities (e.g., maintenance of shoreline vegetation, hunting and fishing, island management, nonnative plant management, fire management, erosion management, endangered species) only one component of the operation and maintenance improvements would potentially affect regional economic output: changes in the number of boat dock permits that would be issued. Specifically, implementation of the Preferred Alternative would reduce the total number of additional private boat docks that could be permitted on Lake Lanier. As described in Section 2.0, the No Action and the Preferred Alternatives provide for different levels of private boat dock development based on changes in the permitting process. Table A-1 presents estimates of the total number of additional private docks that could be permitted at Lake Lanier under each alternative during the 20-year study period.

It should be noted that issuance of boat dock permits could also be affected by drought. At an elevation of 1,063 feet msl and below, the Lake Lanier Drought Management Action Plan is implemented. Under this action plan, no new docks can be permitted. This could affect regional economic output through changes in construction activity and from a potential decrease in lake visitors (i.e., low water levels could affect the aesthetic appeal of the lake and reduce the number of visitors).

Therefore, the focus of this socioeconomic impact analysis is to assess the potential impacts to the ROI economy because of (1) decreases in dock construction spending due to changes in permitting or from drought conditions resulting in low lake elevation and (2) the potential decrease in consumer spending because of a drop in visitor attendance.

Table A-1
Number of Total Potential Additional Docks during the 20-Year Study
Period under Each Proposed Alternative at High Lake Levels¹

Alternative	Potential Additional Docks
No Action	3,500
Preferred	2,022

¹Under the moderate and high flow scenarios, no new docks could be permitted.

This analysis differs from most NEPA economic impact analyses in that it does not assess a proposed action involving a specific construction project or the start-up or closure of a business or industrial facility. Economic impacts of these types of activities are easily quantified because of the clear relationship between the proposed action and changes in economic indicators such as employment and level of spending. For example, the operation of a new facility is typically associated with a defined workforce, a distribution of employees by occupation, labor and capital expenditures, and other variables that have direct and indirect impacts on the surrounding economy. These impacts usually can be traced through the regional economy using standard economic models.

However, the potential changes at Lake Lanier are not so directly linked to the regional economy. The proposed permitting changes under this action provide for different degrees of development in terms of the number of private docks that could be permitted by the U.S. Army Corps of Engineers (USACE). The actual construction of these private docks, however, may or may not be realized over the 20-year study period. The number of new private dock permits that can be issued within a year is constrained by the time it takes to process the permit applications (i.e., available manpower at the USACE Lake Lanier Project Management Office). Historically, an average of 175 permits are issued per year. Furthermore, even if the private docks were built, it would be difficult to directly link operation of those docks with quantifiable future permanent increases in economic activities. The installed docks would not require any employment for operation and maintenance, and because the docks would be associated with private residences the docks would not affect the activities of nonresident recreational visitors. Accordingly, any economic impact of the expansion of private dock capacity at Lake Lanier would be limited to the activities associated with dock construction.

It should be noted that boat docks almost certainly increase the value of lakefront property. The added value of a private dock at Lake Lanier has been estimated to range from approximately \$50,000 to \$60,000 (Darnell, personal communication, 2002). This effect on property values, however, is more a “wealth effect” than an “income effect.” That is, the increased value of the property would not generate changes in consumer spending or other behavior that would in turn affect the regional economy of Lake Lanier. Accordingly, this economic analysis will not attempt to model the impacts of the alternatives on property values.

Because no detailed studies have been performed nor surveys conducted to determine whether different lake levels affect visitation, a screening analysis was performed to ascertain whether reductions in lake levels could affect future visitation. The analysis was based on historical USACE data on monthly average lake elevation levels and monthly lake visitation. Data for the summer months (May through

September) for the years 1993 to 2001 were used for the analysis.¹ These months were selected because Lake Lanier's economic impact on the ROI peaks during the period from May to September when the lake receives the majority of its visitors. Data for these months would likely capture the correlation between lake levels and lake visitation, if one existed.

Table A-2 shows the monthly average lake elevation and number of monthly visitors between 1993 and 2001. A monthly trend can be seen in Table A-2, as the number of visitors typically increases from May through July, then decreases in August and September. As shown in Table A-3, however, there were only 2 years during the study period that a year-to-year decrease (i.e., comparing July to July) in lake elevation corresponded to a reduction in the number of visitors. Only once did an increase in lake elevation correspond with an increase in attendance. In all other years evaluated, decreases in lake levels were accompanied by increases in visitors. A similar lack of correspondence was found for the other months evaluated. While the size of the data set evaluated is relatively small (8 years), it nonetheless indicates that there is no significant correlation between lake elevation levels and visitor attendance, at least for lake levels varying between approximately 1,059 feet msl and 1,073 feet msl.

Visitation levels have followed a seasonal trend, increasing during the spring and summer months and diminishing during the fall and winter. Furthermore, anecdotal evidence suggests that decreases in visitation during the peak season are related more to short-term weather conditions (e.g., precipitation on weekends) rather than to lake levels (Williams, personal communication, 2002).

Based on this information, it is assumed that under historical lake levels visitation trends would remain unchanged, with annual fluctuations primarily influenced by other factors such as short-term weather events and economic and population growth.

However, the impact analysis does evaluate the potential for unusually low lake levels (i.e., below historical levels; the lowest recorded level was 1,052 feet msl in 1981) to dampen visitor levels. The low lake level could adversely affect the aesthetics of the lake, rendering some of the existing facilities less desirable; private docks could be grounded; public marinas could be at least partially grounded. The actual extent of the impact of low water levels on lake attendance cannot be accurately predicted based on historical information, because lake levels have never decreased to an extreme. To account for the large

¹ Data on lake elevation levels and lake visitation are available for years prior to 1993. At the end of 1992, however, the USACE switched to a new accounting system for tabulating the number of visitors at Lake Lanier. Therefore, visitation data from 1993 on cannot be compared to previous years.

Table A-2
Lake Lanier Elevation and Visitation, May to September, 1993 to 2001

Date	Lake Elevation¹	Visitors (in thousands)²
May 1993	1,071	840
June 1993	1,070	1,111
July 1993	1,068	1,368
August 1993	1,066	859
September 1993	1,063	708
May 1994	1,071	785
June 1994	1,071	1,134
July 1994	1,072	928
August 1994	1,072	885
September 1994	1,070	732
May 1995	1,071	738
June 1995	1,070	1,022
July 1995	1,069	1,203
August 1995	1,067	946
September 1995	1,066	601
May 1996	1,072	725
June 1996	1,071	1,052
July 1996	1,070	1,492
August 1996	1,067	899
September 1996	1,066	644
May 1997	1,072	737
June 1997	1,072	1,020
July 1997	1,071	1,479
August 1997	1,070	1,077
September 1997	1,067	610
May 1998	1,072	863
June 1998	1,071	1,129
July 1998	1,069	1,147
August 1998	1,067	999
September 1998	1,066	873
May 1999	1,068	831
June 1999	1,067	979
July 1999	1,067	1,226
August 1999	1,066	1,014
September 1999	1,063	889
May 2000	1,068	972
June 2000	1,066	1,186
July 2000	1,064	1,192
August 2000	1,061	938
September 2000	1,059	805
May 2001	1,062	693
June 2001	1,063	1,225
July 2001	1,063	1,229
August 2001	1,062	862
September 2001	1,061	771

¹ Source: USACE, Mobile District, 2002.

² Source: Lake Lanier Project Management Office, 2002.

Table A-3
Lake Elevation and Lake Visitors, July to July, 1993 to 2001

Date	Lake Elevation ¹	Visitors (in thousands) ²	Percent Change in Visitors from Previous Year	Increase or Decrease in Elevation from Previous Year	Increase or Decrease in Visitors from Previous Year
July 1993	1,068	1,368	—	—	—
July 1994	1,072	928	-32.2	↑	↓
July 1995	1,069	1,203	29.6	↓	↑
July 1996	1,070	1,492	24.0	↑	↑
July 1997	1,071	1,479	-0.9	↑	↓
July 1998	1,069	1,147	-22.5	↓	↓
July 1999	1,067	1,226	6.9	↓	↑
July 2000	1,064	1,192	-2.8	↓	↓
July 2001	1,063	1,229	3.2	↓	↑

¹ Source: USACE, Mobile District, 2002.

² Source: Lake Lanier Project Management Office, 2002.

range in possible outcomes, the analysis estimates potential economic impacts for three different visitor scenarios: a 10 percent drop in annual attendance from baseline, a 25 percent annual drop in attendance from baseline, and a 50 percent reduction in attendance from baseline. The analysis assumes that all three scenarios are equally probable. Given the high degree of uncertainty associated with these scenarios, the modeling results should be used as an indication of the range of economic consequences from significantly low lake water levels rather than a forecast of a particular outcome.

The REMI Model

The Regional Economic Models, Inc. (REMI) Policy Insight Model was selected to project economic conditions under unusually low lake levels. The REMI model serves two purposes to the study. First, it provides a baseline demographic and economic forecast for the period 2000 to 2020. The baseline forecast uses historical demographic and economic data to project future conditions. Second, the REMI model forecasts the impacts on that same ROI economy when changes in development growth patterns take place in the region.

REMI was established in 1980. The REMI Policy Insight Model has been evaluated by the Massachusetts Institute of Technology (MIT) and other peer reviewers, and has been used by the U.S. Environmental Protection Agency, the Federal Highway Administration, 26 state governments, city governments, universities, nonprofit organizations, public utilities, and private consulting firms throughout the country. REMI Policy Insight integrates key aspects of three types of economic models: Input/Output (I/O) models, Computer Generated Equilibrium (CGE) models, and econometric models. The Policy Insight Model is a dynamic model that forecasts how changes in the economy and adjustments

to those changes will occur on a year-by-year basis. The dynamic aspect of REMI provides insight into the long-term impact considerations of a policy change to an economic region.

The REMI model is a structural model, meaning that it clearly includes cause-and-effect relationships. The model shares two key underlying assumptions with mainstream economic theory: *households maximize utility* and *producers maximize profits*. In the model, businesses produce goods to sell to other firms, consumers, investors, governments, and purchasers outside the region. The output is produced using labor, capital, fuel, and intermediate inputs. The demand for labor, capital, and fuel per unit of output depends on their relative costs, since an increase in the price of any one of these inputs leads to substitution away from that input to other inputs. The supply of labor in the model depends on the number of people in the population and the proportion of those people who participate in the labor force. Economic migration affects the population size. More people will move into an area if the real after-tax wage rates or the likelihood of being employed increases in a region.

Supply and demand for labor in the model determine the wage rates. These wage rates, along with other prices and productivity, determine the cost of doing business for every industry in the model. An increase in the cost of doing business causes either an increase in price or a cut in profits, depending on the market for the product. In either case, an increase in cost would decrease the share of the local and U.S. market supplied by local firms. This market share combined with the demand described above determines the amount of local output. Of course, the model has many other feedbacks. For example, changes in wages and employment affect income and consumption, while economic expansion changes investment, and population growth affects government spending.

The REMI Policy Insight Model has been customized for the ROI defined in this EIS. For this study, the 53-sector Policy Insight Model is used. In the 53-sector model, industries are defined at their 2-digit Standard Industrial Classification (SIC) code level, which provides sufficient industry detail for the policy questions analyzed in this EIS. The model has a complete economic history of the ROI from 1969 to the present. Data for the model are obtained from the Bureau of Economic Analysis, the Bureau of Labor Statistics, the Department of Energy, the Census Bureau, and other public sources. Based on these data, a control, or baseline, forecast was generated for the ROI to the year 2035.² This baseline forecast simulates the expected long-term growth of the ROI based on past and current trends and conditions. An alternative forecast is then developed for each alternative scenario in the trends analysis. Alternative forecasts are created by altering the value of policy variables in the model from their value in the baseline

forecast. The deviation of the alternative forecast from the baseline forecast is the effect of the policy on the regional economy.

Baseline Forecast

The REMI forecast is based on a 30-year historical database, and takes into account national economic and demographic trends as well as regional-specific characteristics. In generating economic forecasts, the REMI model places greater weight on more recent data than on the older data to better capture recent trends at both the regional and national levels.

For purposes of the analysis, the No Action Alternative with a lake elevation above 1,063 feet msl is equivalent to the baseline.³ Under these conditions, the lake would be at an elevation that would allow continued issuance of permits and favorable conditions for recreational use of the lake. Permits could be issued at the maximum rate. As described previously, the number of private dock permits that can be issued in a year is constrained by manpower. Using the historical average of 175 permits issued per year for the 20-year study period would result in a total of 3,500 new docks permitted by 2020. The Preferred Alternative is then compared against this rate of development to estimate impacts.

The economic ROI evaluated in this analysis includes Dawson, Forsyth, Gwinnett, Hall, and Lumpkin Counties, Georgia. These are the counties that border the lake and have directly or indirectly borne most of the economic impacts of development that has occurred around the lake over the last 46 years. The REMI model was used to forecast demographic and economic conditions for each of the counties constituting the ROI for the period 2000 to 2020.

As shown in Table A-4, over the 20-year study period the REMI baseline model forecasts a 41.8 percent increase in population in the ROI. This population increase equates to approximately 2.1 percent annual growth. In general, the model forecasts slower population growth toward the end of the forecast period than at the beginning. Overall, the ROI is projected to add about 349,600 persons during the 20-year period.

² The economic impact analysis for this study is limited to the 20-year study period of 2000 to 2020.

³ Below 1,063 feet msl, the Drought Management Action Plan is implemented and no new dock permits are issued.

Table A-4
REMI Baseline Model Population Projections for the Period 2000 to 2020 (in thousands)

	2000	2005	2010	2015	2020	Total Percent Growth	Annual Growth Rate
ROI	836.651	959.742	1,047.489	1,119.549	1,186.267	41.8	2.1

In addition to the population projections, the REMI model provides projections for major economic indicators such as employment, personal income levels, and gross regional product (GRP). It also generates projections for many underlying economic variables that help determine final levels of economic output, including labor productivity, capital stock levels, wage rates by industry, GRP by sector, and input cost factors such as fuel costs relative to the nation. These “secondary” variables can be used to detail how and why an economy is changing over time.

Table A-5 presents the REMI model baseline projections for employment, GRP, and population for the ROI. Employment in the ROI would grow by approximately 16 percent. GRP (a measure of the ROI’s total output of goods and services) would increase by about 66 percent during the 20-year period.

Table A-5
Baseline Economic Projections

ROI	2000	2005	2010	2015	2020
Total Employment (thousands)	472.776	486.863	506.681	528.229	546.341
GRP (billion fixed 92\$)	24.430	27.966	32.022	36.401	40.675
Population (thousands)	836.651	959.742	1,047.489	1,119.549	1,186.267

Low Lake Level Forecast

Under low lake levels, the Drought Management Action Plan would be in effect, and no new dock permits could be issued. The 3,500 new docks projected under the baseline scenario would not be permitted and therefore would not be constructed. At low lake levels, visitor attendance would also be expected to decrease. At the low levels, private docks could be grounded and public marinas could be at least partially grounded. Lake aesthetics would be adversely affected, and some lake facilities, such as beaches or campsites, could become less desirable. As discussed previously, the low lake level scenario is analyzed at three different levels of visitor attendance: a 10 percent drop in annual attendance from baseline, a 25 percent annual drop in attendance from baseline, and a 50 percent reduction in attendance from baseline. The analysis assumes that each scenario is equally probable.

Baseline visitation levels were projected using USACE historical data for the period 1993 to 2001. Under the baseline scenario, visitor attendance is projected to increase at an annual rate equal to the average annual increase that occurred during the past 9 years (approximately 0.6 percent annual increase). Accordingly, total visitor attendance would be expected to increase from about 7.45 million in the year 2001 to 8.3 million in 2020. To estimate economic impacts, the analysis also used USACE data on distribution of visitors by type of visit, including day-trippers, and overnight visitors (campers and lodgers).

10 Percent Visitor Reduction. The results of the REMI forecast for the low lake levels with a 10 percent reduction in visitation and a decrease in dock construction spending are presented in Tables A-6 and A-7. If a low lake level resulted in a 10 percent drop in visitation and a decrease in new dock construction over the next 20 years, there would be less than a 0.25 percent decrease in employment, GRP, and population from baseline projections for the ROI. By 2020, employment in the ROI would decrease by about 590 jobs, or 0.1 percent. ROI population would decrease by 0.1 percent over the 20-year period (about 1,190 persons). GRP for the ROI would drop by 0.04 percent from baseline by 2020.

Table A-6
Economic Projections for Low Lake Levels with 10 Percent Visitor Reduction

ROI	2000	2005	2010	2015	2020
Total Employment (thousands)	472.163	486.318	506.125	527.658	545.748
GRP (billion fixed 92\$)	24.416	27.954	32.009	36.387	40.659
Population (thousands)	836.569	959.096	1,046.529	1,118.428	1,185.075

Table A-7
Low Lake Levels and 10 Percent Visitor Reduction
Employment, GRP, and Population Decreases from Baseline Conditions

ROI	2000	2005	2010	2015	2020
Total Employment from Baseline (thousands)	-0.6128	-0.544	-0.5558	-0.571	-0.5931
Percentage Employment Decrease	-0.130	-0.112	-0.110	-0.108	-0.109
GRP (billion fixed 92\$)	-0.01354	-0.01205	-0.01284	-0.01400	-0.01557
Percentage GRP Decrease	-0.055	-0.043	-0.040	-0.038	-0.038
Population from Baseline (thousands)	-0.08203	-0.6464	-0.9595	-1.121	-1.192
Percentage Population Decrease	-0.010	-0.067	-0.092	-0.100	-0.100

25 Percent Visitor Reduction. The results of the REMI forecast for a low lake level scenario with a 25 percent reduction in visitation and a decrease in construction activity are presented in Tables A-8 and A-9. By 2020, the ROI employment, GRP, and population would decrease by less than 0.3 percent from baseline (Table A-9). There would be 1,445 fewer jobs in the ROI compared to the baseline. GRP for the ROI would decrease by 0.1 percent from baseline. ROI population would be expected to drop by 2,895 persons by 2020, or about 0.2 percent.

Table A-8
Economic Projections for Low Lake Levels with 25 Percent Visitor Reduction

ROI	2000	2005	2010	2015	2020
Total Employment (thousands)	471.294	485.543	505.329	526.837	544.895
GRP (billion fixed 92\$)	24.398	27.937	31.991	36.367	40.638
Population (thousands)	836.456	958.181	1,045.166	1,116.828	1,183.372

Table A-9
Low Lake Levels with 25 Percent Visitor Reduction
Employment, GRP, and Population Decreases from Baseline Conditions

ROI	2000	2005	2010	2015	2020
Total Employment from Baseline (thousands)	-1.482	-1.319	-1.351	-1.392	-1.446
Percentage Employment Decrease	-0.313	-.271	-0.267	-0.263	-0.265
GRP (billion fixed 92\$)	-0.03208	-0.02861	-0.03074	-0.03362	-0.03738
Percentage GRP Decrease	-0.131	-0.102	-0.096	-0.092	-0.092
Population from Baseline (thousands)	-0.1957	-1.561	-2.323	-2.721	-2.895
Percentage Population Decrease	-0.023	-0.163	-0.222	-0.243	-0.244

50 Percent Visitor Reduction. The results of the REMI forecast for a low lake level with a 50 percent reduction in visitation and a decrease in construction are presented in Tables A-10 and A-11. By the year 2020, ROI employment, GRP, and population would all decrease by about 0.5 percent or less from baseline. Employment in the ROI would decrease 0.5 percent, or about 2,880 fewer jobs than under the baseline scenario. ROI population would decrease by approximately 5,760 people by 2020, or about 0.5 percent from baseline conditions. By 2020, the ROI GRP would decrease by 0.2 percent from baseline.

Table A-10
Economic Projections for Low Lake Levels
with 50 Percent Visitor Reduction

ROI	2000	2005	2010	2015	2020
Total Employment (thousands)	469.879	484.429	504.998	525.451	543.463
GRP (billion fixed 92\$)	24.367	27.909	31.961	36.333	40.600
Population (thousands)	836.266	956.650	1,042.886	1,114.137	1,180.508

Table A-11
Low Lake Levels with 50 Percent Visitor Reduction
Employment, GRP, and Population Decreases from Baseline Conditions

ROI	2000	2005	2010	2015	2020
Total Employment from Baseline (thousands)	-2.93	-2.613	-2.683	-2.778	-2.878
Percentage Employment Decrease	-0.620	-0.537	-0.530	-0.526	-0.527
GRP (billion fixed 92\$)	-0.06298	-0.05628	-0.06118	-0.06773	-0.7494
Percentage GRP Decrease	-0.258	-0.201	-0.191	-0.186	-0.184
Population from Baseline (thousands)	-0.3857	-3.093	-4.602	-5.412	-5.758
Percentage Population Decrease	-0.046	-0.322	-0.439	-0.483	-0.485

Summary of Low Lake Level Model Results. Table A-12 presents the impacts in employment, GRP, and population under each visitor reduction scenario. Results are presented as a percentage decrease from baseline. Overall, the reduction in visitors to Lake Lanier, whether it would be 10 percent, 25 percent, or 50 percent, and the decrease in dock construction activity would have minor adverse long-term impacts on the ROI. As shown in the table, economic indicators for employment, GRP, and population, even with a 50 percent decrease in recreational visitors, would drop about 0.5 percent or less from baseline conditions. The magnitude of these adverse impacts would be small, especially in comparison with the size of the regional economy.

However, it should be noted that these decreases in economic activity would be focused on the service and retail sectors of the local economy. Specifically, businesses that are linked to recreational activity at Lake Lanier (such as outdoor equipment supply stores, souvenir shops, restaurants, boat rental and sales, and boat dock builders) would be affected the most, experiencing the direct employment and income reduction from the decrease in the number of visitors to the lake.

Table A-12
ROI Employment, GRP, and Population Percentage Decreases from
Baseline Conditions by 2020

Scenario	Employment	GRP	Population
10 Percent Scenario	-0.109	-0.038	-0.100
25 Percent Scenario	-0.265	-0.092	-0.244
50 Percent Scenario	-0.527	-0.184	-0.485

APPENDIX B
COMMENTS LISTED IN THE LAKE SIDNEY LANIER
FINAL SCOPING REPORT

Lake Sidney Lanier EIS

Comments

Issue: Aesthetics

Impact on Lake's Appearance from Water Level

LL.117

During normal water levels the lake looks good.

LL.123 FG-BO

One person mentioned that the lake's aesthetic beauty has suffered because of the low water levels. Clear-cutting trees in front of homes also contributes to the decline in aesthetic beauty at the lake.

Improve Lake's Appearance

LL.102

In years past, this cove was pristine and was home to nesting ducks, geese, other waterfowl, and turtles. It is a sad sight to behold now.

LL.39

What recreation and aesthetics. There are none. What is there is at best an afterthought or little used. Even the boat ramp docks are out of the water!

LL.48

Lake is ugly and dangerous to boaters and swimmers.

Support for Current Lake Management Activities

LL.110

Outstanding – OP-SL is forever improving on current facilities.

LL.86

The Corps does a good job of protecting the aesthetic appeal and native environment of the shoreline.

Water Quality

LL.3

This is a crucial part of the lake's economical value; therefore, preserving the lake's aesthetics & ecology should be highest in priority when looking at recreation and aesthetics.

Issue: Boat Docks

Fees

LL.15

Could we raise funds to help protect the lake (primarily water quality) by raising boat dock fees? They're incredibly inexpensive and I'd bet the owners would pay more to receive a healthier lake.

Lake Sidney Lanier EIS

Comments

Issue: Boat Docks

Accessibility

LL.39

In regard to this and the shore management plan, the absolutist prohibition on any structure that would allow one to reach the dock during full pool and low water times is nuts. Either let people build modest access paths or walkways to their dock or keep the water level constant.

LL.78

Extend the ramps since the winter level is going to be significantly lower.

Allow longer steps since the water level is going to be a lower level on an average.

I also think the standard 40-foot walkway rule is ridiculous for shallow cove areas where the Corps allows runoff to make it shallower and more docks than the area can support.

LL.82

Should allow difficult lots access via golf cart or 4 wheeler on privately paved path.

Allow More Boat Docks

LL.22

My prime comment to this whole situation is that USACE and Hall County Tax Office need to coordinate better. Anyone who is paying "water front" tax rates should be permitted to have a dock.

LL.47

Again, dock permits should be permitted on the east side of the Baldrige Creek mouth point. This area would be better protected from boater trash as well as better maintained for dead trees etc plus would add revenue for the state.

LL.68

They are a good thing...they hold fish when the weather gets hot. Seriously, I do not understand how boat docks could be detrimental to our lake...Lake Sidney Lanier is anything, but...a wilderness impoundment.

Community Docks

LL.116

If you can't stop issuing new permits, issue community docks only.

LL.121 FG-LAR

Regarding community docks, the residents feel that community docks should not be forced onto individuals in lieu of allowing private boat docks. However, most feel that community docks afford a higher level of maintenance than do private docks. Many residents support limiting the number of slips allowed in community docks to control their size and appearance.

LL.122 FG-RLU

One person said that community docks should be regularly inspected for size and capacity.

Lake Sidney Lanier EIS

Comments

LL.27

Can moorings for property owners play a role here, i.e., small docks with moorings as an alternative to large docks with lifts.

How about allowing residents to pool their resources and construct "community" docks or shared use docks rather than each property owner having a dock. Some property owners might do this as an economic measure and it could reduce the number of docks.

I see a lot of dock spacings that appear to be too close to each other.

LL.3

The Corps should promote community (multi-family) docks and deter the building of so many individual boat docks.

LL.7

There should be a direct advantage for groups of dock owners to switch to community docks.

Dock Maintenance

LL.108

Suggest inspection for dilapidated docks with revocation of permits in cases of compliance failure. Subsequent removal by contractor with billing to dock owner for cases of noncompliance.

LL.113

Some boat docks are in poor repair and even dangerous. Additional personnel could help alleviate this problem.

LL.12

Keep docks in good shape, so the parts aren't floating around our lake.

LL.121

Many residents are very concerned about the deteriorated condition of older boat docks and feel that the Corps should take a more proactive approach to enforcing maintenance rules.

LL.122 FG-RLU

The issues expressed by the recreational users related to boat docks include the lack of boat maintenance and the size of docks. Many believe that the Corps should restrict the allowable size of boat docks and impose a size limit on the boats allowed at those docks. Someone also mentioned that boats not being used and old rusty boats should be removed.

LL.123 FG-BO

Older boat docks should be maintained better. The group agreed that maintenance and enforcement are a must. However, cost and the lack of enforcement staff are barriers to maintenance.

LL.15

Enforcement of minimum standards (like float height, general condition, etc.)

Lake Sidney Lanier EIS

Comments

LL.31

Need a program to better monitor boat dock conditions. Many docks are abandoned or in poor repair.

LL.38

Unsafe docks where they fall into the lake should be ticketed.

LL.41

Lighting on the boat ramps could be improved. Many parks have lights, but the ramps are not lit very well to put your boat on the trailer after dark. Also, some of the ramps could be cleaned of sediments that have accumulated on the end which makes getting in and out more difficult. Many of the docks at the parks are fixed to land therefore they could not be pushed out as the level of the lake dropped. Could a dock be floated to allow people easier access to their boats once in the water? (I dumped my mother-in-law this year while she was trying to disembark to land at Big Creek. I'm not complaining though!!)

LL.46

Empower the residents to notify the Corps of docks in need of repair by the owner. There are numerous docks that lose flotation and it drifts about creating hazards for boaters.

LL.50

Dilapidated docks and other shoreline structures should be required to be demolished.

LL.59

There are many older docks on the lake that are in ill repair. The owners should be made to fix these or have them removed. When boats are sinking or sunk, the owner should have them removed.

LL.62

Dock owners who do not take care of their docks should be fined when they are allowed to breakup on the shoreline as the water recedes and also standards need to be developed for the upkeep of docks.

LL.69

Lots of "junkers" and eyesores that need to be removed!

LL.7

Dock builders should be licensed. Docks should be engineered certified to specific loads and strengths.

LL.77

There has been much debris from poorly maintained docks, both styrofoam and wood. Need regulations to require owners to fix, since this is both an environmental hazard and a public safety hazard for boaters.

LL.80

I think all docks should be stayed by sufficient cables and augers to the property so that the dock isn't swept away during storms. This would prevent trashing someone else's property and this might limit the damage done.

Lake Sidney Lanier EIS

Comments

LL.89

Dock owners should be held to certain standards; i.e., flotation.

LL.93

There should be common architectural standards that would need to be met by a certain future date.

LL.94

Dock quality.

LL.96

Minimum standards for personal docks. The low levels have created a lot of broken docks and loose white styrofoam floats which need to be removed. Encourage individual docks to reduce high-density housing.

Dock Spacing

LL.108

Suggest 50 foot separation requirements be as measured from a lower lake level such as 1054; also on aesthetic issue.

LL.121 FG-LAR

Several residents believe that the distance allowed between boat docks should be increased to create safer boating conditions and a more pleasing visual aspect of the dock areas. However, one resident feels that there should be no restrictions on the distance between docks or the size of docks. Most residents are concerned that the privilege of having a boat dock might be revoked or taken away in the future as a result of the EIS.

LL.123 FG-BO

Another boat dock issue mentioned was overcrowding

LL.27

I see a lot of dock spacings that appear to be too close to each other.

LL.49

When the water goes down people on outside (end docks) of coves need to be made to move their docks so the rest of us can push out, I have two stubborn neighbors who will not move. The three inside docks get trapped. One of these was just issued a permit last year but will not work with neighbors.

LL.70

None of these new docks meet the 50 foot apart rule and the cove cannot support these additions. I just want to know who got paid off that allowed this decision that violates the published "rules."

LL.73

At least require a larger distance between new docks to cut down on future dock permits.

Lake Sidney Lanier EIS

Comments

LL.94

Floating separation.

LL.96

50-foot spacing excellent idea!

LL.98

Increase distance between docks and enforce policy to 100 feet.

Enforce current 50 feet policy in lake shoreline management plan. Enforce no dock crossovers.

Encapsulated Foam from Deteriorating Boat Docks

LL.116

Require project wide encapsulated foam now. Charge an appropriate permit fee. Prohibit any enclosure including grandfathered docks.

LL.121 FG-LAR

Deteriorating boat docks often lead to Styrofoam trash in the lake or unsafe boating conditions.

LL.123 FG-BO

As old docks begin deteriorating, the Styrofoam from the structure falls off into the lake, causing both trash and aesthetic problems.

LL.15

Increase standards with regard to polluting the lake (styrofoam floats, etc.)

LL.24

From my experience, this is reasonably well managed. I think more could be accomplished in the area of "foam replacement" if a partnership was formed in the removal and disposal space. It is common knowledge that disposal is a catch 22 and the easy method is cut it loose under the cover of dark. I am supportive of having a limit on the overall number of docks permitted and I am supportive of the trade-off methods being employed with regard to large developments. This needs to be managed in fairness to the property owners at large and with respect to maintaining quality of the resource. By and large, this how I perceive you are managing it.

LL.4

Enforce proper disposal of non-encapsulated dock floats.

LL.49

Need to get rid of Styrofoam—I floated in ten large pieces during Shore Sweep. Didn't really put a dent in the problem. Shoreline is literally littered with Styrofoam in Little River-Wahoo-Chattahoochee area.

LL.50

Phaseout of unprotected Styrofoam flotation should speed up.

Lake Sidney Lanier EIS

Comments

LL.72

I am also concerned about the dilapidated docks with crumbling Styrofoam floats which are breaking apart and polluting the lake.

LL.74

Condemn and remove at owner's expense all docks with uncontained Styrofoam.

LL.78

Force owners to go to black floats 100 percent. Allow longer steps since the water level is going to be a lower level on an average.

LL.83

The Corps should immediately require the replacement of any docks that do not use encapsulated foam. As a participant in Shore Sweep, I see firsthand how this is a significant problem.

LL.86

The requirement to encapsulate foam under docks is necessary; but still there are large pieces of scrap Styrofoam floating in the lake and washed up on shore. They need to be removed regularly by whichever agency is responsible, not left where they are as safety and environmental hazards.

LL.87

There probably are rules set for proper discharge of replaced Styrofoam blocks of docks. These rules are obviously not enforced effectively since at last Shore Sweep we hauled plenty of Styrofoam to Sunrise Cove Marina. If these had been discharged in the right way these blocks would not have been floating in the lake or have been on several different shores where we (among others) found them.

LL.97

All old white Styrofoam floats should have a deadline to be replaced. In the spring the lake is covered with foam icebergs.

More Consistent Enforcement of Boat Dock Regulations

LL.121 FG-LAR

Several residents believe that the Corps rangers need to take a more consistent approach to enforcing the rules and regulations surrounding dock building, dock sizes, maintenance, and other issues. Some residents feel that different rangers enforce the rules differently.

Relax Some Restrictions

LL.122 FG-RLU

In addition to carrying capacity issues, one person said that some of the regulations are too strict, such as the rules on the type of carpet and ladders on vessels.

LL.39

A reasonable approach is what I see but the prohibition of covered docks makes no sense; if it is a dock, it is a dock; all this rule does is expose boats to the weather and vandalism.

Lake Sidney Lanier EIS

Comments

LL.74

Less controls on the limitation of power. I need more outlets.

Size Restrictions

LL.123 FG-BO

Another boat dock issue mentioned was restrictions on the size of boats at docks.

Support for Current Boat Dock Management Activities

LL.118

There are plenty of boat ramps located evenly around the lake.

LL.28

Very happy with current program.

LL.44

Less of a problem if Lake is full, but again the Corps does a good job here.

LL.56

No complaints—I think this is managed well.

LL.58

Seem ok to me.

LL.61

Fine.

Too Many Docks

LL.111

Should not allow any more docks. Too MANY! The docks are way too big and too close together. The public cannot access the shoreline, without worrying if they are on private property. Makes the lake look trashy.

LL.112

Lanier has too many docks. Public land should be for the public not for individuals to enhance their property values.

LL.114

Too many—visually unattractive. Recommend offsite storage.

LL.115

Very unattractive along the shoreline, too many!!!

Lake Sidney Lanier EIS

Comments

LL.116

Stop issuing new permits.

LL.117

Too many boat docks. You can't pull up to the shoreline anymore without people from nearby home yelling at you. Docks are much too big. Boats should be at marinas.

LL.118

I feel that there is too many boat docks around Lake Lanier. Any additions to the number of docks around the lake would only take away from the beauty of the lake.

LL.119

Too many docks - ruins the look of the lake.

LL.12

I do think the number of docks need to be controlled, how far apart they are, the construction.

LL.123 FG-BO

When asked about concerns related to boat docks, some of the focus group participants said that there should be fewer boat docks.

LL.3

Boat docks should be considered an encroachment to the buffer and should be limited.

LL.35

The Corps is allowing too many docks, too close together, and too large docks in coves and places that obstruct the channels during CORPS draw downs—it is also obvious that money talks.

LL.38

A number of boat docks look unsafe, water line is so low.

LL.4

Increase where coves are running out of capacity or suitable locations for docks, advise the current landowner that a dock will not be permitted. Once a new owner buys the lot, it will be very difficult to deny him a dock permit.

LL.5

There are too many docks on the lake that take up valuable boating & fishing space. Need to measure how docks impact recreation space.

LL.54

I support moratoriums!!! Control growth...I don't want the lake to be gone before it's time...we don't need to be in the predicament that Lake Allatona is!

LL.60

Need to limit the number of boat docks on the lake. Shorelines are too crowded.

Lake Sidney Lanier EIS

Comments

LL.70

This is a REAL sore point. We live in a shallow cove and were told when we bought our property ten years ago that no more docks would be permitted BECAUSE it is a shallow cove. Five years ago, someone bought a nearby wooded areas and created three "lakefront" lots by having a 10-foot strip touch Corps property. They were then successful in obtaining two additional dock permits. One neighbor continues to move the yellow/green triangles around so he can put his dock where ever he chooses. The Corps told this man where to put his dock, but will not enforce the fact that he puts it where he chooses (even when the lake is up).

LL.73

I would favor putting an immediate moratorium on new boat dock permits.

LL.83

Consider efforts to preserve shoreline, limit number of boat docks.

Corps should consider strictly limiting the number of new docks added to the lake.

LL.95

This is a very important issue. We feel there are currently more than enough docks. The shoreline is becoming unsightly and over crowded. Either extend distance between docks, or no more single dock permits!

Water Level

LL.122 FG-RLU

One person mentioned that low lake levels affect docks.

Issue: Boats

Enforcement and Control of Water Traffic

LL.113

Would like to see more enforcement and control of water traffic (speedboats, jet skis, etc.)

Impact of House Boats on the Lake

LL.124 FG-EO

Several people expressed concerns about houseboats. Their primary concerns are safety concerns related to oversized boats and houseboats at docks. The enormous size of these vessels makes it difficult for other boats to navigate around them, creating unsafe conditions. They asked that the Corps better enforce laws that prohibit people from establishing permanent residences on houseboats. Several people also expressed concern about the problem with heating of lake water from new cooling systems installed on houseboats. The warmer water disrupts aquatic life.

Impact of Large Boats on the Lake

LL.1

Is there any plan to limit the size of the boats & waves they make on the lake?

Lake Sidney Lanier EIS

Comments

LL.108

EIS should examine effects of large boats (not house boats) on shoreline erosion and other boating activity in such a relatively confined space.

LL.109

Maybe get a weight/size limit on boats. They are getting way too big for this lake.

LL.114

Boats are too big.

LL.116

Establish maximum horsepower for Lanier vessels.

LL.121 FG-LAR

Most of the Lake-Area Residents focus group think that there are simply too many large boats on the lake, especially during peak periods. They are concerned that these large boats lead to congestion and compromise human safety. They also contribute to noise and visual pollution.

LL.124 FG-EO

Bank erosion and the lack of vegetation caused by boats.

LL.21

Ban the 45 foot yachts that have no business on Lake Lanier. They are dangerous and their toilets pollute. Their owners are usually rich, drunk partiers who do not care one bit for Lake S. Lanier. Pay back the conservationist fisherman who are the only people who protect the Lake daily. Who does Bald Ridge Marina think they are with all their rules? Do they run the lake, or do you? According to them they own the water around their docks – 300ft into the lake from the Corps line??? Who did they pay to get the whole tributary declared a no wake zone??? Again, wasteful rich yacht owners who wouldn't know the concept of right of way if it bit them in the hindside.

LL.60

Need to limit the number and size of boats on the lake. Large boat wakes damage docks.

LL.67

It is not only the number of boats, but the size. The very large "cabin cruisers" seem to run at speeds that create ocean size wakes. These wakes in turn make their way to the shores causing erosion, etc. It may be time to consider a boat size limitation on the lake – either in gross weight, length or horsepower. The houseboats don't seem to be a big problem, they don't leave their marinas regularly and when under power, they don't create the wake problems the really large boats do.

LL.73

If there is any way to discourage the proliferation of the "large" cruisers, I would strongly favor it. These cruisers are causing massive siltation and erosion problems.

LL.77

Limit the size of boats that can use the lake.

Lake Sidney Lanier EIS

Comments

LL.86

However, the increasing use of large, ocean-size boats and cabin cruisers on the Lake, with the tremendous wakes they create, are eroding the shoreline at an ever-increasing rate. Since the Lake is not the ocean or one of the Great Lakes, the size of boats on Lake Lanier should be restricted (at a certain length, for example).

LL.88

Boat size and power should be limited. The large cruisers create huge wakes which tear up docks and wreak havoc on the shoreline. Houseboats are fine at slow speeds.

License Boat Operators

LL.123 FG-BO

One person brought up an interesting issue about captain's licenses for boat operation. This person said that the regulations that govern a captain's license should be changed to follow Coast Guard standards to deter illegal activity on the lake, such as bootlegging operations. Another participant's response to this was that even if Coast Guard regulations are imposed on the lake, there is no enforcement authority because the Coast Guard's jurisdiction is in coastal areas. Another person suggested establishing new standards or expanding the existing ones.

More Strict Pollution Regulations

LL.124 FG-EO

The sale of 2-stroke-engine vessels should be reduced, along with stricter gasoline spill control and enforcement of Coast Guard regulations.

No Ski Zones

LL.31

Implement more non ski zones in narrow areas of lake.

No Wake Zones

LL.114

Boats wakes are damaging to environments and users.

LL.121 FG-LAR

Many residents feel that the number of no-wake zones needs to be increased to prevent reckless driving.

LL.31

Also mark more no wake zones in narrower areas of lake.

LL.4

PWC and muscle boats make waves (causing shoreline erosion). Can we limit their use?

Lake Sidney Lanier EIS

Comments

LL.58

Thankfully, the slow/no wake markers have been moved further out from my dock at Sunrise Cove. Boat traffic outside the markers still causes excessive bounce in the slips. Thus, more Styrofoam blocks escape and moored boats stand to get damaged.

LL.75

Increase the number of No Wake areas.

LL.87

Please think of a ban for jet skis and race boats for the smaller secluded lake coves or at least find a way to enforce the no wake zones that are in place.

Noise Control

LL.108

Mufflers on boats.

LL.12

A noise control for the loud boats with these huge engines.

LL.120

Above water mufflers (cigarette boats), jet skis- any decibel/range limit.

LL.24

Even though I have owned a jet ski, I would like to see some form of noise pollution control on the lake. Boats and jet skis don't need to be loud to be fun and go fast, and noise pollution is a growing concern.

LL.4

PWC and muscle boats make noise (disturbing the peace). Can we limit their use or require high-quality mufflers on all water vehicles? Can we accelerate the Federal outboard/inboard engine standards?

LL.46

Enforce noise ordinances! Maybe consider deputizing the residents to assist. The above water line exhaust systems should be eliminated as they are a burden to the residents and the wildlife.

LL.54

Can't we do anything about noise pollution....!??

LL.64

What is being done to enforce the disturbing-the-peace sound level limits for unmuffled boats?

LL.66

The size of the engines on boats and their noise level should be restricted.

Lake Sidney Lanier EIS

Comments

LL.82

Noise limits should be imposed and enforced.

LL.84

Either enforce a noise ordinance or do not allow open exhaust system. These boats with full open exhaust systems are a source of noise pollution; this practice must be eliminated. Other lakes have adapted this policy with kits that are available to remedy this very offensive pollution. The only time open exhaust should be allowed would be to test or run professional type racing events.

LL.86

I have heard from reliable sources that some of the marinas/boat maintenance facilities will remove the noise control devices (some kind of muffling device) or even install some new devices to make the above-mentioned boats even louder, since their owners apparently want everyone else to see them. This is very inconsiderate and unfair to the other boaters and homeowners, however, who do not wish to hear them. Limit speed of boats and the noise they generate. The noise they generate is an environmental hazard as well as a quality of life issue. When one of those boats passes by, while I am in my boat or even in my house, we cannot even converse because of the deafening noise.

LL.87

Instead of enjoying the quietness of these areas we are forced to hear the loudest of motor sounds when these speeders race into the cove and out again (not to speak of the wake and erosion problem that comes with that speeding).

LL.93

Noise level standards also need to be set and enforced.

LL.98

Noise control.

Other

LL.120

"Y" valves on boats/house boats/people living on boats in marinas—sewage, trash being dumped into the lake

Overcrowding of Boats on the Lake

LL.119

The lake is beautiful—wish there weren't quite so many boats!

LL.121 FG-LAR

Many people feel that the size and number of the boats allowed on the lake and at private docks and marinas should be limited.

Lake Sidney Lanier EIS

Comments

LL.122 FG-RLU

The recreational focus group participants mentioned that more development on the lake increases boat congestion and traffic. The number of boats should depend on the results of the carrying capacity study.

LL.67

I live in the south part of the lake and fear that the lake has become too busy on the weekends. It is very uncomfortable and not very enjoyable to boat on Saturday or Sunday.

LL.77

Restrictions should be considered which limit the number of boats and PWCs that can be permanently docked at permitted docks, limit or stop the issuance of new dock permits, limit the number of day use launches at each ramp.

LL.82

Peak access periods should be limited.

LL.83

The Corps should consider limiting the number of individuals who can use or launch from any given park in any given day. The lake is becoming too congested and safety hazards are rampant.

Personal Watercraft

LL.1

Is there any plan to regulate the amount of "jet skis," "wave runners" where they can "roam."

LL.104

I am almost fearful of the jet skis when I am out on my boat.

LL.108

Effect on PWCs on other lake uses.

LL.111

Too many jet skis. Jet skis are hazardous to many boats, skiers, and swimmers. A jet ski would not be fun to drive if driven correctly, therefore are a hazard. Need stronger rules and restrictions on them. Prorate annual passes.

LL.12

I think a person should be able to water ski on a 2 seater jet ski with mirrors.

LL.121 FG-LAR

Several people believe that there are too many wave runners in use on the lake and that most people who operate them do not use them in a safe manner.

LL.13

Ban all PWCs.

Lake Sidney Lanier EIS

Comments

LL.6

Jet skis are a noisy annoyance for homeowners near the lake. We would appreciate a focus group to address this issue.

LL.70

Jet skis continue to terrorize our cove and we never see any patrols in BR6.

LL.75

Limit the use of personal watercraft.

LL.8

Can something be done about the noise that comes from Jet Skis? We lose our peaceful environment when they are used on Johnson Creek, which is quite narrow.

LL.86

The proliferation of jet skis also needs to be addressed. They are often noisy, too fast, and a nuisance to homeowners and boaters. Some lakes are beginning to restrict them to certain areas or prohibit them completely; and Lake Lanier would benefit from that approach.

Safety Concerns

LL.80

We need to step up the patrols on the lake for violators of the boating and water safety laws.

Size Limit for Watercraft

LL.124 FG-EO

Focus group members representing the environmental organizations agreed that a size limit for boats should also be established.

Speed Limit for Watercraft

LL.12

I think there should be a speed limit for all watercrafts.

LL.122 FG-RLU

The focus groups expressed concern about impacts of speeding, such as bank erosion, noise, and safety for everyone using the lake.

LL.124 FG-EO

The focus group members agreed that a speed limit should be established for all boats.

LL.64

A speed limit of 45MPH should be enforced on Lanier and all inland lakes for that matter.

Lake Sidney Lanier EIS

Comments

LL.82

Speed limits should be imposed and enforced.

LL.86

It has become much more common to see loud, fast, racing boats (sometimes called "cigarette boats") on the lake. These boats operate at high speeds, creating serious safety hazards for slower, smaller boats, such as the pontoon boat I have. The lake again is not the ocean, and it is not an appropriate environment for boats running at speeds up to 100 MPH.

LL.93

Speed limits should be set and enforced.

LL.98

Somehow impress violators to observe the idle speed rule, speed control.

Issue: Commercial Activities

Expand Commercial Activity

LL.109

Need more fun venues! Stuff for people to do - restaurants, shopping.

LL.24

Where you already do allow commercial activities, i.e., riprap, you need to encourage greater competition (more suppliers) so the costs make the benefits more attractive to more homeowners. Anything to encourage this type of result would encourage greater private investment in the lake.

LL.31

Allow restaurants in several areas near marinas or major highways. Lease land for these ventures, and use the proceeds on lake issues.

LL.32a and LL.32b

I understand we have over 22 million visitors a year. Las Vegas has only 30 million. Just think if they each spent just \$2 more. Please promote recreation. We want more: Docks; Food; Theme parks; Sports; Events; Arts; Crafts; etc. With water quality and natural beauty first. (Good luck:->)

LL.39

I see no plan here; the Pine Isle area is the only development on the lake. There should be several hotels/restaurants etc on the lake to take advantage of its great view.

LL.68

Commercial resorts, restaurants and marinas contribute to the value of experiencing Lake Lanier...I want to see more.

LL.96

Restaurants and supply stores for boaters would be nice at Gainesville marina! We like Aqualand restaurant and Up the Creek.

Lake Sidney Lanier EIS

Comments

LL.98

Development, development, development. Good luck.

Impact From Low Water Level

LL.123 FG-BO

Even though water levels will not be analyzed in the EIS, they are a major concern to the business owners and operators. They blame negative media coverage about the low water levels for the economic market decline and diminished opportunities for business on the lake. Some of the participants expressed concern about the adverse impacts of the water levels at 1,065 feet, such as occupancy access, ramps, hazards, and business effects.

LL.44

Negatively affected by low water levels.

Increase Number of Restaurants with Boat Docks

LL.105

Allow more restaurants accessible via water.

LL.24

I do believe allowing some form of docking for restaurants would improve the overall experience, although I am sure it could be argued to not be in the lake's best interests. Even Lake front restaurants without "boat docking" but with waterside dining would be a welcomed addition. Perhaps you could set aside a few "special view" locations and allow the leasing of the land for this purpose and apply the funding to other areas you need to support, like more rangers. This is commonplace in federal park systems and I would suspect highly desirable for the restaurateurs, general public and local economy.

LL.69

Would like to see more "drive-up" restaurants with dock space.

LL.75

We could use more waterfront restaurants with dockage.

LL.8

A nice restaurant we can take our boat to for lunch and/or dinner.

LL.80

We could use a few more food service places on the lake.

Limit Commercial Activity

LL.113

There is too much commercial activity.

Lake Sidney Lanier EIS

Comments

LL.117

Getting a bit too large. Marinas seem to expand.

LL.3

Opposed to all commercial activities.

LL.5

At what point does commercial activity impact aesthetic values on the lake. Lanier is definitely over developed.

LL.56

I hope that there will not be any business permits issued for businesses to operate around the shoreline of Lake Lanier.

LL.70

We don't need anymore. They only cause pollution, traffic problems (water and road) and trouble, especially if there is not going to be a consistent, dependable lake level. More parks and FREE places for families to go and enjoy the lake, you betcha. More commercialism NO WAY!!

LL.97

Limit commercial development.

Marina Growth

LL.108

The current practice of grouping docks into developer marinas is good but has effect of increasing marina density.

LL.111

Marinas are way too big and too expensive. There needs to be stronger rules for them too!! They keep getting bigger and bigger and more expensive. It's a big competition between them and not fair to the public.

LL.112

We have enough marinas.

LL.114

No more marinas.

LL.116

Add marine services on the Chestatee River. Prohibit maximum growth of existing marinas.

LL.118

I feel there is plenty of marinas.

Lake Sidney Lanier EIS

Comments

LL.119

Marinas are awfully big which accounts for too many boats!

LL.12

I don't think the marinas on the lake should be able to expand with no limits.

LL.121 FG-LAR

Several residents believe that the size and number of marinas allowed on the lake have a negative impact on the lake's resources.

LL.60

Discourage growth of marinas.

LL.67

I learned at the meeting that the marinas are at 77% capacity. I shutter to think how it would be if they were permitted to expand to 100%. With 10,000 boats docked now, what would happen if everyone decided to take their boat out for a ride on the same day? Lazy Days has been expanded about 1000% in the past three years and it has had a detrimental effect to those of us living around this area, and those who used to use Big Creek Park to launch their boats. Water flow in and out of our cove has been diminished, it takes a great deal longer for debris and mud to settle out of the water after heavy rains. It is my understanding that Lazy Days has approval for additional 60' docks that would be placed in our cove. Not only would this make navigation in our cove difficult, it would also mean trees would be removed on the shore to allow access and another parking lot built. More runoff and destruction of the environment. I would not like to see expansion of any of the marinas on the lake.

LL.97

Limit enlargement of marinas.

Marina Inspections

LL.123 FG-BO

The business focus group participants mentioned that there should be more marina inspections and some sort of spill protection regulation.

No Heavy Industry

LL.68

I don't want any industrial paper mills or utility power plants.

Practice Environmentally Friendly Maintenance Activities

LL.123 FG-BO

The participants agreed that good business practices on the lake make good economic sense. Improvements and protection of the lake's water quality should be through environmentally friendly maintenance activities, such as using less-toxic paints and environmentally safe detergents.

Lake Sidney Lanier EIS

Comments

Prohibit Commercial Activity from Parks

LL.115

Need to be kept out of parks. Such as jet ski rental at boat ramps.

LL.116

Do not allow commercialization of project parks.

LL.67

I also heard that Lake Lanier Islands was going to close the camping areas for a new hotel and golf course. Not good news, if true. Clearing land for this kind of expansion would again mean destruction of trees, erosion, runoff of chemicals needed to maintain golf courses. I don't know if the Corps has any control over this type of commercial development, but if we are to manage the lake to keep it a viable resource, thought must be given to not "using it to death." The Corps may have no control over how this land is developed, but I wanted to mention it anyway.

LL.79

I am a resident on Lake Lanier on the cove behind Mary Alice Park. I am writing in response to the EIS being done in the area. I am disappointed that only one public session was held in a county that the Mary Alice Park study has no impact. I am writing in strong opposition to the project since this is would put a hotel and amphitheater in my back yard and most traffic through my front yard.

Mary Alice Park is only accessed through residential neighborhoods with no direct access to any major road or highway. Due to the current environmental problems in Atlanta no new road improvements for Forsyth County and GA 400 can be approved currently so this means access will be through residential streets. The City limits of Cumming do not extend out to Mary Alice Park. My subdivision Park Shore is between the city limits and the park and we have no intentions of being annexed to support this improvement.

I personally moved to a lake side community with my property backing up to Army Corps property so nothing would be built in my back yard. I moved here 2 1/2 years ago from East Cobb which did not care about its residents and only big business. The only improvements that should be made to Mary Alice Park is to enforce the boat parking for vehicles with trailers and that the beachfront parking is for all other people visiting the park. I would support more picnic areas around the park. I do not support any commercial usages of this park.

Prohibit Races on the Lake

LL.82

Commercially sponsored races such as the "Poker Run" on Lake Lanier should be strictly prohibited.

Regulate Activities

LL.110

I feel that when a marina asks for something added to their area, it is automatically approved. Master plan may have requested the addition. But times and usage have changed. (Example Big Creek area.)

Lake Sidney Lanier EIS

Comments

LL.116

Require dock builders and adjacent businesses that use Lanier to have a license.

LL.12

This needs to be controlled strictly. I don't think the marinas on the lake should be allowed to expand with no limits.

LL.24

Restaurant access and limited additional gas dock and pump out station access would be beneficial.

LL.27

Should be limited, including boat rental locations which put a lot of dangerous boaters on the water.

LL.58

Seem ok. Commercial activities are regulated and monitored more than private activities.

LL.59

I feel some commercial activities are good as long as it doesn't get out of hand. I enjoy being able to get in my boat and go out to dinner. A few more restaurants would be good. Even though I live on the south end of the lake I feel the north end could use some gas docks.

LL.7

Must be regulated but it almost all is set aside for the big guys. There should be more for the little guys like ice cream truck, vendors, what ever.

LL.8

We need a marina that will sell gas around 53 & Bolling Bridge.

LL.81

The lake should not be intended to support any commercial activities outside of recreational conveniences, i.e. marinas, fuel docks, and power generation as it was specified when chartered.

LL.83

In light of heavy use the lake already receives, new commercial activities need to be strictly scrutinized and probably severely curtailed.

LL.95

Welcomed, but controlled.

Stay at Current Level of Commercial Activity

LL.108

I suggest that current commercial activities are sufficient for a lake of this size - exceptions may be restaurants.

Lake Sidney Lanier EIS

Comments

LL.16

I appreciate the control the Corps of Engineers has exerted in this area. What we have now of resorts, restaurants and marinas is good. More of these will hurt the lake.

LL.28

I own my own business and am reliant upon local businesses. I own an air conditioning maintenance company. Without commercial activity I would have to move. The lake provides the business that keeps me here.

LL.50

No additional commercial activities should be allowed on the lake. (See comments below regarding commercial dredging.)

LL.56

No complaints.

LL.61

Fine.

Issue: Drinking Water Supply

City of Gainesville's Drinking Water Plant

LL.120

What is the effect going to be on the lake when they start pulling the water out?

Concerned About Gwinnett County's Discharge of Treated Sewage

LL.120

What are the fail-safe backups? When are Hall County and others going to start doing the same thing once this precedence has been set?

Water Allocation

LL.17

If Alabama needs water from Lanier then they should let us run a pipe (and help pay for it) to the Tennessee river in order to ensure adequate water level in Lanier during drought years.

LL.66

Is there no limit to the amount of water that Gwinnett can siphon off? If 25% of their land mass is in the Chattahoochee Basin, then why do they get 60% of their water from this basin? Make them find water elsewhere.

Lake Sidney Lanier EIS

Comments

LL.92

Lake Lanier's role in the Apalachicola-Flint-Chattahoochee (ACF) River System has been under consideration by Alabama, Florida and Georgia for many years. Some of the past proposals for managing the ACF would take Lake Lanier down 36 feet to the bottom of its conservation pool at 1035' msl. That would be a tremendous environmental impact on Lake Lanier and virtually eliminate lake recreation, as we know it today. The EIS should include the environmental impact of the lake at various levels.

Water Supply

LL.16

I believe water supply is the main emphasis of keeping and developing Lake Lanier.

LL.63

Lake Lanier is the major source of water supply for the greater metropolitan Atlanta area and much of north Georgia and should be protected.

LL.76

Lake Lanier is the primary source of drinking water supply for the Metropolitan Atlanta region and should be operated accordingly to sustain availability of the supply.

LL.83

The Lake needs to be operated first and foremost to provide a water source for metro Atlanta and then for recreation. As a water source, the chief concerns should be water quality and quantity. With regard to quality, an assessment should be done of the quality and then steps taken to increase the quality of the water in the lake. With regard to quantity, the lake should be kept at full pool to the maximum extent possible so that reserves are available in periods of drought. More attention needs to be paid to shoreline erosion (increased no wake zones) and development activities that silt in the lake as well.

The Lake needs to be operated to provide a water source for metro Atlanta. As a water source, the chief concerns should be water quality and quantity. With regard to quality, an assessment should be done of the quality and then steps taken to increase the quality of the water in the lake. With regard to quantity, the lake should be kept at full pool to the maximum extent possible so that reserves are available in periods of drought. More attention needs to be paid to shoreline erosion (increased no wake zones) and development activities that silt in the lake as well.

Water Supply/Recreation

LL.50

Lake Lanier should be used only for water source and recreation.

Issue: Management Activities

Additional Staff Needed

LL.113

Excellent– but could use more staff for such a large operation.

Lake Sidney Lanier EIS

Comments

Fees

LL.7

Instead of fines and BUI. People should generate more monies by usage fee/ramp fees/donation campaigns/dock fees.

Financial Support for Enforcement Activities

LL.123 FG-BO

The group discussed the need for more financial support for enforcement on the lake and mentioned that the resource managers at Lake Lanier do a good job considering the lack of funds available.

Management Activities Need To Be Revised

LL.43

Very upset about priority uses of lake.

Meeting Location and Frequency

LL.122 FG-RLU

Need to make sure the public knows about meetings and focus groups.

LL.13

Before even a rough draft of the EIS is generated, a scoping meeting in Gainesville must occur! Lake Lanier is not in Gwinnett Co., it is in Hall Co. People who live in Gwinnett Co. are only weekend users of the lake, They don't have to care about the water quality. If it gets bad enough, they'll just stop coming to Lanier and go somewhere else. Having a meeting in Gwinnett County about Lake Lanier is like asking the wolves "what should we do with the sheep?" The Lake Lanier Association currently has a lawsuit against Gwinnett Co. to keep them from dumping up to 120 million gallons of "treated" sewage into Lanier - daily (even though the treatment plan is nearly finished).

I am 44 years old and have been on or around Lake Lanier since 1973 (plus or minus). I can only hope and pray that we all can get a dose of common sense and do whatever is necessary to make sure that my kids and your kids can enjoy Lake Lanier in their future.

Look up the Lake Lanier Association on the Internet. Also try www.lakelanier.org.webmaster.

LL.31

Hold more local meetings for this statement prior to formulating initial statement. The one meeting that was held was held too far from the lake, in a county that has demonstrated lack of concern for the future of the lake, and the meeting was held without enough time to allow many people to accommodate their schedules.

LL.37

I request that periodic public meetings be held to provide the public with progress reports on the EIS and allow for additional public comments to be provided as issues and circumstances on and around the lake change with time.

Lake Sidney Lanier EIS

Comments

LL.85

Our first recommendation is that you conduct another Scoping Meeting in a location that encourages more Lake Lanier knowledgeable people to attend and provide their input. The Duluth, Georgia, location of the August 16th meeting was illogical and caused some of our members to wonder if it was not intentionally chosen to discourage attendance by those closest to the lake. Duluth is several miles below the Lake Lanier watershed in a county that has only about three square miles of its geography on the Lake Lanier watershed. The Duluth location is an hour or more from many people living in the Lake Lanier area that know most about the history of the lake, and the concerns that deserve attention. Hall and Forsyth Counties, having most of the Lake Lanier shoreline, are much more logical locations for the scoping meeting, and they have many facilities that could accommodate the meeting.

LL.92

In summary, we suggest that there be another scoping meeting conducted in closer proximity to the lake; there be a focus on the past and future growing population's contribution to the changing quality of Lake Lanier's water; and there be an assessment of the environmental impacts caused by different Lake Lanier levels.

Our first recommendation is that you conduct another Scoping Meeting in a location that encourages more Lake Lanier knowledgeable people to attend and provide their input. The Duluth, Georgia location of the August 16th meeting was illogical and caused some of our members to wonder if it was not intentionally chosen to discourage attendance by those closest to the lake. Duluth is several miles below the Lake Lanier watershed in a County that has only about three square miles of its geography on the Lake Lanier watershed. The Duluth location is an hour or more from many people living in the Lake Lanier area that know most about the history of the lake, and the concerns that deserve attention. Hall and Forsyth Counties, having most of the Lake Lanier shoreline, are much more logical locations for the scoping meeting, and they have many facilities that could accommodate the meeting.

Other Policy Suggestions

LL.116

Close Buford Dam Road to through traffic. Remove all existing grandfather items on Lake Lanier.

LL.48

It is very difficult to conceive that the CORPS even has a PLAN for Lanier. IF they have one, they should seek guidance from non government entities to amend same. Based on current Corps management the lake will be destroyed within ten years or less.

Other Suggestions

LL.68

Great place to live, visit and fish (so far); but things seem to be out of control and going DOWN-HILL over the past two years. I blame it on the politics!

Lake Sidney Lanier EIS

Comments

LL.91

The EIS, last updated in 1974, identifies, evaluates and documents the environmental and socioeconomic effects of the Corps's program to operate and maintain the lake. Corps spokesman Pat Robbins said the EIS process takes about a year or 18 months. "We'll do what we call a draft environmental impact statement, and at that point and time it goes out for public comment," said Robbins. Robbins said that EIS only deals with Lake Lanier and that the tri-state water talks, which include water in Lanier, have their own programmatic EIS. The Scoping meeting for public input is scheduled for August 16 from 8:00 am. to 9 p.m. at the Gwinnett Civic and Cultural Center in Duluth. Robbins said the Thursday session is being held throughout the day so people can drop in when their schedule allows it. Robbins said the Corps knows there are certain things it need to look at in the EIS, including water quality, fisheries, recreation, overall management of project land, safety and other environmental topics. "What we hope from the public and what we often find from the public is by their attending these meetings, they point out issues that we may not be fully aware of or would not have thought of considering in the EIS," said Robbins.

LL.97

Most of my comments are common sense and the Corps should have realized this from working the lake.

Public Education

LL.121 FG-LAR

Most residents in the focus group feel strongly that the Corps should increase the level of public education on how, why, and when water levels are lowered and raised in the lake.

LL.123 FG-BO

The group agreed that the Corps should provide more educational opportunities for lake users to learn about how to improve and protect the lake's water quality. Several business owners and operators volunteered, with the Corp's support, to facilitate activities to educate their customers. One participant said that using boat dealers to distribute educational pamphlets and brochures was a possible means to heighten awareness about the lake environment. According one person, it is important that the public understand what it takes to operate, maintain, and protect the lake because the knowledge will enhance their overall experience when they visit the lake.

Public Involvement

LL.12

I think the homeowner and public need to be involved with all operations and maintenance.

LL.7

There could be more done. Maybe work could be contracted to the public. (People should pay more to use the lake. Property owners should pay more.)

LL.9

Develop a strong public participation program. Get buy-in from environmental organization. Focus on groups such as the Georgia Conservancy.

LL.93

All Corps rules, decisions, plans, etc., should be published and easily located on the Internet

Lake Sidney Lanier EIS

Comments

Standardize Enforcement Regulations

LL.124

Most of the residents feel that politics plays too large a role in how the lake is managed. If someone has the money to pay fines or get around the rules, no action is taken against them.

LL.124 FG-EO

According to many there seems to be a problem with local enforcement of state regulations. They believe a Lake Lanier enforcement authority should be considered to standardize the regulations.

Support for Current Lake Management Activities

LL.109

The Corps does a great job with the mandate they currently have.

LL.110

Overall this program is working well.

LL.113

Excellent

LL.119

I think the Corps of Engineers is doing a super job maintaining the lake!

LL.28

I appreciate and respect the hard work done by the Corps. I hope you continue to work with the residents and community to maintain our lifestyle.

LL.34

Overall, I think the lake is managed well - given the demands made upon it.

LL.44

Other than water level, a good job is done.

LL.56

No complaints.

LL.58

Good luck to all those who are paid to look after the lake. Under the circumstances of how the water has to be used, the lake is probably managed as well as it can be.

Seems ok.

Lake Sidney Lanier EIS

Comments

LL.61

Fine.

Fine.

Water Quality/Recreation

LL.50

The lake should be managed primarily as a water and recreation facility.

Watershed Management/Water Quality/Recreation

LL.77

Lake priorities should be watershed and natural resources management, water quality, recreation quality and drought relief. Production of electricity should be very low priority. Enabling barge traffic on the lower Chattahoochee should not even be considered.

zOther

LL.39

Nonexistent as far as I can see.

Issue: Real Estate

Clairify Property Ownership

LL.124

The Corps needs to clarify rules on the "ownership" of property in front of the actual property the landowner owns. Residents don't feel that it's fair to sell a permit to someone who does not actually own the property in front of the permitted property.

Development Concerns

LL.106

We were concerned with the Truman Mt. Watershed which empties into Lake Lanier along the Chestatee River. To date we have been successful in stopping several commercial enterprises. Everyone must be made aware of the dangers of over development, poor development, and non-concern for our water sources.

LL.108

I believe natural resources are suffering as population density increases. I'm in favor of reasonable tightening to protect wildlife. Corps rangers do a very good job.

LL.112

We need the natural area protected. Over building is taking away so much from the beauty of the area.

Lake Sidney Lanier EIS

Comments

LL.121 FG-LAR

Many attendees feel that less development would help to improve the quality of the water in the lake. Many of them support some type of rezoning in the watershed that would slow or restrict development to help improve water infiltration and reduce storm water runoff.

LL.24

The management of the shoreline from a development point of view has greatly enhanced the "natural beauty" of this manmade resource. Excellent!

LL.32b

I understand developers and builders are taking their money now and the other forces like you and me need to look out for the lake of the future. I help some but you can help more than most. Please do what is right for the future. What you know in your heart is right.

LL.60

Minimize further residential development.

LL.70

We need more parks that are free to the public, not more houses or commercial property that prohibit the general public from enjoying the lake.

LL.80

We need to build up the park areas around the lake and reduce the house building. There are enough home sites on and near the lake. We could use more sites that introduce people to hiking and "How To Do" wilderness camping and survival techniques.

LL.85, LL.92

The growing population of the area and continuing rapid development of the Lake Lanier watershed is the greatest threat to the quality of water in Lake Lanier. The Atlanta Metropolitan Area has grown tremendously during the past 25 years, and that along with the attractiveness of the Lake Lanier have caused much of the watershed development. Lake Lanier is becoming more and more an integral part of Metropolitan Atlanta. More businesses are moving to the watershed and there are more Lake Lanier area residents commuting to employment or businesses in other parts of Metro Atlanta. The EIS certainly must assess the environmental impacts of past and projected population growth for the Lake Lanier area and its watershed.

Other Suggestions

LL.48

If a private commercial business had managed Lake Lanier to its present state of deterioration, I sincerely believe that the CORPS would sue them for malfeasance. The CORPS truly should be ashamed of their record on this formerly beautiful lake.

Lake Sidney Lanier EIS

Comments

Issue: Recreation

Boat Ramp Regulations

LL.122 FG-RLU

Several recreational lake users expressed concern about parking areas at the boat ramps. They said that the regulations for parking areas that already exist for cars and trailers should be more stringently enforced. Only trailers and trucks with boats should be allowed to park at the ramps.

Fees

LL.121 FG-LAR

Residents support raising permit, boat ramp, and user fees to pay for increased ranger presence.

LL.122 FG-RLU

The group expressed concern about how the park entrance fees are spent. They believe the revenues from these fees should be spent on lakeshore maintenance, improvements, and resource protection activities.

LL.18

Dock permits cost only \$5.00 per year for 24 hour year round access, yet access to launch a boat or visit a park for someone who does not live on the lake costs \$3.00 per day or \$25.00 year.

LL.27

Consider charging use fees for those who use the lake on a temporary basis - fees sufficient to pick up and haul away the trash they generate.

LL.35

There should be a entrance fee on all parks, a fee to launch at all boat ramps - this money could be used to keep the trash cleaned up and to enhance the enforcement on the lake.

LL.84

Use docks as a source of revenue, establish a \$500 fee per year for a period of five years, then back to \$250 per year in order to have a pool of money. This money will help fund erosion control, dredging, dock inspection and water quality assurance. Survey the docks so others may enjoy the privilege. Many of the docks have been located as to block others from having a dock. An example of this is those that set the dock at the farthest corner of their lot so as to block others from having space to place theirs. Decrease space from 50 feet to 30 feet or 40 feet.

Impact From Low Water Level

LL.38

Beaches are neglected as a result of the low water level.

LL.44

Recreation is seriously reduced by low water levels.

Lake Sidney Lanier EIS

Comments

LL.77

Recreation and aesthetics are down significantly this year with the water levels.

Increased Access

LL.124

Residents feel that the Corps should allow more year-round use of public parks. One person mentioned that because some parks are closed at certain times of the year, other parks experience increased use and parking needs.

LL.124 FG-EO

Residents feel that the Corps should allow more year-round use of public parks. One person mentioned that because some parks are closed at certain times of the year, other parks experience increased use and parking needs. Others believe the Corps should increase the presence of rangers at parks and other areas of the shoreline to ensure public safety and to enforce shoreline management rules and regulations.

In addition, several residents feel that the Corps should allow some means for dispute resolution as it relates to shoreline use. The Corps is often too strict when it comes to shoreline encroachment and other shoreline use issues and should allow residents some way to dispute their rulings.

The Corps needs to clarify rules on the "ownership" of property in front of the actual property the landowner owns. Residents don't feel that it's fair to sell a permit to someone who does not actually own the property in front of the permitted property.

One resident mentioned the need to clarify allowable personal uses (e.g., irrigation) of lake water. Most of the residents feel that politics play too large a role in how the lake is managed. They believe that if someone has the money to pay fines or get around the rules, no action is taken against them. In addition, several attendees noted that the Corps should step up its enforcement of boundaries so that there are fewer encroachment issues and less clear-cutting. They would like to see more patrol by rangers to enforce boundary regulations.

LL.2

Would like to see camping season extended most especially old federal campground. We use campgrounds extensively and always enjoy.

LL.47

There are some protected areas (Public Recreation Areas) on the lake that I feel should, in part be classified as Limited Development. Those areas that are classified as Public Recreation should be open to the public but since there is no access to the area in question it should be reclassified. I'm speaking in particular of the 100 acres at the mouth of Baldrige Creek. This area has been labeled Public Recreation for many years but there are no parks, boat ramps or recreation on this land. If this is to stay Protected then it should be reclassified as Protected Lakeshore area and parts open for Limited development. If this were to occur the lakeshore would be better protected because now boaters' park on the shore and leave debris everywhere. If, at least on the east side of this point there were dock permits issued the shore would be better maintained.

LL.7

There are a lot of people here. They need recreation and they look toward the lake for it.

Lake Sidney Lanier EIS

Comments

LL.92

The LLA view is that Lake Lanier was built with public funds and should be enjoyed by the public. On nice summer weekends the lake is busy with boat traffic, but during the non-summer season and on Monday through Friday during the summer season boat activity on the lake is minimal. So, a lot more recreation and boat traffic can be accommodated on the lake. We think there will be a self-limiting amount of activity on the lake as the increased usage makes an individual's recreation experience less desirable.

More Money for Education

LL.89

More money for education.

More Rangers to Enforce Regulations

LL.121 FG-LAR

At the same time, the residents support an increase in ranger presence on the lake and the shoreline to better enforce regulations. One resident mentioned that the Corps staff is very knowledgeable and helpful.

Some people believe that the Corps should have a greater presence on the lake to help prevent unsafe conditions.

LL.124

Some residents feel that the Corps should increase the presence of rangers at parks and other areas of the shoreline to ensure public safety and to enforce shoreline management rules and regulations.

Needs Improvement

LL.69

Lots of room for improvement.

Other Suggestions

LL.122 FG-RLU

Several recreational users feel that the purity of the mountain water that flows into the lake should be protected. Other participants also expressed their lack of trust of the Corps. According to some of the recreational users, the Corps needs to admit when they make mistakes because this honesty builds trust. One person said "be honest, even if the news is bad." The Corps also should do more to educate the public about why water release decisions are made. Another person suggested that there be more meetings with interest groups. Additionally, the group expressed a need for the DNR to do more inspections for Y-valves and a need for more communication and coordination between the DNR and the Corps. The loss of wildlife habitat around the lake also concerns the recreational users.

LL.39

Hey, how about some tours of the dam? Maybe think about improving the area behind the dam and coordinating with the state on putting in some downstream takeouts on the river behind the dam? It's time to change the mission, people!

Lake Sidney Lanier EIS

Comments

Overuse

LL.18

Parks near the dam fill up to capacity and park rangers block access. Park visitors need to be given greater incentive to go to parks further north and less used on the lake.

LL.27

Too much money has been spent improving Federal Recreation areas on the lake—i.e., campgrounds, beaches, etc. which simply attracts more people to an already overused lake.

LL.3

Current recreation is high. Economical advantages are high, too. Why not promote a recreation tax (very small) to pay for public education—showing how some recreation can be detrimental to the lake's ecology?

LL.77

Also, the lake is overused. It cannot sustain continued growth. Restrictions should be considered which limit the number of boats and PWCs that can be permanently docked at permitted docks, limit or stop the issuance of new dock permits, limit the number of day use launches at each ramp, limit the size of boats that can use the lake.

Parks—Fewer Facilities

LL.116

Add more passive recreation features. Do not operate lake parks as "city parks." Rather the visitor should expect a more natural environment. Encourage more maintenance dredging.

LL.68

I would like to see more walking, jogging and bike paths. Plenty of parks...if you want to picnic, camp or launch a boat; but not much to encourage visitors to stop by every evening and enjoy the lake as they get a little exercise.

Parks—Maintenance

LL.114

Campgrounds need rehab. Paving and impact areas are worn out and are becoming safety hazards.

LL.115

More funding is needed to maintain and improve existing facilities.

LL.80

To keep our parks clean and useful to the general public. The home owners on the lake front properties should keep the shore line property clean. Firm enforcement, through citations to the property owners, with fines and community services and, repeat violators, jail time might do the trick.

LL.86

The Corps seems to have abandoned some of the park areas around the Lake. One of them, Beaver Ruin Church Road, is not maintained except for occasional trash pick-up. Areas like that should be improved, better maintained, and patrolled by law enforcement.

Lake Sidney Lanier EIS

Comments

LL.94

Keeping parks clean and neat.

Parks—More Facilities

LL.7

The government parks should offer more. They are beautiful parks. But everything else is at Lake Lanier Islands. More involved parks could generate much more income (horseback riding) concerts/events/picnics.

LL.84

We need sanitation facilities at all pay boat launch areas.

Parks—More Public Outreach About Activities

LL.15

More publicity about programs, trails. Not enough people know.

Public Involvement

LL.70

Given the resources the Corps has, I am sure they are doing the very best they can, unfortunately given the population explosion, it isn't enough to cover the demand and usage of the lake. My recommendation is the Corps invest in volunteer programs. Many residents and others would gladly volunteer our time, if it would be used wisely. Work WITH other non-profit groups and embrace their help. We are here to help, but the Corps has to ask for (and permit) our help. Anyone who owns property that touches the Corps property has a vested interest to protect the lake. We live here because we like the lake life style and the natural beauty—we would just like to see the natural beauty again.

Recreation

LL.16

The lake has evolved into a prime recreational area which has attracted people and industry to this area. Lake Lanier may have been started to be mainly a source of power and flood control but these concerns have been eclipsed by recreational needs.

LL.24

Recreational benefit - quality of life and LOCAL economic benefit - after all local people gave up their properties to build it

LL.59

I feel that recreation should be moved to a higher priority than it has been in the past. From everything I have read, the lake brings over \$2 billion a year to the local economy. When the lake is below 1066, this drops by 40%. They could rent a whole lots of trucks for that kind of money when they want to float a barge in a drought situation.

Lake Sidney Lanier EIS

Comments

LL.62

Lake Lanier should be managed as a recreation area so that the water quality standards are the highest that they can be.

LL.71

More importance needs to be given to the importance of recreation when establishing policies regarding the lake.

LL.81

More consideration for recreation needs to be included. Water levels, water quality i.e., sewage, will affect the recreational quality and recreation of this precious resource.

Recreation/Flood Control

LL.82

Should be recreational and flood control, not power generation

Recreation/Water Supply

LL.39

The lake is being managed for 50-year-old goals that are out of step with current needs and priorities. Recreation and a reliable, high-quality water supply for Atlanta, South Georgia, parts of Alabama and Apalachicola Bay are today's priorities.

Regulate Boating Rules

LL.122 FG-RLU

This group feels that a group other than the Georgia Department of Natural Resource (GA DNR) should regulate boating rules.

Rule Enforcement

LL.121 FG-RLU

They also suggested that a cooperative agreement be established between the Corps and nearby county law enforcement agencies to patrol the lake for people who violate park rules.

LL.18

Use of METAL DETECTORS is currently restricted to a handful of areas. These areas should be expanded to all public beaches and perhaps to islands and other areas with natural sand. It is understood that some areas may have cultural resources or items of historical value. These areas can remain restricted. Aside from recreation aspect of metal detecting it also serves to help remove trash from the lake and shore.

LL.27

Too much money has been spent improving Federal Recreation areas on the lake – i.e. campgrounds, beaches, etc. which simply attracts more people to an already overused lake. Spend your money wisely and add Rangers and staff to properly supervise what exists.

Lake Sidney Lanier EIS

Comments

LL.35

Use fees to keep the trash cleaned up and to enhance the enforcement on the lake - Better enforcement of parking violations and more boat trailer parking is necessary - use the local sheriff if necessary and give them permission to write tickets on Corps property.

LL.95

Obviously very important to us, however, people do not observe all the rules. Recreation brings in a lot of revenue, but rules must be enforced for safety and the aesthetics.

Support for Current Recreation Management Activities

LL.111

Parks and campgrounds always look neat and clean. Landscape is beautiful! Corps does a wonderful job in handling the rules in the park and they are strictly enforced. Wonderful.

LL.112

Overall the lake is managed very well. The parks and public facilities look nice and are well maintained.

Most all recreation areas are well placed on the lake and are very well kept. More recreation areas and less private interests would be great.

LL.113

Excellent. Staff does a very good job with the limited number of staff.

LL.117

All parks and recreation areas look great.

LL.118

The parks compared to other government parks are highly maintained. The appearance is neat and clean. I feel safe to take my son to any Corps of Engineer operated park.

LL.119

The parks always look neat and clean! I really enjoy the facilities. Restrooms great!

LL.12

To me, Lake Lanier is the most beautiful lake, the enjoyment and pleasure I receive can't be expressed in words. I'll do anything I can to maintain this wonderful lake.

The park system does a wonderful job.

LL.24

This is the best recreational water resource I have ever had the pleasure of using. The park system and boat launch facilities allow tremendous access to the general public. There are days I wish it weren't so, but overall it's the right thing for all.

The park systems and sponsored activities are excellent. You have done a great job of making a terrific resource even better.

Lake Sidney Lanier EIS

Comments

LL.28

Extremely happy. This is why we live here. We moved from Connecticut and chose this lake.

LL.50

This is a very important aspect of the lake. The local economies benefit greatly from the recreational use of the lake.

LL.56

No complaints.

LL.61

Fine.

LL.7

Lake Lanier is a Georgia jewel. This should be a must. People work hard and this is something they really need.

LL.96

We love the campgrounds and day use areas. Especially Shadygrove and Little Hall.

Trout Populations

LL.20

By now it's obvious I'm primarily a trout fisherman. The trout fishing provided by the Lake Lanier tailrace is fabulous. The reproduction of brown trout is encouraging, and the stocking of rainbow trout has filled in many gaps.

Water Level

LL.58

I have been skiing on Lake Lanier since 1964 and sailing on the lake since 1974. I can still remember what the lake looks like when it gets full. And, we have not seen that happen in the last few years partly because of lack of rain, but mostly because of the down stream requirements of:

(1) the City of Atlanta and other downstream cities; (2) the newer navigational requirements for the Chattahoochee River south of Columbus; (3) the need for hydro power and water intake (at Plant Farley) for electric power generation; and (4) the maintenance of the (sadly polluted) oyster beds where the river enters the Gulf. So many entities have needs for the precious water stored in the lake. It seems, however, that the recreational users are way down on the priority list of users.

LL.77

Public docks have been out of the water and not usable all summer. Consider adding cables to allow docks to move out with the water. With the low lake levels, Corps should post, on the web site, lake elevations at which ramps will be closed. Instead of simply posting whether or not the specific ramp is open, include the elevation at which the ramp will be closed. That information will allow boat owners planning time to remove boats.

Lake Sidney Lanier EIS

Comments

Water Quality/Recreation

LL.37

I would like to see the recreational/commercial needs of the north Georgia area be the second highest priority just behind maintaining water quality down the Chattahoochee River. Maintaining barge traffic down river seems to be an overall economic mistake considering the negative impact those water releases have on the upstream economy and recreational needs.

Water Supply/Recreation

LL.50

Lake Lanier should be used only for water source and recreation.

Issue: Shoreline Management

Allow for Prompt Enforcement of Shoreline Regulations

LL.110

Needs to be written so that corrective action can be done with promptness and efficiently.

Allow Residents to Make Improvements in the Buffer Zone

LL.37

Speaking as an immediate family member of a lake resident I have to recommend that the COE re-evaluate the restriction policies on Corps land with respect to minor aesthetic landscaping. In some cases I have seen denials by the COE of requests for tree, brush and limb removals that would have no impact on the natural habitat around the lake shoreline. I request the EIS look at other similar lakes where restrictions are less stringent and assess the environmental impact of those less restrictive policies on that local area.

LL.69

We should be allowed to make improvements.

LL.74

Poorly marked boundaries. Boundaries that are way beyond the natural preservation of nature. Allow underbrush removal and the removal of dead and fallen trees.

Concerned About Litter

LL.109

Trash pick-up on island, not just wait for shoresweep.

LL.121 FG-LAR

Several residents were concerned about the amount of trash that can be found at parks and campsites and would like to see the Corps take a more proactive approach to trash removal.

Lake Sidney Lanier EIS

Comments

LL.122 FG-RLU

Other shoreline management concerns were related to the need to promote volunteer cleanup activities.

LL.28

Not sure of current status. If this is cleanliness then the Clean Sweep program has done a great job.

LL.49

I think the DNR should fine boaters and picnickers for littering - don't know how, but something needs to be done. Too many people who use the lake obviously don't care about it.

LL.70

Add more trash cans to all boat ramp areas and remind them to "Put it here."

LL.84

The Corps should start a public program to remind people not to litter. Also, I would like to see Georgia adopt the bottle and can return system.

LL.87

What a shame and a waste of time and money that we actually have to do a Shore Sweep. And one is not even enough to clean up other people's mess. We need to have and enforce a no litter law for the lake!

Hall Clean Council (now Keep Hall Beautiful) and the Hall County Sheriff have in use a vehicle litter incident report that concerned residents can fill out when they see a litter incident take place and send the report to the Hall County Sheriff, who will follow up on the report. Maybe something similar can be worked out for the lake.

With all the required safety equipment that boaters have to have with them, why not add the requirement of having at least one litterbag on board and depending on the size of the boat more than one.

And provide more than one trash container at the parks that have a boat ramp, so that boaters can leave the trash behind in a proper place and not run the chance of having it blown off the back of an open truck or out of the open boat on the trailer while driving home for that trash will then still end up in the lake one day. Not having to clean up anymore will save a ton of money in work hours and equipment and also in annoyance.

Consistent Enforcement of Shoreline Regulations

LL.108

Desire ability of requiring counties to enforce the same set back requirements from the Corps line as required for separation from other property owners.

LL.111

People (adjacent landowners) get exceptions to the lakeshore management plan and it's not fair to others. The plan is not enforced on some people, so why have a plan.

Lake Sidney Lanier EIS

Comments

LL.112

The plan is very good, but should be enforced with no exceptions.

LL.123 FG-BO

The fines assessed to homeowners when they are caught cutting down trees in front of their property are not a deterrent because multimillionaire homeowners who perpetrate such acts can afford to pay for them. In addition to fines, the penalty for violating the clear-cutting rules should be that the homeowners must replant the trees that they remove.

LL.15

Too many people violate rules and get away with it. We see/hear stories every day about people who throw money at violations to make them go away.

LL.3

The lake not only needs stricter buffer regulations, but the current regs must be enforced—or at least provide citizens who are concerned the correct addresses and contact info for people who are in the Georgia legislative.

LL.35

The Corps has not been following its own plan. They allow docks in places that exceed the channel obstruction limits in their own plan and they do not consider the impact of THEIR draw downs on channel obstructions. The fine for cutting trees and vegetation without Corps permission should be dramatically increased. Again those with large money just pay the pittance and get their unobstructed views

LL.49

Corps does a good job - just feel that everyone with lake property should abide by rules - too many disregard and do what they want to. I have a neighbor who has a blatant disrespect for the Corps and just does as he pleases. So far he has gotten away with cutting brush and dumping.

I have a huge buffer between my land and the lake and I follow Corps rules. It bothers me that while I am in compliance, many just clear away and also do not use silt fences. Too many people have no regard for the lake or its lifespan. I think the rules should be enforced so that all the clearing stops and silt/erosion must be controlled.

Lake Sidney Lanier EIS

Comments

LL.70

I'm sure there is a plan, but I have not seen it. I have read the information, but I see violations by my neighbors and when we call, NOTHING is EVER done about it!! It is a sad joke these days. The Corps did nothing about construction runoff into the lake and our cove is now 1.5 feet shallower. For 3 years we called the Corps, the EPA, the building inspector and the Sheriff. All we got was finger pointing by each agency to another and the builders were allowed to do whatever they pleased. We were recently told we could have a dredge permit, however, who is going to pay the thousands of dollars it will take to clean up this mess? A mess created by all the various public agencies not enforcing the rules or laws. We are affected by this lack of response and enforcement of the rules and now have to live with it or spend a small fortune fixing the problem. The worst part is, even if we do come up with the money, there is no protection that it won't happen again. I cannot control my neighbors and the governing bodies will not enforce the laws. Personally, I think the Corps and EPA should fix the problem they have allowed to be created by not enforcing the laws. There is a rule so no driving motorized vehicles on Corps property. We have a neighbor that has cut a stop sign so he can move it to drive on Corps property and even though we call, no one stops this man. Our new neighbors think they can do anything they like—and obviously they can because NOTHING EVER happens and he and his friends and family continue to do whatever they please whenever and however they please. Have you considered working with the counties to get some of the SPLOST money to assist with certain projects around the lake? If rules and laws are going to be made, then only make a few and ENFORCE them consistently and constantly. Check out Lake Tahoe—they are VERY SERIOUS about keeping that lake crystal clear AND they enforce the rules. As a result, it IS a beautiful lake and will continue to be.

LL.78

Follow the regulations as written and as previously and correctly exercised. Be firm but fair. Do not make up rules that do not exist.

Create a Consistent Buffer Zone

LL.39

Stupid. The existing Corps line looks like it was drawn by a drunk with no reason or rationale; sometimes it is in the water, sometimes a half mile from the shore. Where other lakes allow residents to at least cut trees and landscape so they can see the water, the Corps prohibits it. There needs to be a buffer but what we have now makes no sense to me... People on one side have a clear view, I don't and one next door has a cleared lot. It all depended on the line.

Current Regulations Are Too Strict

LL.122 FG-RLU

Some focus group members feel that shoreline rules should be relaxed. Many feel that not allowing any encroachments on Corps property is simply too strict. Participants also said that the Corps should clarify the boundary lines delineating Corps property because they are confusing.

Dredging

LL.101

Please consider the possibility of dredging some of the smaller cove areas that have been impacted by silt from developments around the lake, or for the purpose of increasing the water storage basin since water will continue to be a serious issue as the region's population increases.

Lake Sidney Lanier EIS

Comments

LL.102

Please consider utilizing federal and/or state funds or grants commonly used for beach and coastal restoration for dredging the silt from shallow cove areas of the lake. This would allow the lake water to more easily flow into all its cove areas and still provide enough water in the larger portion of the lake.

LL.108

Standards for dredging.

LL.109

Need dredging in many areas. Help!

LL.121 FG-LAR

Some residents feel that they should be allowed to dredge their coves to increase the depth of the lake. They feel that this is a service to the Corps that they would pay for themselves and that it improves water quality, reduces siltation, and makes coves and boat dock areas safer to navigate. Others feel that there should be equal treatment by the Corps for marinas and homeowners when it comes to dredging permits. Marinas should not get preferential treatment over homeowners.

LL.123 FG-BO

Several of the business owners/operators expressed concern about the dredging activity at Lake Lanier. They believe that the Corps should loosen dredging restrictions and allow more dredging in all areas. Some would also like the Corps to provide alternatives for dredge spoils, increase the cubic-yard depth that can be dredged in the local permits, and shorten the period for getting approved for a permits. One person also suggested that Congress appropriate funding to the Corps to dredge the lake.

LL.41

During this low level period, I wish some areas could be dredged to improve navigation. The main place I have in mind is south of the bridge to Lanier Islands.

LL.45

Concerned about silt drainage and inability to dredge. Based on current regulations, water-based dredging is cost-prohibitive. Land-based dredging should be allowed if there is no damage to Corps property.

LL.47

Dredging downstream should be eliminated altogether. The cost of dredging in relation to the amount of revenue brought in from the river traffic is too low and isn't warranted.

LL.56

My only complaint is that more efforts and resources (technologies) need to be researched into dredging shallow areas and coves that have been filled up with silt over the years of unchecked runoff. As a homeowner located in a cove on Lake Lanier, I only have 6 feet of depth when the lake is at full pool and I feel that I could gain another 1 to 2 feet if this could be dredged down to the original lake bed. Ideally, since this is one of the largest Corps controlled reservoirs in the country, I would like to see government participation in technologies and FUNDS to help lake homeowners regain additional depth to the water in areas that have been lost to runoff in the past. I feel that this is only proper for the maintenance of this lake for the present and the future.

Lake Sidney Lanier EIS

Comments

LL.57

Residents should be allowed to remove silt from the shore by their docks. The rule that makes them take it 500 feet from the water should be changed. The erosion has caused big ditches going down to the water. The silt should be used to fill in the ditches. Small mechanized equipment could be used without destroying the watershed.

LL.66

I would like to see more dredging allowed, in some cases required. If you can fine a landowner for disturbing vegetation without permission, why can't you fine or require dredging from a landowner that is disturbing his property and has undue levels of sedimentation or erosion affecting Corps property?

LL.80

While we have the lower water levels this is an excellent time to clean up the shoreline and maybe dredge out some channels that have filled with construction silt and build silting traps and charge the cost back to the builders and associates. Perhaps even the cities and counties that have excessive construction can pay for the silt traps since they eventually profit, through taxes, on the buildings and businesses.

LL.89

\$8.2 million was voted on for dredging down stream. Why can't this amount of money be allocated to improve Lake Lanier instead of limited source use like barge traffic?

Siltation will become a major problem. Allow on-the-water dredging. This should be a Corps responsibility.

LL.98

Supervise all individual dredging.

LL.99

Instead of stopping all dredging due to the actions of a few people, let me suggest that dredging be allowed under the supervision of a professional engineer. In my business, we develop real estate all around the southeast. We often develop in environmentally sensitive areas. To be allowed to do this, we are required to follow strict guidelines and to use the services of environmental engineers.

I would be willing to go to this higher level of supervision if I were allowed to dredge my lot on Lake Lanier. Let me also suggest that the dredging might be expanded to include deepening the lake below the silt. The dirt could be stacked on the shoreline instead of hauling it off (which causes damage to the vegetation). Again, an engineered plan would have to be submitted to the Corps and anti-erosion measures would be required to prevent the soil from washing back into the lake. By doing this, the lake would be deepened, creating a larger volume of water in the lake and extending the life of the lake.

Eliminate Orange Survey Markers

LL.66

The orange survey markers are horrible. They are aesthetically ugly and are a potential hazard.

Lake Sidney Lanier EIS

Comments

Erosion

LL.109

Let people put in sea walls and breakers. The silt is killing this lake.

LL.12

We need to continue to keep the shoreline intact from erosion and with the lake level so low the mud and silt are a huge problem. We need continued community to clean up the shoreline.

LL.121 FG-LAR

Many of the residents feel that shoreline erosion and resulting siltation is a high-priority problem facing the lake. They believe that the Corps should implement more erosion control measures along the shoreline to alleviate the siltation problem.

LL.23

The shoreline and water quality of Lake Lanier are as bad now as I've ever seen them. This is in great part due to the low lake level which exposes the mud and dirt shoreline to rains, facilitating accelerated erosion. The cove where my dock resides has become greatly silt filled in the past 2 years. If the water level doesn't stabilize, this cove will fill in as will countless others. This would have a serious adverse effect on the lake and all those downstream who depend on it. Me paying someone thousands of dollars for shoreline rocks is not a reasonable solution. The Corps needs to seriously address this issue. The fluctuating water level is ruining the resource. Take a look!

LL.24

Maintain balance between "natural setting" and development with the priority being protection of the shoreline to the degree necessary to protect water quality from runoff and silt (quality and quantity of volume). To this end, encourage the use and installation of riprap etc. from a economic point of view, through attitude and regulatory support. Right now the only means to achieve this is too expensive for most homeowners - but it is highly desired from an aesthetic, stability and quality perspective. This is potentially a very undervalued partnership opportunity. In the four years of property ownership at the lake, I have seen a dramatic loss of lake volume due to shoreline erosion. I have personally watched feet of shoreline, three and four feet in height, fall into the lake on a single day during a strong blow in March. A stable shoreline provides significant runoff protection on the landside and erosion protection from boat traffic and wind/waves on the lakeside. This cannot be accomplished by only managing "ground cover" on the shoreline. As well, water level fluctuations allow the shoreline to be significantly impacted through being undermined. Additionally, there needs to be a change in support of removing and recovering water volume through dredging. Once again, community support and investment would be forthcoming given the right atmosphere. There may even be commercial interest in the reclaiming of the silt. This would take a new out of the box approach and, as already mentioned, this would require a more innovative partnership approach. I recognize people will take advantage and this needs to be policed. I would fully support enforcement penalties stiff enough to discourage cheating and large enough to support enforcement resources - \$10,000 fines are ok with me. I would also support public exposure of offenders as a communications and deterrence tool. I would also support permit fees significant enough to help fund resources if low enough not to discourage the homeowner from making the investment. I do not support limiting the potential benefits because people will cheat. That is a reality that needs to be and can be managed. It is an unacceptable excuse for not working this issue. It is far harder to acquire and build a new resource than manage the existing one to the desired full potential.

Lake Sidney Lanier EIS

Comments

LL.27

I believe the current plan works reasonably well. I see a lot of erosion due to rising and falling lake levels coupled with ocean type waves generated by excessive boat traffic. Use fees could also be used to riprap shoreline areas.

LL.31

Need better cooperation with local government (building/zoning) to better control the runoff and unauthorized shoreline use. Implementation of repair and restore in addition to fines. Accelerate program to riprap high-traffic areas to protect shoreline from erosion.

LL.33

Inform us of ways to stop erosion that are environmentally safe and meet your guidelines.

LL.50

Should be managed to ensure clean water. Erosion is a major factor.

LL.58

Erosion control, e.g. riprapped banks, are evident/adequate above full pool levels. Lots of bare shoreline now. I would not know how to effectively minimize erosion on those.

LL.60

Need to adopt plans to manage shore erosion. Large boats create wakes that accelerate erosion and damage docks.

LL.62

Wherever possible action should be taken to help prevent erosion along the shoreline to the lake.

LL.64

The Corps should be responsible for minimizing shoreline erosion (apply riprap), not the homeowners.

LL.67

An area of study I feel is important is a review of the areas of shore now designed as use for docks, recreation, commercial, or held as natural areas not to be disturbed. With the amount of runoff from development, perhaps more areas of shoreline need to be incorporated as natural areas for conservation, regardless of their designation at this point.

LL.75

Keep the water level high. Less erosion and weeds. Encourage homeowners to add riprap to their shorelines.

LL.77

The low lake level has caused significant erosion in shoreline areas not normally exposed to rainfall. The resulting silt cannot be good for the lake.

Lake Sidney Lanier EIS

Comments

LL.81

Further: local municipalities MUST be held accountable for managing runoff and erosion from development; I have seen literal rivers of mud sliding into the creeks feeding the lake, from residential construction sites with minimal erosion controls in place. This MUST stop within the watershed.

LL.86

The erosion of the shoreline is becoming a serious problem. Perhaps water grasses should be planted around the shoreline to reduce it.

LL.87

Now that we have low water levels in our lake the presence of eroding shorelines is all the more obvious. The erosion also takes place at a greater rate because of the unchecked high-speed boaters and jet skis on the water. Even no wake signs are not observed and the waves have caused a lot of damage on the bare shorelines.

Since the low water levels probably are here to stay, not just because of the present drought, but also after the water pact with Alabama and Florida is finalized, there should be a speed limit set for the lake, or at least for certain areas around the lake. And these limits should be enforced.

LL.9

Reduce erosion.

LL.94

Erosion, directly from docks and especially from development.

LL.97

Keep the lake levels up. All the exposed shoreline erodes into the lake with heavy rains and silts up the lake.

LL.98

Control development erosion.

Increase Amount of Vegetation Surrounding the Lake

LL.116

Revegetate Lanier's immediate watershed. Provide interpretive program that describes project's natural and cultural resources.

Plant trees, remove kudzu, stabilize shoreline, remove silt deposits.

Lake Sidney Lanier EIS

Comments

LL.121 FG-LAR

Residents feel that the Corps should more strictly enforce their own tree cutting regulations. Several residents cited cases where lakeside residents have been allowed to cut down some or all the trees in front of their homes to allow for an unobstructed view of the lake, leading to severe erosion and siltation problems. Many believe that the Corps is too lax when it comes to issuing fines and taking action against these residents.

One resident suggested having a list of appropriate vegetation distributed to all shoreline permit holders so that they could make better-informed decisions regarding shoreline vegetation. Another resident would like to see better management of campsite vegetation. He noted that several campgrounds seem to have extensive erosion control problems and that often campsites contain cleared areas all the way up to the water's edge.

LL.122 FG-RLU

Some recreational users suggested that to deter clear-cutting activity, violators should be required to replant the trees they remove and pay steep fines. Several users believe that violators should be stripped of their dock permits. Several recreational users agreed that the information in surveys relating to the 1,085-foot water level is flawed and suggested that the Corps resurvey by air.

Increase the Use of Riprap

LL.109

Need to have island, shoreline riprap! We have a terrible siltation problem.

LL.121 FG-LAR

Several people suggested increasing the use of riprap along erosion-prone areas. One resident even suggested that funding for riprap installation should be shared by the Corps and the states of Florida, Georgia, and Alabama.

LL.24

Where you already do allow commercial activities, i.e., riprap, you need to encourage greater competition (more suppliers) so the costs make the benefits more attractive to more homeowners. Anything to encourage this type of result would encourage greater private investment in the lake.

LL.77

The environmental study should consider plans to prioritize riprap for shoreline areas managed by the Corps and to subsidize or otherwise encourage private owners to riprap their shoreline.

LL.78

Allow riprap installation and silt removal by land as it is much cheaper for the lake residents. Allow riprap on the Corps land where silt is washing into the lake. Work out some financial benefit for the homeowner to install riprap on the bank and above 1072. Allow longer steps to the water. Allow riprap to be installed to a lower lake level to prevent further silt washing into the lake. Be more realistic on the "1085" when the Government followed land lot lines etc. rather than surveying the 1085 line as they should have done.

LL.84

Allow skid loaders on the shoreline and islands to either arrange rocks or add rock to help stem erosion from rain and waves. There are many fallen trees that could be aligned as to temporary block erosion. Also plant native grasses and shrubs.

Lake Sidney Lanier EIS

Comments

Protect Vegetation Surrounding the Lake

LL.119

Too many people cutting trees and running folks off the shoreline.

LL.16

Higher fines are needed to control tree and undergrowth destruction.

Provide a System for Addressing Disputes

LL.124

Several residents believe that the Corps should allow some means for dispute resolution as it relates to shoreline use. The Corps is often too strict when it comes to shoreline encroachment and other shoreline use issues and should allow residents some way to dispute their rulings.

Provide Tax Relief for Residents Who Pay for Riprap Installation

LL.105

A tax break on the tens of thousands of dollars I've spent on riprap to save erosion.

LL.68

Not a real problem here...but I would suggest some type of incentive program (tax deduction, etc.) for encouraging lakeside landowners to reinforce the COE's shoreline with rock, etc. You have to do something...the huge weekend volume of large boat (as in BIG BOATS) traffic is destroying the shoreline...and I will remind you, you own the lake shoreline frontage!!! Per current rules and laws...I access the lake and have a dock...only through your generosity, kindness and grace!

LL.88

Cost of installation of riprap is very expensive. It would be great if homeowners could use the cost as a tax deduction since it is a contribution to public property improvements. We have spent over \$15,000 so far.

LL.93

Lake residents who spend tens of thousands of personal dollars to help prevent erosion should be given a federal tax credit to help encourage investment.

Relax Some Restrictions

LL.121 FG-LAR

Several residents believe it is too difficult to get shoreline use permits and would like to see the way they are issued changed to make them easier to get.

Sedimentation/Siltation

LL.102

Over the course of the last 10 years, I have watched an island of silt from the construction of two subdivisions slowly take over a large span of this cove.

Lake Sidney Lanier EIS

Comments

LL.107

Rampant construction around the lake has caused the silt layer to increase to several feet in some places.

LL.111

Counties do a horrible job of protecting the lake for silt! Ex. Ledan Rd. in Gainesville and Hall Co. is supposed to be fixing a culvert under the road. Well, it has been four months and not a thing has been done. That whole cove down there is silted in and they have had this road closed the whole time. The road connects a whole community (a very large one) from accessing a major highway!!

LL.117

When it rains the runoff is full of silt. Counties are doing a poor job of enforcement.

LL.120

Can't the coves be dredged?

LL.25

In summary this is what I would propose:

(1) Assessing impact fees to developers (including individuals) in the form of lakeshore improvements (riprap, drainage provisions across Corps property).

(2) Increase all fees on the lake for the addition of officers to monitor individual efforts for riprap, silt removal, and drainage observation. This would be the officers' sole job and they should be allowed freedom to exercise common sense when it comes to benefits that would improve the lake.

(3) Stop all large-scale commercial develop on the lake UNLESS any lease fee derived from the development is used SOLELY for the purpose of MEASURABLE lake improvements such as riprap along island shorelines, dredging, etc.

(4) Assess a Lake Lanier boaters impact fee to pay for shore improvements, based on boat displacement and horsepower.

LL.31

Implement better programs for removing silt. Target areas that are the result of illegal runoff conditions and force compliance.

LL.35

Building of homes and sites around the lake is causing accelerated silting—the Corps should fine and enforce laws concerning silt fences and removal of silt by homeowners and businesses responsible.

LL.4

Can Corps extend its reach upstream in the many feeder creeks to help control/limit siltation, runoff, poor development, etc.?

LL.53

Do everything possible to reduce sedimentation—enforce runoff restrictions to reduce erosion as much as possible.

Lake Sidney Lanier EIS

Comments

LL.6

We must address the increasing amount of sediment filtering into Lake Lanier because of development near the lake which is not properly controlled. How long before our lake is filled up?

LL.65

How can the homeowners protect their investment without a proven method of silt pollution prevention and riverbed runoff? With area development and lack of erosion prevention, the lake is filling up with silt and dirt. The homeowners of our cove spent over \$100,000 last year to remove only half of the silt that had filled in our cove only to have the heavy rains bring more silt and dirt to our cove this year. There are no protective measures to prevent this from continuing.

I found with our dredging project last summer that the engineers are willing to assist (by allowing the homeowners to remove the silt) but will not take a risk to back the homeowners when they want to come face to face with the violators who created the mudslide. I am so discouraged with the outcome of our efforts, I would never recommend buying or moving into a cove where continued silting is occurring.

LL.70

There is new "construction" on Pilgrim Mill Rd. For example, right next to a stream that feeds the lake. It used to be a real pretty stream—now it is RED with runoff and NO ONE does anything about it.

LL.77

As noted above, silt has been a problem. The TVA publishes water quality metrics for lakes in North Georgia and Tennessee. I have not seen anything published on any of the Lanier web sites. That information would be beneficial.

LL.87

Lower parts of the lake are filling in fast these days. Development being one of the culprits, the ongoing drought another. Where Balus Creek flows in the lake we have now a marsh land with grass growing several feet high. The (former) lake homeowners are left on the dry now.

There should be rules for permits to dredge certain areas of the lake. Especially now the lake is low the dredging should be a lot less difficult than with higher lake levels. Sites in need of dredging can now be exactly identified.

There also should be rules for proper discharge of the silt and enforcement of these rules.

LL.96

The Corps does well at keeping the shoreline green! Enforce regulations to prevent silt from entering lake. Allow silt removal. Riprap good idea if water level comes back up.

Sedimentation/Siltation

LL.122 FG-RLU

Siltation, runoff pollution, bacteria, and the volume of water in Lake Lanier were additional issues raised. Concerns were also expressed about bank erosion, and about the pesticide and fertilizers used on golf courses and home lawns.

Lake Sidney Lanier EIS

Comments

Standardize Enforcement Regulations

LL.124

In addition, several attendees feel that the Corps should step up its enforcement of boundaries so that there are fewer encroachment issues and less clear-cutting. They would like to see more patrol by rangers to enforce boundary regulations.

Strictly Enforce Buffer Zone Regulations

LL.115

Very good plan, need more protected areas.

LL.116

"Plan" more shoreline. Do not "grandfather" anything. Do not count islands as protected shoreline, but place them in a "prohibited development" status. Disallow water withdrawal. Disallow electrical service over water.

LL.73

I would favor stricter enforcement of leaving the buffer zone on the lake undisturbed, e.g. no cutting of trees and vegetation.

Support for Current Lake Management Activities

LL.122 FG-RLU

According to some of the participants, shoreline management at Lake Lanier is relatively good.

LL.44

Less of a problem if the lake is full. I think the Corps does an excellent job on this.

LL.58

Seems ok to me.

LL.61

Fine.

Update and Revise Current Plan

LL.114

Needs updating to reinforce protection of the environment including vegetation.

LL.117

Too liberal. Too much shoreline looks like private property. It is public land.

Lake Sidney Lanier EIS

Comments

LL.92

Lake Lanier deserves a current, protective, recreation-encouraging, realistic and enforceable shoreline management plan, especially in light of the rapidly increasing population on its watershed and the entire Metropolitan Atlanta area. The LLA has no recommendations about the number of boats or boat docks on the lake. Perhaps the EIS will provide some factual information to influence these considerations. The LLA view is that Lake Lanier was built with public funds and should be enjoyed by the public. On nice summer weekends the lake is busy with boat traffic, but during the non-summer season and on Monday through Friday during the summer season boat activity on the lake is minimal. So, a lot more recreation and boat traffic can be accommodated on the lake. We think there will be a self-limiting amount of activity on the lake as the increased usage makes an individual's recreation experience less desirable.

LL.95

It's time!

Issue: Water Management

Clarify Allowable Uses of Lake Water

LL.124

One resident mentioned the need to clarify the allowable personal uses (e.g., irrigation) of lake water.

Flood Control

LL.24

Flood control - protection of life and property.

Flood Control/Navigation/Power

LL.81

This reservoir is intended for Flood Control, Navigation, and Power Generation. Yet, 3 times the inflow is being released during weeks like this one, supposedly to flush downstream sewage through the Chattahoochee River. I don't see where that purpose is part of this lake's charter. The only factors to determine releases should be flood control, navigation, and power generation. Nothing else. That's why the dam was built, and any other factor needs to deal with the amount of water that would be flowing downstream had the dam NOT been built.

Flood Control/Water Resource/Recreation

LL.67

The lake was created for flood control, water resource, and lastly recreation. The recreation is fun, produces a lot of revenue, but we cannot lose sight of the other reasons the lake was formed. Atlanta's growth north has taken the lake from rural to suburban, with all the attending problems we see today. Care must be given how we treat the lake, including the watershed, and I trust this EIS statement will give us guidelines toward preserving this resource beyond my children's lifetimes.

Lake Sidney Lanier EIS

Comments

Oppose Water Releases

LL.105

How can the lake only go up 1 inch when it rains 4-5 inches? (like it did weeks ago) Are you dumping water down the Chattahoochee needlessly to float some barges downstream? For the cost of dredging, I understand you could use Federal Express to ship whatever is on the barges and save money. Add the value of the extra water that is used to float the barges, then, why are we doing this?

LL.107

One of the most wasteful uses of the water out of Lake Lanier is the surges of water sent from it down the river to float occasional barge traffic.

LL.17

Water should not be released to float barges. Use railroads.

LL.27

Stop using the lake to enable barge traffic downstream. There is no way that the current arrangement can prove to be economic. It is purely a political deal which needs to be ended.

LL.29

You shouldn't let out so much water. I heard you let it out for private industry.

LL.35

Drawing down the lake to float one or two barges a year is ridiculous. The water lost to cities and recreation is far more valuable than the value of the cargo. Three to four feet of draw down in a week is insane.

LL.37

Maintaining barge traffic down river seems to be an overall economic mistake considering the negative impact those water releases have on the upstream economy and recreational needs.

LL.4

Water can't be replaced - encourage buying out of all hydro energy contracts to reduce demand for flow out of Lanier through Buford dam and downstream hydro plants.

LL.43

Also very upset about low lake levels including the ridiculous continuation of the barge traffic down river.

LL.45

I am concerned about water releases for barge traffic and other uses down stream which results in recreational usage problems (for ramps, docks, navigation, swimming etc.).

LL.49

No water releases for barges! They can use trucks or trains. Not a good use for the water.

LL.53

Do everything possible to establish priorities so that the lake stays as full as possible. Floating barges to Columbus is the worst type of pork barrel activity.

Lake Sidney Lanier EIS

Comments

LL.55

Irresponsible behavior on the part of Corps of Engineers in the failure to maintain reasonable lake level. Production of electricity and barge traffic should not receive priority over maintaining a healthy and safe lake environment.

LL.57

The barge traffic should be stopped. It is not a profitable business. We should not be taking water out of the lake to support a bankrupt business. The power company can design parts that are small enough to be hauled on trains and trucks and assembled at the plant if we force them to.

Stop supporting barge traffic.

LL.59

I am a member of the Lake Lanier Association and a home owner on Lake Lanier. I attended the last meeting of the LLA in June. The Corps attended and spoke of changing their policy on water releases at the meeting. They stated there would be minimal water releases until the lake recovers. We have had ample rain recently and it appears it's business as usual on the water releases. We have received significant rainfall in the past several weeks and the lake continues to drop. West Point Lake has been over full since January while lake Lanier is still 8 1/2 feet below full pool. I have been checking your web site frequently and you are still releasing large quantities of water even on days when there is rain and down stream needs don't appear to be in the need.

ACF Action Zones:

The lake has been in zone 4 for most of the past three years but it seems there is more water being released than needed.

Zone 4 indicates that navigation is not supported. A minimum of two hours per day is met for hydropower demands. Water supply and water quality releases are met.

LL.6

The release of tremendous amounts of water for business, like Georgia Power, is unacceptable during times of drought. Our water is critical to our local community, as well as Atlanta and SE Georgia.

LL.72

Stop letting water out of Lake Lanier to support commercial interests south. Many areas are now flooded.

LL.73

I would like water releases for downstream navigation to cease, and for water releases for electricity to be ceased or minimized. I would also favor letting full pool level increase by a couple of feet.

LL.74

The continued and expensive dredging of the lower waterways and then the release of billions of gallons of drinking and recreational water to float barges. It would be less expensive for us as taxpayers to just pay the trucking lines fees to transport these goods.

Lake Sidney Lanier EIS

Comments

LL.77

The water release plan should be to keep the lake filled or overfilled during the winter and spring so there is water available during the dry months of summer. Lake priorities should be watershed and natural resources management, water quality, recreation quality and drought relief. Production of electricity should be very low priority. Enabling barge traffic on the lower Chattahoochee should not even be considered.

LL.78

No barge traffic. That is economically a disaster and is obviously a political pork barrel agreement with the barge people. Suggest or force a fertilizer for grass to be a non-phosphorus on areas that drain into the Lake.

LL.8

Please see previous note regarding barges. In times of drought we depend on the Corps of Engineers to protect our precious water supply, not sell it to the highest bidder! Also, we need you to help us maintain excellent water quality—educate us, help us preserve this wonderful natural resource.

It is inconceivable that our valuable water was wasted sending 8 Georgia Power barges down stream so that GA Power could save money!

LL.80

Of generation of excessive water release for lower river usage during excessive drought conditions that we have experienced these past five to six years.

LL.83

Cut out those wasteful barge traffic releases.

LL.89

Develop an architectural plan for the shoreline. Is downstream barge traffic worth the impact on the lake?

LL.94

Drop down stream barge traffic and only generate power when water level needs let out!

LL.96

Maintain the 1071 lake level - don't need to send water down to the barges - the other GA Corps lakes are above full pool!

Publication of Water Discharges

LL.15

More info to concerned citizens - need to better publish what & when water is used for & how much.

Lake Sidney Lanier EIS

Comments

LL.31

Publicize all water withdrawal permits along with discharge permits.

Publicize any discharge that is required along with the reason for discharge (i.e. peak power demand, sewerage spill, low water conditions downstream). This would help image of the Corps with respect to water releases.

Support Water Releases

LL.20

I support water releases during non-generating hours similar to the existing procedures with sufficient water flow to keep trout healthy in the tailwater.

Water Level

LL.1

Will the water level go back up?

LL.10

Maintain constant water level.

LL.100

On behalf of the Forsyth County Board of Commissioners I am writing this letter to inquire why the water level of Lake Lanier continues to be approximately eight (8) to ten (10) feet below full pool. This part of North Georgia has received more rain this year than in the past two, yet the level of the lake is not coming up. Many citizens have asked Forsyth County why the lake has not come up despite all of the rain and we do not have the answer.

LL.104

Need to keep water level up. Low lake levels are dangerous—plus it looks terrible!

LL.109

Leave the water level up and constant as possible.

LL.11

Maintain a constant lake level - lake level should be established that does not drop below 1064.

LL.118

Water levels too low.

LL.12

It's not fair that the water level hasn't been allowed to come up to full pool this year. We've had more than enough rainfall. It's not fair to lower the levels for others, when people like myself have a love and passion for the lake. The lower lake level affects the erosion, problems with tearing up our boats, aesthetics, safety of water sports, etc. etc. We all have to control the cleanliness and quality of the water. I want everyone to benefit with Lake Lanier, and want it to be live with its beauty another 50 years, and forever.

Lake Sidney Lanier EIS

Comments

LL.120

With the lake being so low—a low amount of vegetation is growing on the banks which will be under water when the lake comes back up. It will rot, smell, and cause a lot of debris.

LL.123 FG-BO

Like most people in the other focus groups, the business owners and operators mentioned the lake's water level as having a huge impact on their business; several believe the level should be maintained at 1,072 feet.

LL.124 FG-EO

If Georgia agrees to lower the minimum maintained lake level to the one suggested by the Tri-State Water Commission (1056 feet), the lake's cove areas may never fill up again even in the best of times. Please try to pursue a stance in your decision making that would enable the lake to keep water in all its cove boundaries in times of normal rainfall.

LL.14

The issue is why Lake Lanier is several feet below full. Much more frequently than the other lakes on the Chattahoochee. It is easy to say, "we haven't had enough rain," but there are other factors that effect lake levels. If the water was allocated fairly, then Lake Lanier would stay below full no more than the other lakes in the watershed. Since this is not the case, I think the agreements that compel you to release the amounts of water that are released should be renegotiated.

LL.19

As a renter for the past two summers and a recreational day-user with my family for the past 23 years, I offer my thoughts on this wonderful resource called Lake Sidney Lanier.

During the next 50 years, Lake Lanier should be primarily dedicated to the conservation of water with the "full pool" as the norm. This will also provide the secondary but important and increasing recreational needs of the region. This will also have its economic benefits to the region as a first class place to spend one's leisure time.

During the next 50 years, Lake Lanier should not have to balance the needs of a river system below Atlanta for commerce purposes. In the past, few have benefited while leaving a metropolitan area of Atlanta and environs hostage to prevailing water restrictions. It is unfair and no longer makes sense.

Lastly, the "Corps Line" should be re-established with modern surveying and aerial photography methods. This line presently serves some people well and for others, the line does not, and is an inconvenience and possibly a hardship. Develop a new standard of offset, possibly from a "high water mark" of "full pool."

LL.21

Why is almost every major reservoir in the southeastern United States at full pool for quite a while now, and we continue to just generate away all the wonderful water God has sent us? Why are we still 10FT down with a huge surplus of rain for the year?

My opinions - the same as every serious fisherman I know.

Lake Sidney Lanier EIS

Comments

LL.24

I recognize you don't want to hear about lake levels in this forum, but you really need to consider the need for lake level management in favor of maintaining and even increasing available volume. Water will be a significant resource issue before most people realize. I believe we have an opportunity through this process to look at raising the lake level, as a means of creating additional volume, by leveraging the community support (recreational and commercial) that is interested in the topic. As a homeowner, resident, and parent, I would be willing to make reasonable investment in partnership to achieve an improved sustainable future resource. Besides I think it is absolutely related to some of the shoreline, dock and water quality issues you are responsible to manage.

It is completely impractical and laughable at times when you try and maintain a position of the lake being a "natural resource" that you must maintain in some zealot way and on the topic of your choice, when in fact it is manmade and always will be. I think you need to broaden your view to include the benefits of continued, manmade improvements and investments beyond the ones you hold today. Creativity and innovation with the support of the landowners and the general public can have a significant positive impact on the lake. Now is the time to try and develop a new set of approaches. The support is there and lake is still relatively healthy.

In fairness to all, we pretty much wrecked the "natural thing" some 50 years ago when it was decided that the benefits to man in the building of the lake were greater than the destruction to nature and personal property. I believe we are challenged once more on the same topic with perhaps a more enlightened view. However, the outcome needs to be the same - benefit to man. We face the ever-growing need for clean water and recreation to maintain and improve the quality of our lives. We no longer require the huge waste of water to float some barges or generate meaningless levels of power. These were right for the time but hugely wasteful and disrespectful to the value of the resource. This time, we need to think carefully about how we want to invest in and improve what we already have, in advance of when we cannot live without it. When I can easily witness dumping, shoreline erosion, political posturing and water level mismanagement as daily threats to a critical resource, while at the same time receiving a letter to remove my canoe from the Corps's shoreline, you just have ask yourself what's wrong with this picture. Let's move to managing the lake for what it truly is to ALL of us - a source of life and pleasure. I have made a truly significant set of investments in "my side of the lake" and as is the case with many new landowners I'm am interested in and supportive of making reasonable investment in "our side of the lake." I believe the Corps can help provide the vision for and priority of future investments, and should be an able and willing partner in this process.

LL.28

I am also concerned about the fact that our lake is low while the others downstream have been full for a long time now. I appears to me (a layperson) that the only reason for the excess flow is to keep the extensive amount of pollution that comes from Atlanta diluted...I also think something should be done about local septic companies doing night dumps and mandatory removal of macerators on the boats on the lake as well. Many times we see large boats leaving trails as they leave the islands after a weekend.

LL.33

I bought my house in the summer of 2000 and was very upset, not to be able to put my boat at my dock, it only took me 22 years to get out of Gwinnett and move here.

LL.42

Keep the level of the lake up so that when dry times the lake levels won't be devastated like they are now.

Lake Sidney Lanier EIS

Comments

LL.44

The lake needs to be brought up to full pool and kept there by tying the release of water to the inflow from the undersized watershed. A reasonable buffer of say four feet could be set, but once the lake drops below four feet down, then releases would be tied to inflow. This would benefit everyone including the other states.

LL.46

It seems that the acreage feet of water released (as provided on the daily recording) is not consistent so as to allow the lake a more normal and steady level.

LL.47

I don't understand the water at its current level. I've lived on the lake for 4 years now and have never seen the level not go up when 25 inches of rain falls within a 3 month period (May to July, Cumming received 23 inches). Usually the lake will come up dramatically with 2 - 3 inches of rain but may fall again but lately it seems that it doesn't move at all. This has been a very mild summer therefore electric generation should not be the cause also with the water ban in place the residential need should not be that great either. I don't understand!!!

LL.49

With the two new intake locations, how much more water will be released?? When will the lake be allowed to come up if there is any rain?

LL.51

Low water level

LL.54

We've been owners at Lake Lanier for three years now. We are very concerned at how much the water levels have dropped and are not comfortable with what has been done so far to assure water levels in the future. The lake generates a great deal of revenue for the surrounding areas as well as Georgia....not to mention jobs it supplies.

Quit dropping the water levels.

LL.55

Irresponsible behavior on the part of Corps of Engineers in the failure to maintain reasonable lake level. Production of electricity and barge traffic should not receive priority over maintaining a healthy and safe lake environment.

LL.56

I feel that the Corps can do more to help maintain the proper lake levels than is currently being done. I know that you are between a "rock and a hard place" with water level management and that the weather (rainfall or lack there of) plays a large part in the scheme. But at this time (August 2001), with most all of the lakes in Georgia at full level and the Chattahoochee (south of the dam) at near full levels, something is wrong with the amount of water that is water that is being released from the dam. We need a bigger "cork"!

Lake Sidney Lanier EIS

Comments

LL.61

The fact the Corps of Engineers has let the lake level drop and remain at such a low level is criminal. It is also very dangerous. I cannot believe that with all the rain this summer, the lake hasn't come up one inch. My dock is sitting in mud. I realize that people need the water for drinking, etc. But two years in a row at this level is ridiculous. What is being done? The lake needs at least two more feet of water to be close to safe for boating. That part of GA depends on the lake for commerce, do you not care about the residents and businesses losing money because of the mismanagement of the water level?

LL.68

I am extremely concerned over the multiple political institutions that are positioning for control of this valuable, regional resource. It is this writer's opinion that the lake level has been purposefully manipulated this summer by these same political influences. I live here...and we have had plenty of rain...easily enough to fill the lake basin (there is a skunk somewhere in the wood-pile!) NOTE: I have an electronic rain gauge and keep data records...if they would be of use to you.

The low water levels are deterrent to both...and at times dangerous! The regional income from lake recreation supports a significant population in our community and should be a major consideration in governing decisions of lake use and levels.

LL.70

Kind of difficult to "recreate" when you can't get your boat in the water!!! This is the third year we have had NO WATER under our dock. Not even enough to be able to float it to move it.

LL.71

Not enough emphasis on maintaining a full lake level. More attention is required to recreational use of the lake as well as that fact that the lake is valuable resource of water. Since the watershed to the lake is limited the ability to refill the lake is restricted.

LL.74

Water levels should be returned and maintained at full pool. The unnecessary release of water for barge traffic has taken the lake to a dangerously low level. First priority should always be the preservation of water level to protect drinking water and its quality.

LL.75

Please keep the lake at full pool. Our dock used to be in front of our house. Now it is 1/2 mile away, and we have hardly used it these past two summers. It has affected all the property values.

Keep water level high!

LL.85

Holding Lake Lanier levels relatively high provides dry weather insurance for much of Georgia's water supply, maximizes the lake's environmental/aesthetic values and produces the greatest benefit for the lake level sensitive recreation economic contribution.

LL.88

COE does an excellent job, but the large fluctuations in water level contribute more to erosion and sedimentation than if the lake were kept at normal pool elevation where most of the shoreline protection has been installed.

Lake Sidney Lanier EIS

Comments

LL.92

The LLA certainly supports the development of the Lake Lanier EIS and the potential it has for preserving Lake Lanier. Lake Lanier and its Buford Dam releases provide the water supply for 3+ million Georgians, as well as providing a \$2+ billion annual Lake Lanier recreation economic contribution. Holding Lake Lanier levels relatively high provides dry weather insurance for much of Georgia's water supply, maximizes the lake's environmental/aesthetic values and produces the greatest benefit for the lake level sensitive recreation economic contribution

LL.93

Lake level needs to be held constant, at or near full pool.

LL.94

I own two homes and both have docks with grass growing rather than water to float boats.

Protect watershed and get water level up!

LL.95

I know you have been inundated with water level questions. We would like to see a full Lake Lanier every year. Recreation is an important revenue but the beauty of the lake is first and foremost to us! Please keep the lake full.

LL.96

Our main concern is protecting our investment on Lake Lanier. A lake house without water isn't of much value. The Corps has done a great job enforcing boating regulations to make the lake safe. Now lets maintain a 1071 lake level and enforce regulations regarding water quality of the lake.

Issue: Water Quality

Concerned About Gwinnett County's Discharge of Treated Sewage

LL.104

Very important—I swim and boat in this water and as an Atlanta resident, I drink this water. Don't like the idea of filling lake with "treated" water from Gwinnett County. Also, I eat fish out of the lake.

LL.114

Gwinnett County opposed to treated sewage being pumped back into lake. Recommend line be placed behind dam downstream. This will reduce the outflows and Atlanta can use the water.

LL.17

Gwinnett sewage into Lanier should not be allowed. Too many accidental dumps occur.

LL.28

I am very concerned that Gwynnett County will be allowed to dump into the lake with no way to monitor or stop their errors. They have a bad track record and should not be able to do this. My family swims and fishes in this lake many times every week. Please focus on the high quality of this resource.

Lake Sidney Lanier EIS

Comments

LL.29

You guys are crazy if you think letting Gwinnett County dump millions of gallons of treated sewage into the lake isn't going to ruin it! Look at other lakes around the country that have tried that. You can't even swim in them anymore.

LL.43

VERY DISAPPOINTED THAT GWINNETT SEWAGE WILL BE ALLOWED TO DUMP INTO LANIER.

LL.45

Major concerns about allowing other counties to empty treated sewage into Lake Lanier. If Gwinnett County is allowed, then every other county with access to Lake Lanier will attempt to obtain approval also.

LL.47

Gwinnett County shouldn't be allowed to dump so much wastewater in the lake. For as little shoreline as Gwinnett has and as much as they will deteriorate the lake, there should be something done.

LL.49

Gwinnett needs to use a settlement pond BEFORE they release any water into Lake Lanier. Same goes for all sewage treatment facilities.

LL.55

We oppose using the lake as a sewage dump for Gwinnett or any other county.

LL.57

Gwinnett and the surrounding counties should not be allowed to dump treated sewage into the lake. The water quality will never be the same. It will get worse. The counties should build their own reservoir and recycle the water. Since they say it is so clean let them drink it.

LL.59

I am very concerned about Gwinnett County wanting to discharge a total of 40 million gallons per day of treated sewage into Lake Lanier. The water quality would be severely degraded if this is passed as it stands. There have been alternatives proposed and they have been (so far) rejected. That \$2 billion the lake brings to the economy would be "down the toilet" if the lake is turned into a cesspool.

Some of the older treatment plants need to be brought up to current standards and much stronger enforcement needs to be put in place.

When I first moved to the Atlanta area in 1983 the lake supported trout. I was told there isn't enough oxygen in the lake to support these fish anymore. This is a clear indication that the water quality is on the decline. Will the bass population be next??? The fishing in the lake contributes to a large portion of that \$2 billion the lake brings in.

We also need stronger building codes and enforcement to stop the silt and pollution runoff into the lake.

Lake Sidney Lanier EIS

Comments

LL.69

Water quality and water level do not appear to be high priorities. Runoff and pollution rules are not enforced. Potential of allowing Gwinnett County to dump 40 million gallons a day of treated sewage into the lake should result in the responsible party going to jail! This is criminal. Millions of people depend on this source of drinking water for survival. If the treated sewage is of high quality as good as the lake (as they claim), then let Gwinnett pipe the treated effluent back into their drinking water supply and then be treated for human consumption. At the very least, a retention pond should be put in series between the treatment plant and the lake to prevent the inevitable spill of untreated waste into the lake (last resort). Decades from now, those that preserved the quality of Lake Lanier will be praised. Or will it be those that allowed the slow death of Lake Lanier that will be vilified! Let your conscience be your judge. This is one of the finest natural resources in the country. Please don't let it slip through our fingers.

LL.75

We are not happy about the treated sewage from Gwinnett County.

LL.92

The Georgia Environmental Protection Division (EPD) has given Gwinnett County, which has only about 3 square miles on the Lake Lanier watershed, permission to discharge 40 million gallons per day (mgd) of treated sewage into Lake Lanier because the Chattahoochee River is too polluted to accept it. The LLA is convinced that the sewer discharge poses great danger to the future quality of Lake Lanier water. If that action is allowed to stand we think the precedent will invite another 300 mgd of treated sewage to be discharged into Lake Lanier during the next 50 years, further degrading lake water quality and threatening human health. For its ever-increasing quality of life contributions Lake Lanier water should be kept pure and swimmable.

LL.96

Water quality is more important! We don't need Gwinnett sewage in lake. It could be piped into the river right below the dam.

Restaurants and supply stores for boaters would be nice at Gainesville marina! We like Aqualand restaurant and Up the Creek.

Concerned About Sewage Discharges from Boats

LL.123 FG-BO

Several people in the group agreed that the frequency of boat inspections for pump-out stations should be increased. According to one person there is not adequate enforcement from GA DNR rangers, who are responsible for ensuring that boat owners are discharging sewage in the proper receptacles instead of the lake. In addition to concerns about boat discharges, several participants voiced concern about the impact of sewage inflow from surrounding areas on the lake's water quality.

The participants believe that Lake Lanier is held to a different standard from other lakes, and therefore there should be mandatory high-tech pump-out stations, wash-down areas to protect the water quality, and no discharging from boats in the lake.

LL.124 FG-EO

Sewage discharging was another issue the group brought up. Along with sewage discharges from houseboats, the group said marinas should be charged a service fee for pump-outs, and they should be required to keep a pump-out log.

Waste from boats and other watercrafts.

Lake Sidney Lanier EIS

Comments

LL.3

Motor boats should be checked for oil leakage like cars tested for emissions. If it is illegal for one to pour oil directly into the lake, then why is it legal to operate an outboard engine that leaks oil?

LL.62

Owners of boat rental facilities (houseboats, etc.) need to have all houseboats inspected on a regular basis to make sure that the holding tank being used is onboard the boat and not into the lake. A hefty fine of \$1,000 and up should be charged to any vessel found discharging sewage into the lake.

Concerned About Treated Sewage Discharges From All Sources

LL.107

Local governments are rushing to dump their sewage (supposedly treated unless there is an accident which by the way happens all too often) into the lake.

LL.121 FG-LAR

Many residents are also concerned about the inflow of wastewater from existing wastewater treatment plant discharges and the newly proposed 40-MGD discharge from Phase II of the new Gwinnett County Wastewater Treatment Facility. Several feel that the Corps should not grant the county the easement for the discharge pipe.

LL.122 FG-RLU

Most of the recreational users agreed that impact of outflows from wastewater facilities in Gwinnett County and surrounding counties, as well as sewage from chicken operations in Gainesville and Atlanta are major concerns.

LL.124 FG-EO

Several of the participants agreed that there is a lack of enforcement and monitoring of old outdated wastewater facilities. One person believes that the amount of phosphorus in the outflows from the Gwinnett County wastewater plant should be reduced.

LL.21

The lake above Clark's Bridge is the way it should be; there is grass, lots and lots of baitfish and timber in the water.

Stop the millionaires from taking over all the lake property. Manage the resource for the people who use and respect it daily. Punish the Wayne Hill fecal plant for dumping millions of gallons of crap over and over into Flat Creek.

LL.37

I request that the discharge of wastewater into a drinking water source be reevaluated in light of the number of people who use this lake for recreation. The study needs to address the long-term impacts of treated water discharge and assess the environmental impact of a major spill of sewage into the lake.

LL.39

There has been enough raw sewage dumped in Lanier for so long by "approved" plants while the Corps sat back and did nothing. For the future, it is clear the EPD will not enforce any law except the law of the largest contributor to the Governor, so my take is that the Corps should have the federal mandate to enforce the federal Clean Water Act on the lake.

Lake Sidney Lanier EIS

Comments

LL.4

Existing sewage treatment plants—quality operation needs to be strictly enforced—GA EPD is very lax about this.

LL.51

Wastewater dumping.

LL.52

Are there health risks associated with swimming in the lake after "treated" sewage has been dumped into the lake? When you use the lake for water sports like skiing, diving, or swimming, you are going to drink the lake water.

LL.57

There is a rumor that the Corps is draining water out of Lake Lanier to dilute the sewage being dumped into the Chattahoochee by the city of Atlanta. This is horrible. This should be stopped. Force the city to fix the sewer problems.

LL.64

If Chattahoochee River near the Dam cannot accept treated sewage, why not create a water fountain attraction to aerate the water. This could be an entertainment feature like Tommy Bartlett Dancing Waters in Wisconsin Dells (It was a group of fountains that undulated to organ tunes and colored lights). This could also be done in Lanier, especially at Flat Creek.

LL.68

I am EXTREMELY CONCERNED over the growing sewage effluents discharges that are being permitted...this is INSANE!!!! Other alternatives should be pursued...with the developers having to pay for same.

LL.70

If the lake were at the normal level, the water quality would probably be better, given the theory that the "treated" sewage water would have more water particles to dilute in. Given the low water level and the HUGE amount of wastewater that is being allowed, the lake is dying. I find this harmful to those who depend on the lake water for drinking water and grossly irresponsible government. Just because not everyone reports the problems to the news doesn't mean they are NOT occurring.

LL.85

The increasing pollution washing from the watershed into the lake and the increasing sewer discharges into the lake continue to degrade the quality of Lake Lanier water.

LL.88

We need to limit any further new introduction of treated sanitary waste into the lake. We need to plan for growth and create sedimentation ponds or much higher standards for treated effluent entering lake waters.

Lake Sidney Lanier EIS

Comments

LL.92

The increasing pollution washing from the watershed into the lake and the increasing sewer discharges into the lake continue to degrade the quality of Lake Lanier water. A study done by Limno-Tech, Inc. a few years ago showed that the lake water quality would continue to degrade as watershed development continues, unless things are done differently in the future than they have been done in the past. A Clean Lakes Study, titled "DIAGNOSTIC/FEASIBILITY STUDY OF LAKE SIDNEY LANIER, GEORGIA," done by the Carl Vincent Institute of the University of Georgia (UGA), reiterated the same message.

LL.95

Equally as important. Not very happy with treated wastewater dumpage.

Concerned About Treated Sewages Discharges

LL.18

Due to the high recreational use at Lanier treated sewage should not be discharged into Lake Lanier. Perhaps the sewage treated water should be discharged downstream into the river.

Concerned About Treatment Plant Maintenance

LL.72

I am concerned about the maintenance of sewage treatment plants which dump into the lake.

Concerned About Untreated Sewage Discharges From All Sources

LL.13

EPD and EPA need to issue bigger fines and issue them quicker when a sewage treatment plant fails or overflows.

LL.17

South beach water treatment facility is outrageously dumping raw sewage into Baldrige Creek area. Can Corps revoke permit until they conform to water standards?!! Other community sewage systems should be more closely monitored.

LL.24

Water resource—clean drinking water supply. As such, I am very concerned about the dumping of treated sewage. Nationally, local governments prove on an almost daily basis (and no matter where I have ever lived) that they will do more damage to the water resource than anyone. I dare someone to try and prove they will not dump sewage either by accident or design. They always have and will. The only way to prevent this in the lake is to ensure no connection is made directly to an "in process" treatment activity. Treatment to staged holding ponds with "lake let" only from fully treated ponds is the only safe approach. And even then I suspect someday, somehow I will be reading about and dealing with yet another "accidental" dumping into Lake Lanier in the not too distant future. If there was truly a fail-safe solution then the sewage plants would be plumbed directly into the water system and they are not!

LL.33

Inform us of any changes that will affect the lake, i.e., waste management, including dumping in lake.

Lake Sidney Lanier EIS

Comments

LL.52

Atlanta has already gained a poor reputation for dumping untreated sewage into the Chattahoochee River from a plant that was designed NOT to let that happen. If this plan is allowed to proceed, it is only a matter of time before it happens to Lake Lanier.

We use the lake for recreation and I'm concerned that dumping "treated" sewage into the lake will destroy the pristine waters of Lake Lanier. I think that alternative solutions are available. Other lakes that have used this technology have been severely impacted in a negative way.

LL.64

Sewage treatment plants have too many accidents to allow permitting of additional dumping into Lanier.

South Beach development in Baldrige Creek area has a mismanaged treatment plant dumping raw sewage into Lanier on a regular basis.

Control Waste Disposal from Marinas

LL.24

I think you need to absolutely manage the disposal of waste into the lake from the larger boats and in the marinas. These areas of high concentration have to have a high level of impact on the overall water quality and should be managed accordingly. Albeit fairly.

Desire Higher Standards for Water Quality

LL.15

Standards should be set so that all of the lake is safe for swimming, fish consumption, etc. Private funds/grants could be solicited for more frequent/constant study. Where can we (the public) go to get the facts on testing results, monitoring results? Where can we go to find out about violations? Make this info more accessible to the public—help us fight those who pollute our waters.

LL.26

Both the water level and the water quality are way down. It is discouraging to see the downhill trend as the years go by.

Too much politics and money to be made, and too little consideration for the future of our once beautiful and clean Lake Lanier. Dumping treated sewage will increase the infrastructure and allow for more and more building, making the already rich builders even richer at the expense of the residents of the adjacent counties.

LL.31

Must focus on recreation and improving the water quality back to the level it was 25 years ago. Force counties to improve any existing discharges, point and non-point pollution sources prior to considering any other water requests. Increase the "normal" pool level to allow for slower drain-off after high water occurs. (In other words, do not accelerate drain-off just to lower lake to "full pool".)

LL.32a and LL.32b

I am concerned with the water quality. Please do your best!

Lake Sidney Lanier EIS

Comments

LL.46

Protect Lake Lanier from becoming a waste dump for the region.

LL.62

Water quality should be maintained at the highest standard possible.

LL.7

We must find a way. It's our duty. There should be a pollution cop working 24 hours a day.

LL.96

Better water quality = healthier fish, turtles, etc. Good job with the Christmas trees!

Desire More Reliable Water Quality Testing

LL.16

I appreciate the information I got at this meeting. I am less concerned about the Gwinnette Co. sewage problem than I was before. I am more concerned about runoff from land in the watershed and its impact on water purity in the lake. I continue to be concerned that accurate testing of water purity in the lake is not being done. I am more grateful for the vigilance the Corps of Engineers has exercised in the last several years than I was when I came here today.

LL.71

With the increased strain on the lake due to population, more effort needs to be given to water quality (more measurements so quality level is really known and strict rules regarding dumping of human waste and runoff.)

LL.72

I am willing to participate in the testing program.

LL.73

I would favor much stricter monitoring of treated effluent streams, and require much lower levels of bacteria, phosphorus and coliform levels for existing facilities. Also limiting new sources of treated effluent.

LL.87

More frequent testing of lake water at more different sites seems to be necessary. The EPD/EPA sets water quality standard for our lake based on minimal testing and there are no other official data to refute their findings.

I strongly recommend working together with volunteers that are already involved in water quality issues through Adopt-A Lake and Adopt-A-Stream programs in the area. The Georgia Adopt-A-Lake Program is working on a database and so is the (older) Adopt-A-Stream Program in which I am involved myself to keep an eye on the quality of several of the tributary waters that go in the lake.

I hope these comments will help in forming an up-to-date shore management plan. If you need extra information I will be glad to give that.

Lake Sidney Lanier EIS

Comments

LL.93

Studies should be done frequently that show improvement or degradation of water quality.

Drinking Water

LL.3

There should be limited access to the lake considering there are many different drinking water intakes in the lake. Considering this, boat docks should be considered an encroachment to the buffer and should be limited. The Corps should promote community (multi-family) docks and deter the building of so many individual docks.

LL.33

The water in Flowery Branch is one hell of a lot better than in Norcross. Don't make me go back to buying bottled water.

LL.36

As several million citizens depend on this water for drinking, it is essential that we protect it from polluting elements as much as possible within the law. This includes siltation and runoff from construction, untreated waste from agricultural and industrial enterprises, and excessive amounts of treated wastewater.

LL.50

Water quality is the number one concern regarding the lake. Since the lake is the major source of drinking water for the greater Atlanta metropolitan area, heavy emphasis should be placed on proper management of this resource. No additional "treated" discharges should be allowed in the lake or its tributaries. Property owners with septic fields that leach into the lake should be made to update their systems. Commercial sand and gravel dredging operations on the lake should be stopped immediately. The dredging operation on the Chestatee, together with upstream development and low water levels, has caused the loss of a great deal of water surface area. Little but the river channel is now open up the Chestatee. Many property owners have been cut off from the channel by reason of the accumulation of silt from the commercial dredging operation and upstream development.

Effects on Downstream Water Quality

LL.121 FG-LAR

The residents are concerned that what occurs in Lake Lanier negatively affects the quality of the water downstream. Changes in temperature, effects on habitat, and water quality degradation are all concerns.

Impact on Quality from Water Level

LL.44

Negatively impacted by low water levels.

Impacts from Personal Watercrafts

LL.30

Detrimental impact of 2-cycle PWCs and the disproportionate amount of petro chemicals exhausted into the lake.

Lake Sidney Lanier EIS

Comments

Implement BMPs to Improve Water Quality

LL.9

Implement as many BMPs as possible on Corps property to improve water quality. Nonpoint pollution control.

Increase Awareness of Commonly Used Pollutants

LL.70

Anyone with property that touches Corps property should be made aware of lawn chemicals that are harmful to the lake and given ideas of other things to use that are not harmful to the lake.

Jet Fuel from Airplanes

LL.120

Lake Lanier is in the glide path for Hartsfield—our houses and boats get covered with a dark "film" from unburned jet fuel.

Lake Conditions Affecting Aquatic Life

LL.121 FG-LAR

Many residents believe that water quality is a very important factor to be considered in the EIS. Among the concerns mentioned is the hypoxic condition in certain areas of lake that effects aquatic life.

Maintain Safe Conditions for Recreational Users

LL.80

Keep the lake and the lake water clean and useful for boating and swimming. People need to have clean water so we don't get sick playing in the water.

Maintenance Requirements for Commercial Operations

LL.15

High-density marinas should be required to pay for/provide constant monitoring of water quality and mitigation activities.

LL.80

The commercial docks that rent slips and repair boats should clean up around the docks and maintain the water and sewer and fuel lines as to not spill into the lake.

More Inspections of Sewage Treatment Plants

LL.108

Wastewater treatment plants should test for heavy metals. Counties adjoining lake should have (require) pervious parking lots and other hard stands for all new construction. Examine effect of golf courses in Lanier basin – require large retention ponds.

LL.89

Need a bigger budget to have more personnel for inspection of sewage treatment plants.

Lake Sidney Lanier EIS

Comments

Opposes All Sewage Discharges

LL.2

Have concerns regarding pollution of the lake and oppose any dumping of sewage into the lake.

LL.24

I believe this is the critical issue currently. I am totally opposed to the dumping of even treated sewage for the reasons mentioned earlier. And, I feel the lake is very mismanaged in this area, primarily due to the lack of watershed controls. More needs to be done within the watershed to protect the resource from development impacts and more needs to be done on/in the lake to protect the water quality. Water volumes, shoreline protection, dumping of all kinds are the critical areas to focus on in my opinion. These are the more difficult issues but in the scheme of things obsessing over docks and underbrush removal etc. is measurable but potentially meaningless. When the lake is empty and/or polluted, it doesn't matter what kind of Styrofoam is under a dock.

LL.35

It is a travesty that counties are allowed to dump sewage into the drinking water for so many people—even if they claim the extreme treatment and purity. There has never been a sewage treatment plant that hasn't had a spill and the super plants being allowed will spill millions of gallons of untreated water when the spill occurs. If the water is so treated and clean, let them put it back into their drinking water treatment plants and cut their allocation of water for drinking purposes.

LL.56

I am opposed to ANY dumping, pumping or discharge of ANY treated or untreated sewerage, industrial, commercial, private waste or water into Lake Lanier, currently or proposed for the future. The pollution levels in the lake are bad enough now and to turn this beautiful natural watershed and lake into Georgia's largest septic tank is an environmental CRIME! Politics, big business and big money be damned! If this type of thinking in the name of progress continues, we will have a "dead" lake that is unfit for swimming, recreation or fishing. Government should be focused on making sure that Lake Lanier is a showcase for the rest of the country of what can be done to preserve its water quality, water level and a logical and concerned balance of the needs as water source for Atlanta and recreation for all the users and homeowners. There are other technologies and options available for waste disposal but the lake is too easily seen as an easy and inexpensive solution—all to its detriment. It seems that Government usually has no problem "spending" money. Let's see that this spending is done to provide the proper options and technologies to keep the lake CLEAN and a beautiful Georgia resource!

LL.60

Prohibit development around the lake that would result in pollutant discharge into the lake. Do not allow sewage to be discharged into the lake. Police sewage discharge from boats.

LL.80

Not to dump treated sewage into the lake. If the water is harmless then recycle it for drinking water. If you can't use it for drinking water then don't dump it into the lakes. Build a pipeline to the Hoch below the Morgan Falls dam and run it into the nasty river water there.

LL.81

SEWAGE DISPOSAL was NOT one of the chartered purposes of this lake. So it should NOT be allowed, plain and simple. Municipalities should have to deal with their growing sewage issues as if the dam had NEVER been built. Just because the lake is "there" and "convenient," it is not intended to be a sewage dump.

Lake Sidney Lanier EIS

Comments

Power Generation

LL.24

Power generation - quality of life and economic benefit to the lake itself as the means to ensure water quality protections far into the future. The best protection for the lake is a strong defense of its value - and that takes money.

Prohibit Chemical Use

LL.116

Prohibit the use of any chemical by any private party on Lake Lanier. Plant trees, shrubs, grasses, and forbs. Seek more restrictive state standards as they relate to water quality. Prohibit any sewage collection system or septic system on Corps property.

Public Involvement

LL.58

I love Lake Lanier. As a resident of Atlanta we all are fortunate to have this beautiful lake so close by. Hopefully, all of us who use it respect the lake knowing that it doesn't get used and stay clean without everyone's collective attention. I think I abide by that and make sure all who are with me abide by it too.

LL.72

Everyone needs to protect the quality of the water in Lake Lanier.

Publication of Water Quality Information

LL.118

Water quality is an issue with any lake. The availability of information on water quality of the lake by the Corps is wonderful.

LL.38

Lack of information in this area. Is the water safe to drink or not? Status of eating fish—are they safe or not? Quality of fishing available?

LL.58

I have read that the City of Gainesville dumps raw sewage into the upper waters of the lake. Hopefully, that is not or no longer true. I am concerned about polluted runoff into the lake from the area that produces the largest number of chicken broilers in the world. I know that white or light-colored clothes dunked in lake water do not wash clean. What does that mean? Too many particulates in the lake? I would like to know how clean the water is with respect to being clean enough to swim in. I think that ought to be a matter of public record and that there ought to be an understanding of how the measurements compare to acceptable standards. I would rather know than not know. So would everyone.

Seem ok to a layman like me. I have searched the Internet for all I could find about water quality of the lake. I can find the readings and measurements but they are meaningless without an acceptable standard to compare to. How hard would it be to publish the daily/weekly/monthly water quality readings around the lake and how they compare to acceptable human standards, just like actual lake levels compared to full pool are published every day? Wouldn't folks become more interested in keeping the lake clean if they could see how close to being unsafe for swimming it might be.

Lake Sidney Lanier EIS

Comments

Septic Tank Runoff

LL.1

I have heard the lake used to rise so much that septic tanks overflowed into the lake. I used to be a home I.V. nurse and took care of three people who supposedly died from a bacterial infection in the lake. Friends tell us they won't swim in the water because it's unsanitary. Is there any validity? Is the water quality improving?

LL.108

Septic tank inspections.

LL.121 FG-LAR

Many residents believe that water quality is a very important factor to be considered in the EIS. Among the concerns mentioned is septic tank leakage. Several focus group participants are concerned that infrequent septic tank inspections and the resulting lack of maintenance and repair have led to a large amount of septic tank leachate reaching the lake.

LL.16

I am concerned about runoff from lawns and septic tanks.

Storm Water Runoff

LL.120

With all the construction (residential and commercial) storm runoff into small creeks leading to the lake is increasing, especially around McEver Road/Stephens Road, which runs into Flat Creek, and some others.

LL.121 FG-LAR

Many residents feel that water quality is a very important factor to be considered in the EIS. Among the concerns mentioned is storm water runoff.

Support for Carefully Inspected Sewage Discharges

LL.20

I encourage the release of treated wastewater into the lake, provided treatment is the same (or higher) level as is currently done by Gwinnett County. I also wish to protect the cold water (hypolimnion) layer from an infusion of warm water.

I applaud the USACE actions that have boosted dissolved oxygen content of the tailrace.

LL.53

I have no problem with returning treated water to the lake as long as:

The return water is placed upstream of the water withdrawal points. This ensures self-interested quality control.

The water quality inspection process is independent and rigorous.

Lake Sidney Lanier EIS

Comments

Support for Current Lake Management Activities

LL.61

Water quality is fine.

Toxic Chemicals and Bioaccumulation in Fish and Humans

LL.121 FG-LAR

Many residents believe that water quality is a very important factor to be considered in the EIS. Among the concerns mentioned is the bioaccumulation of toxic chemicals by fish and therefore the consumption of contaminated fish by humans.

In addition, the residents are concerned that what occurs in Lake Lanier negatively effects the quality of the water downstream. Changes in temperature, effects on habitat, and water quality degradation are all concerns.

Upstream Water Quality

LL.122 FG-RLU

The group requested the quality of the water upstream be discussed in the draft EIS available to the public in the summer of 2002.

Water Quality

LL.27

Water quality has to take priority over recreational needs. In fact, it has to be the top priority.

Water quality has to be the top priority over all other uses for the lake.

LL.95

Continued support is crucial, however, we would like to see more emphasis on keeping the lake cleaner, i.e., floating and land debris, etc.

Water Quality/Recreation

LL.37

I would like to see the recreational/commercial needs of the north Georgia area be the second highest priority just behind maintaining water quality down the Chattahoochee River. Maintaining barge traffic down river seems to be an overall economic mistake considering the negative impact those water releases have on the upstream economy and recreational needs.

Issue: Water Safety

License Boat Drivers

LL.4

Can we license all boat operators, and include environmental and conservation factors in their training and test?

Lake Sidney Lanier EIS

Comments

LL.97

License all boat owners and PWC owners that use Lake Lanier. If caught and not licensed, fine.

Promote Boater Safety

LL.121 FG-LAR

Residents are also very concerned about the safe operation of boats and other personal watercraft. Several would like to see an increase in no-wake areas, establishment of speed limits, a limit on the size of boats, and better signage to help boaters navigate in low-water conditions.

LL.123 FG-BO

Some participants mentioned that there should be greater promotion of boating safety, better technology, and environmentally safe jet skis. According to one person, technology for future 4-cycle jet skis negates environmental impacts.

The business owners and operators also believe that there is a need for more boat safety courses.

Too Many Boats

LL.54

How about only allowing the poker run contests in the spring/fall...when the lake is not as crowded with recreational users...it's downright dangerous!

LL.82

This lake is dangerous on weekends due to traffic, high-speed boats and idiots with no sense.

LL.87

It is endangering our lives when we go for a swim: some racing vehicle could come around the bend and not see us in time.

Underwater Hazards

LL.37

I would request that the COE evaluate the impact of putting in place a formal hazard removal procedure (tree stump and rock) at and near the shoreline when water levels are lower than normal as they have been for the past year. Many hazards near the shoreline could easily be removed at lower than normal water levels and make boating/swimming much safer when the lake is at a low level. Resident/recreational users could formally request specific hazard removal by use of a FORM or phone call to a COE office.

LL.38

Seems the lake lacks markers in areas where there are submerged items.

LL.41

Thumbs up to the rangers who mark the danger areas.

LL.78

Better marking of the shoals, trees, and rocks.

Lake Sidney Lanier EIS

Comments

LL.96

We love to ski. We wrecked two props last summer due to unmarked dangers. The water level needs to be maintained. We cannot use our lift this summer. The 5 boat docks beyond us are dry!

Universal Signage

LL.70

I don't see signs advising the new rules so "recreators" are aware of them. Wouldn't it make the Corps's job easier if there were signs at all boat ramps with the top "rules," a reminder not to litter and then some safety tips (like who has the right of way, check your life vests, oars, horn, etc.). Since we do not have to have a license to drive a boat, many folks are not aware of the laws or safety tips.

LL.90

I feel that a disproportionately higher number of non-English-speaking individuals have been injured, died of drowning or other water safety-related accidents on Lake Lanier.

Part of the problem is that water safety signage is written only in English. As a result, non-English speakers are automatically at a safety disadvantage on the lake. In addition, English-speaking illiterate persons cannot understand the signs either because they cannot read.

According to a member of the US Army Corps of Engineers' Lake Lanier Water Safety Task Force, the Army's current rules and regulations leave absolutely no room for considering any type of alternative new signage or changes and modifications to existing signage. I have been frustrated by the US Army Corps of Engineers for their lack of willingness to consider innovative recommendations for educating the entire public about water safety. I have made a number of recommendations, such as the use of universal, illustration-based signage to show the rules of the lake and to advise of safety precautions. Such universal signage would not require any expensive translation into multiple languages because the sign would be universal. Everyone would understand the meaning, including persons who are illiterate. Unfortunately, each time I make such recommendations, my ideas fall to deaf ears.

LL.97

Put up signs in Spanish, Japanese, and Indian so they can be read by all.
Move all NO WAKE barges out further at all ramps and put bouys where there are none at ramps (Bolding Mill).

Issue: Watershed Management

Chicken/Dog Food Processing Plants

LL.120

Dumping into the lake as well as smelling really bad when the wind is in the right direction.

Commercial Pollution

LL.10

We need good water quality. Restrict commercial in North Lake from polluting to Smith Lake.

Lake Sidney Lanier EIS

Comments

LL.113

Commercial enterprises pollute the lake.

LL.70

It is also why you have a growing problem. When you tell businesses you are serious and you shut them down, they will stop polluting. As long as they can get away with it, they will.

LL.84

Protect the quality of the water at all cost. Do not allow any feedlots, processing plants or large developments within the watershed. Develop an alternative to the silt fence; developers should have catch basins first. Hold all municipalities responsible for pollution.

Consistent Enforcement of Watershed Regulations

LL.70

Bending the rules because a business wants to do something, is not being responsible and will catch up with us. You cannot please everyone all the time but the agencies charged with enforcement should be empowered to actually enforce the laws without interference OR get rid of the rules and laws and the agencies.

Industrial Pollution

LL.120

Flat Creek has the best fishing I know of, and the most polluted water. It runs from an industrial area through a waste dump.

Monitoring

LL.66

You have an obligation to report to the state and take a stand on how well the bordering counties are doing in controlling nonpoint pollution.

LL.96

Of utmost importance! Can Alatoona supply water that Lanier currently provides? Stricter enforcement of water quality entering lake—monitor businesses (chicken farms) and subdivision septic systems.

Nonpoint Source Pollution

LL.124 FG-EO

The group expressed concern about nonpoint source pollution from fertilizers, pesticides, and other sources. One person believes that the EIS should also address the impacts of new reservoirs.

Sedimentation/Siltation

LL.18

Local governments should work harder to enforce sedimentation laws to permit siltation from entering the lake.

Lake Sidney Lanier EIS

Comments

LL.86

This is where we have serious problems. The rapid development in the Lanier watershed is causing erosion and sedimentation problems in the lake. The Corps needs to pressure local governments in the watershed to better protect the streams draining into the lake, since the sedimentation adversely affects the lake. It would be wise, in fact, to find funding somewhere to buy land which would increase the buffers on lands along these streams.

I am a homeowner on the lake myself, and I have a septic tank system. I and most people I know would not object if there were requirements, fairly administered, for septic tank inspection and pump-out, with documentation to prove it, on a consistent basis (every 2-3 years or whenever experts agreed it would be appropriate). Also, homeowners and businesses around and near the lake need to be educated about the harmful effects of pesticides and fertilizers that run off into the lake. Research needs to be done, if it has not already, and publicized about types of fertilizers and pesticides best suited for use in an environment near a lake like ours. Most important, the EPD needs to fully enforce the laws about dumping poorly or inadequately treated wastewater into the lake.

Storm Water Runoff

LL.123 FG-BO

Many of the business owners and operators believe that storm water runoff should be included in the EIS because there needs to be a study on the cumulative effects from this type of nonpoint source pollution.

Support for Current Lake Management Activities

LL.119

It usually looks great except after a rain.

Watershed Management Organizations

LL.3

The different watersheds that make up the lake and the many different tributaries—these regions should be split up. If possible, it would be effective if each watershed (HUC-12) had its own homeowners or business owners forum—like a watershed alliance... but for different lake tribs.

The individual watershed alliance could promote public education, implement shoreline cleanup (being more effective because watershed-dependent), invoke competition and empower the citizens living within the given watershed.

LL.4

Need to continue to try to get the counties in the upper watershed to participate in Governor's watershed management organization.

Lake Sidney Lanier EIS

Comments

Issue: Wildlife and Vegetation

Buffer Zone

LL.118

I like the Corps lines. I feel it helps give this man made lake a more natural appearance and helps with the cut down of pollutants contaminating the water. No construction below the Corps line is one of the reasons Lanier is such a attractive lake.

LL.3

The current buffer regulation is not suitable for maintaining a healthy lake—a lake that provides over 200 million gallons of drinking water per day. It should be buffered, and public education is the only way that this buffer increase will be supported—therefore, public education should be increased and directly tied to the fact that we receive our water from the lake.

LL.34

I am disappointed and concerned over the cutting of trees and vegetation between new expensive houses and the shoreline.

Concern About Decreased Wildlife Populations

LL.121 FG-LAR

Several residents noted that they have noticed a decrease in wildlife populations, especially geese, around the lake. They believe that a loss of habitat has contributed to this problem.

Hunting

LL.111

The lake is too crowded to allow any type of hunting. If you can't shoot anywhere near a boat dock, where are you supposed to hunt. Too dangerous!!

LL.117

I'm not in favor of hunting.

LL.119

I'm against goose hunting. Please don't do it!

LL.12

This is very important. The fishing, hunting, etc. needs to be closely controlled with continued limits on fish. Our water needs to be kept clean for the wildlife and birds' health.

LL.66

I would like to see a reduction in the geese population.

LL.95

Very important ... that is why we emphasize dock control!

Lake Sidney Lanier EIS

Comments

Nonnative Species

LL.124 FG-EO

Several individuals believe the number of nonnative vegetation and wildlife species, such as the rice eel and the zebra mollusk, is becoming a threat to the native species.

APPENDIX C
COMMENTS AND RESPONSES TO COMMENTS
ON THE DRAFT EIS

Comment Form

Draft EIS for Lake Sidney Lanier

All comments must be received by December 23, 2002.

* Name (optional) _____

Agency/Organization _____

Address _____

*(If you wish to have your name listed as a commenter in the Final EIS, please provide your name and address.)

I. Please check the affiliation that is applicable to you.

(Please check only one):

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Lake Lanier Resident | <input type="checkbox"/> Lake Lanier Recreational User | <input type="checkbox"/> Civic Organization |
| <input type="checkbox"/> University | <input type="checkbox"/> Environmental Organization | <input type="checkbox"/> Local/County Government |
| <input type="checkbox"/> State Government | <input type="checkbox"/> Federal Government | <input type="checkbox"/> Other _____ |

II. Demographic Information

County FORSYTH

City GAIDESVILLE

State GA ZIP Code 30506

III. Comments on the No Action Alternative

[1] NO ACTION, IS LIKE PUTTING YOUR HEAD IN A HOLE IN THE SAND (LAKE)!

IV. Comments on the Preferred Alternative

[2] MOSTLY GOOD, BUT SOME CHANGES SEEM TO IMPOSE RESTRICTIONS ON ONE NEIGHBOR BUT ALLOW "GRANDFATHER" CLAUSES TO CONTINUE FOR OTHERS I.E. GRASS CUTTING - C.H. WIRING ETC., LOUD SOUNDS SYSTEMS (RADIO) ON DOCKS

V. Comments by Issue

*Fisheries, Wildlife, and Forestry Management:

[3] POT A "BOUNTY" ON GEESE. HUMANILY TRAPPED FOR RELOCATION (BY DNR OR OTHERS) OR BY SELECTIVE THINNING WITH "BOUNTY" OFFERED - PAID FOR OUT OF USER FEES. I LOVE WILDLIFE BUT THE QUANTITY IS OUT OF CONTROL

(*Boat Docks):

[4] THE REASON MOST PEOPLE LIVE "ON THE LAKE" IS TO HAVE A DOCK TO ENJOY AND SOME TYPE OF BOAT. IN SOME "CLUSTER" LOCATIONS A COMMUNAL DOCK WOULD WORK, BUT EXISTING RULES FOR DOCK PLACEMENT SEEMS TO WORK WELL FOR LOCATIONS WITH ADJACENT WATER FRONTAGE - GRANTED THESE TYPE OF LOCATIONS ARE IN SHORT SUPPLY

[1] Comment noted.

[2] "Grandfathering" is simply the method the Corps uses to fulfill prior agreements between the government and adjacent landowners. The grandfather clause applies to activities previously authorized only with the intent that no new authorizations will be permitted such as planting of grass and overhead electrical wiring to docks.

[3] There has been a general decline in the goose population from approximately 2,000 to 1,500 due in part from hunting and the effects of drought. Goose hunting is currently the only method for thinning goose populations on Lake Lanier. GA DNR believes the goose population at Lake Lanier is below the biological carrying capacity that could be potentially supported by Lake Lanier, and is at or near the capacity tolerated by most lake residents (social carrying capacity). No further management is believed to be necessary at this time.

[4] Comment noted.

- [5] Watersheds and Water Quality: BETTER STATE CONTROL OF RUN OFF SITES - CHICKEN HOUSES - CONSTRUCTION - GEESE - SEWER DUMPING INTO LAKE. CONTINUING ABUSE OF LAKE - WILL MAKE IT A "DEAD" LAKE - OF NO USE TO ANYONE'S NEEDED
- [6] Recreation and Aesthetics: CURBWAY/GOOD SIGNS POSTED AT ALL BOAT RAMPS, ETC AS TO 100' IDLE SPEED. ^(SLOW) BETTER LAKE SIGNAGE MARKERS, POINTS, CREEKS, ETC. "45M" DOES NOT MEAN MUCH TO PEOPLE WHO DO NOT KNOW LAKE - SOME MARKERS
- [7] Shoreline Management: LAKE WORD AND IN POORLY VISIBL^E LOCATIONS. A LOT NEAR ME HAS "O" VEGETATION, EXCEPT GRASS AFTER LOGGERS SLOWLY CUT DOWN EVERYTHING. WE HAVE LOST MANY TREES TO BEETLES OVER 30 YRS. MOST HAVE BE REPLACED BY PLANTED, MAPLE, DOGWOODS, AND SOME PINES AND
- [8] Commercial Activities: WOULD LIKE THE CORPS TO "EDUCATE" EVERYONE TO REPLACE ANY LOST TREES WITH A SIMILAR TREE OR NATIVE SHRUBS. WE HAVE A LARGE WATER EDGE EXPOSURE (200 PLUS FT) APPROX 2 TO 3' HIGH, WOULD LOVE TO GET IT RIP-RAPPED, IF SOME SORT OF GRANT WOULD BE AVAILABLE TO HELP WITH COST OF MATERIAL - TAX CREDIT ETC.? IT IS PROTECTING GOV'T PROPERTY.
- [9] CORP. ACTIVITIES: ABOUT RIGHT SOUTH OF FROWN BRIDGE, BOAT NORTH COULD USE "MARINA SERVICES" AND BOAT ACCESSABLE RESTAURANTS, BOAT ACCESSABLE PARKS WITH REST ROOMS ETC.
- [10] VI. LARGE FAST BOATS DO NOT BOTHER ME EXCEPT FOR THE ILLEGAL EXHAUST & MUFFLER SYSTEMS FOR WHICH THERE SEEMS TO BE NO ENFORCEMENT. A 100 H.P. BOAT WITH ILLEGAL EXHAUST, [WHICH ALL CIGARETTE TYPE], SEEM TO HAVE, AT IDLE, A BOAT 500 FT FROM MY HOUSE, WILL DROWN OUT MY RADIO OR TV. I HAVE SPOKEN WITH DNR SEVERAL TIMES, BUT BECAUSE THEY HAVE NO "NOISE MEASURING" CAPABILITY THEY DO NOT ENFORCE THE 80 DECIBEL LAW. A REQUIRED INSPECTION OF ANY BOAT WITH "CUT OUTS" OR DIRECT ABOVE WATER EXHAUSTS SHOULD BE MANDATORY AND ENFORCED! A BOAT YOU COULD HEAR FROM 2 MILES AWAY SHOULD NOT REQUIRE A "NOISE MEASURING" DEVICE. BOTH THE DNR & CORPS SHOULD BE CONCERNED ABOUT HOW MUCH THIS INTERFERES WITH THE MANY USERS OF THE LAKE TO ENJOY ONE OF AMERICA'S TRULY BEAUTIFUL SPOTS. DOES LANIER REALLY NEED BOATS CAPABLE OF SPEEDS OVER 100 MPH WITH OPEN EXHAUSTS.?

CRAIG YOUNG

- [5] Comment noted.
- [6] The majority of the lake's boat ramps are posted as slow no wake zones. However, State law requires idle speed within 100 feet of all ramps. An explanation of the creek marker and navigation system description is available to boaters on the Corps web site at <http://lanier.sam.usace.army.mil>
- [7] Whenever revegetation efforts are undertaken the Corps would support the use of a full range of overstory, midstory and understory plants as needed to restore the area to a natural state.
- [8] The Corps does not issue tax credits. Those interested in receiving tax credits must contact the appropriate agency or source.
- [9] The public has indicated the need for boater services, such as fuel service, boat storage, restaurants, etc.
- [10] Title 36 CFR Section 327.12 prohibits sound producing equipment that unreasonably annoys or endangers a person. See SMP Section 15.3.14, *Furniture, Decorative Items and Garden Plants*, Paragraph 2. The enforcement of existing state laws and federal regulations is difficult. Violations must be documented by either a decibel meter or verification of a defective muffler. Which neither the Corps nor the State have expertise or manpower to operate.

[11] WE SEE NO PURPOSE IN CLOSING "SOME RAMPS AND DAY USE PARKS" ON SOUTH LAKE (SOUTH OF BROWN'S BRIDGE, AND REPLACE WITH PARKS ON NORTH END... SOUTH PARKS & RAMPS ARE IN PLACE AND I CAN THINK OF NONE THAT WOULD IMPROVE THE USE OF NORTH END PARKS. NORTH END USE WILL INCREASE AS DAWSON, LUMPKIN, WHITE, AND HALL-NORTH INCREASE IN POPULATION. PARKS LOCATIONS SHOULD HAVE EASY ACCESS FROM 400 N, AND 985/365 NORTH, WHERE POSSIBLE ACCESS ROADS NO MORE THAN 10 MILE, AND 5 MILE WOULD BE BETTER FROM ABOVE MAIN HIGHWAYS.

[12] AT LEAST ONE PARK LIKE "OLD FEDERAL" WITH BEACH ACCESS, BOAT RAMPS, AND TENT & R.V. SHOULD BE AVAILABLE ON CHESTER, AND CHATTAHOOCHEE. WITH SMALLER ACCESS PARKS - ALL WITHIN EASY ACCESS OF MAIN ROADS - THAT WILL DRAW TRAFFIC TO NORTH.

[13] I DON'T THINK THE CORPS SHOULD GET INVOLVED WITH ANOTHER LAYER OF GOV'T. IN SEPTIC INSPECTIONS ETC. THE INSPECTION & MAINTENANCE SHOULD BE A "COUNTY FUNCTION". ANY SYSTEM THAT DOES ENCRUMBAT ON GOV'T LAND SHOULD BE ENFORCED AND RELOCATED ACCORDING TO "COUNTIES" INVOLVED.

[11] The text in the EIS has been changed to no longer include closure of recreational sites.

[12] The Corps operates two full facility campgrounds on the Chestatee River (Duckett Mill and Bolding Mill parks). There is not suitable land with good access under Corps management for a campground site on the upper Chattahoochee.

[13] We concur with the views expressed and the existing SMP takes advantage of the existing county inspection process.

Response to Comments
Timothy Anderson

December 17, 2002

Glenn Coffee
U.S. Army Engineer
District Mobile
Attn: CESAM-PD-E
P.O. Box 2288
Mobile, AL 35528-0001

Dear Mr. Coffee:

-I have reviewed the proposed Lake Lanier Shoreline Management Plan and would like to make a few comments.

In general I agree with the plan to better protect the lake from pollutants by managing the shoreline and requiring proper care and safety of the docks. I do, however, feel there needs to be some common sense applied to the issues.

There needs to be a partnership between the private homeowners and the Corp. to promote mutual goals. The homeowners have a great stake in the health of the lake and will generally do a good job of limiting intrusion if their well being and the value of their property is also considered. The goal of the Corp. is to stop run-off that will pollute and erode the lake and silt the shoreline. The owners have the same goal. So limiting or banning of mowed areas on the shoreline is reasonable. As a reasonable trade off, homeowners should be allowed to maintain existing site corridors enhancing views. Creating new corridors for viewing is not necessary, but those with views today should not lose what they already have as long as the watershed properties of the land are not affected. Loss of a dock permit is stiff penalty for minor violations. I believe this extreme penalty should be used sparingly and the punishment should fit the crime. (Considering the just passed ruling allowing millions of gallons of sewage to be dumped into the lake by Gwinnett County its hard to say the small amount of run-off from any yard should be treated too harshly.)

-I understand there are proposed limits on the size of boats that may be moored to docks. I believe this is fair as long as the boat is no longer than the maximum size of any dock on the lake, 32 feet. I have chosen a smaller dock than the max to help with the overall crowding of the lake. However I have a 32-ft. sailboat moored to the dock. I don't feel this is unreasonable. I don't feel its reasonable to punish people that choose smaller docks by limiting the size of the boat they choose as long as it's no longer than 32 ft. Boats exceeding 32 feet belong in a marina anyway.

I am more than willing to work with the Corp. to achieve our common goals as long as they are willing to work with me. Seems reasonable.

Sincerely,

Timothy Anderson

[14] It is the responsibility of the Corps to protect the valuable natural resources at Lake Lanier. To promote environmental sustainability through a healthy ecosystem for current and future generations to enjoy. These goals and objectives are pointed out in both the SMP and EIS. Maintenance and preservation of the forest buffer at Lake Lanier contributes to these objectives. To protect the lakes vegetative buffer and water quality the Corps utilizes many criminal, civil and administrative penalties. Of these penalties, permit revocation is just one method to deter the unauthorized clearing of public property.

[15] The SMP has been modified to read as follows:
"In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities. Therefore, based on this language it possible that boats larger than the dock could be moored. Each situation will be considered on a case-by-case basis."

Response to Comments
Louise Ball

-----Original Message-----
From: Louise Brooks [mailto:louiseb14@alltel.net]
Sent: Saturday, December 21, 2002 2:25 AM
To: Coffee, Glendon L
Subject: Re: War Hill Marina
Importance: High

Dear Mr. Coffee,

- | | | | |
|------|---|------|--|
| [16] | I read in the Dawsonville Newspaper just this Wednesday for the first time, that the War Hill area is being considered for a marina. | [16] | The potential leasee is not interested in leasing the War Hill Park at this time. However, there is still a need for marina services on the Chestatee River and the Corps will continue to look for a way to provide a marina operation in the area. |
| [17] | Firstly, I find issue that I as a property owner and Corp permit holder that I was not informed by some means other than just by chance of picking up a newspaper. | [17] | No information had been released prior to the Draft EIS because discussions with Forsyth County (the proposed lessee) were preliminary in nature—Forsyth County has shown no interest in leasing the War Hill area to establish a marina. If the County had shown an interest, the public would have been informed during the lease development phase and provided the opportunity for public review and comment through a variety of regulatory mechanisms. |
| [18] | Secondly, I feel that there is already too much boat traffic on the Chestatee River already. We've already seen significant traffic in this area by boats and jet ski drivers who are used to the larger more open areas of the lake. They zip around up here without realizing the negative impact to the shores and docks, etc. There just isn't as wide a span of waters to accommodate large boats in this area as there is on the Southern part of the lake. There are adequate boat launches, community docks, private docks that already contribute to a high volume of boating activities. Traffic from the Southern part of the lake on the Northern part of the lake is extremely heavy now. | [18] | Comment noted. |
| [19] | As a percentage of navigable water space available, there are probably as many boats on the northern part of the lake now as there are on the Southern. There already exists a problem when large ocean size boats and houseboats venture past Brown's Bridge. As the lake narrows and with increased boating traffic, danger of accidents increases significantly. | [19] | Comment noted. |
| [20] | Many campgrounds with public access are on the Northern part of the lake that contribute to much of the boating traffic now. The population of people moving up to the Northern part of the lake has probably already doubled in the past five years due to new construction and development of new communities on the lake, which also contributes to an increase in lake usage. | [20] | Recreational sites along the northern portion of the lake do not currently receive the level of use experienced by sites located on the southern portion of the lake. |
| [21] | Additionally, the road that the ground traffic would have to use to get to and from this new marina would undoubtedly be War Hill Park Road. This road is a snaked shaped, two lane road that has a maximum speed of 35MPH and as slow as 25MPH. I couldn't even begin to tell you how heavily this road is traveled by boaters in the summertime nor how 'few' I've seen follow the posted speed limits. It's bad enough with bass boats race up this road much less someone toeing a very large boat around those curves at a speed they shouldn't causing them to take over the alternate lane as they round the curves. Many, many, many times myself I have almost been struck and/or run off the road by such drivers. I 'fear' | [21] | Comment noted. |

- [21 cont.] as larger boats start coming up this hill that there is bound to be more traffic accidents or people and/or animals hit by passing vehicles.
- [22] Additionally, with the boat and jet ski traffic that the War Hill Park draws there is already consistent violations. I believe you can check the complaint records to confirm this. We have call DNR many times each summer ourselves and we have a boat and jet ski... Add a bunch of larger vessels to this congestion and you're going to see more jet ski accidents and you might even see a decline in people wanting to camp at the park due to the noise and risks.
- [23] Why not expand existing marinas in larger waters or build a new marina where there is much more useable space available close to larger bodies of water for easy access and sufficient wakes, etc.
- [24] My gut feel is that a decision has already been made here to have this marina and requesting feedback is just a protocol. If that is the case, then at least consider the coves surrounding the area and build in 'plenty' of sufficient wake zones to protect the existing community, our investment and in our safety.
- [25] I also would like to know what we can do to unite discourage this marina be put in. Is there or will there be some sort of open forum where we the people can unite and plead our case? Or are you asking for comments and then move forward without any other considerations?

Regards,

Louise Ball

- [22] Comment noted.
- [23] The primary reason for considering a marina in this area is to provide much needed services, such as a ship store, fuel, and mechanic repair services, in this area. Expansion of one of the existing marinas within other portions of the lake would not satisfy the marina needs in the Chestatee River area.
- [24] There is a need for marina services on the Chestatee River and the Corps will continue to look for a way to provide a marina operation in this area. Sites considered will be limited to those lands owned by the Corps and possessing adequate land access, topography, water depth, zoning, etc.
- [25] Any new marina proposed for Lake Lanier would have to comply with all applicable Federal, State and local regulatory requirements. Typically, the procedural processes for many regulatory actions provide opportunities for agency and public input into the decision process.

ROGER J. BAUER, P.C.

ATTORNEY AT LAW
95 WILEY DRIVE
BUFORD, GEORGIA 30518
(770) 932-1773
FAX: (770) 932-0224
Email: rjbauer@amugonline.org

SECURE MAILING ADDRESS:
P.O. BOX 67
BUFORD, GEORGIA 30515-0067

WILLS, TRUSTS
ESTATE PLANNING
PROBATE AND ADMINISTRATION

**Comments and Objections to
USACOE Draft Environmental Impact Study
& Lakeshore Management Plan
For Operation and Maintenance of Lake Sidney Lanier, Georgia
Dated October 2002**

Several serious problems are observed in the proposed policy and procedure changes, euphemistically designated as "proposed program improvements" for the operation and maintenance of Lake Lanier, found included in the recently published Environmental Impact Statement (EIS) by the US Army Corps of Engineers (USACOE), and currently available for comment by the public.

I. Expansion of Jurisdiction.

The first objection is addressed to the apparent expansion of the purview of the Shoreline Use Permitting jurisdiction (especially relating to boat docks) to include unrelated environmental issues and agendas. The boat dock permit is related to recreational usage of the lake shore and provides a mechanism for adjacent property owners and residents to utilize the facility for purely recreational purposes. The current Lakeshore Management Plan of 1988 provides for certain related administrative and regulatory requirements that are all within the purview of promoting the safe and proper maintenance and usage of such boat dock facilities with the accompanying services of such facilities, including water lines, pathways, electrical lines, etc. The entire focus of the current permit process is promoting the safe usage of the lake for recreational purposes by the dock permittee and the broader general public.

However the "proposed program improvements" reflect an expansion of the jurisdiction of this limited objective of safe recreational usage by the boat dock permittee to other broad objectives and agendas that are unrelated or at best superficially related to the recreational purposes of boat dock permits.

Specifically, such jurisdictional expansion includes authority for the USACOE to create additional requirements for applicants of recreational boat dock permits to "plant natural vegetation," "install riprap or other [unspecified] shoreline or bank stabilization measures," or place the burden on permittees to show that "erosion control...is infeasible or otherwise not required because of soil composition, erosion potential or other circumstances." None of these

[26] The SMP does not represent an expansion of permitting authority. Instead it is based on a number of existing Congressional authorities that have been enacted over the years directing the Corps to manage water resource projects. The SMP is not limited to recreational considerations, but rather the shoreline management program is a component of the natural resources management environmental stewardship program. See Sections 1 through 5 of the SMP.

[26]

[26 cont.] requirements or their scopes are defined anywhere in the mammoth document, except with broad generalities. As always with new government measures "the devil is in the details," which remain undisclosed.

II. Recreation linked to Septic Systems.

A second objectionable proposal is that lake adjacent property owners will be required to declare if they have residential septic systems located partially on public lands. After disclosure, they will be required to produce proof of inspections and certifications by health departments. In some cases they will be required to remove key components of their systems. This entire septic regulatory expansion appears again to be a purely environmental regulatory matter unrelated to recreation boat dock permits. Yet the proposed sanctions for these seemingly unrelated environmental matters are linked to renewal of recreational boat dock permits and subject such renewals to jeopardy, threatening that permits may become "...ineligible for renewal."

[27] What rationale is there for such linkage of recreational usage to purely environmental issues? These issues are related in a practical way to whether local government has provided high level infrastructure for sewage disposal, i.e. county sewage systems, or simply mandated lower level sewage disposal in the form of septic systems to lake residents with problematic future failure rates? Why should the issue of local sewage disposal methods be linked to a recreational use? These issues and the future ramifications of local decisions concerning sewage disposal methods are far outside the normal realm of a federal agency, such as the USACOE, and its issuance of boat dock permits for purely recreational purposes.

While the environmental theories propelling these shoreline modification activities may be admirable, what possible justification is there for linking these environmental related requirements to the issuance of a recreational boat dock permit? Are not these environmental activities more properly under the realm of the Environmental Protection Agency or the state Environmental Protection Division? Why should the US Army Corps of Engineers, a branch of the United States military, be in charge of making determinations relating to environmental issues that are outside their perceived realm of expertise or their normal jurisdiction?

III. Red-lining multiple lot owners.

[28] A third egregious imperfection in the "proposed program improvements" is the decision to severely restrict future boat dock permits. The slashing of 16,734 potential dock permits under the current plan to around 2,000 with some heavily populated parts of the lake being restricted to a couple of hundred is unconscionable. Nowhere in the 1000 plus page report has any consideration been given to the economic impact on hundreds of current lake property owners, if this drastic reduction is allowed to go into effect.

For example, under the current Lakeshore Management Plan "only one permit [is] issued per adjacent landowner." (§12.5.1) Private individuals that

[27] Recreation is not being linked to septic systems. Instead, environmental concerns are addressed by the shoreline management program because failing septic systems have the potential to adversely effect the water quality of Lake Lanier. Control of septic systems is being linked to Shoreline Use permits because it takes advantage of an existing inspection system to address a number of land management issues, including private encroachments on public lands. The U.S. Congress provided the Corps with the responsibility to protect environmental resources at water resources projects managed by the Corps. As stated above in the response to comments 14 and 26, the shoreline management program, as directed by Congress, includes environmental stewardship and protection of the natural resources under the control of the Corps.

[28] The high growth of the area surrounding Lake Lanier has placed tremendous pressure on the environmental sustainability of the lake's resources. A total of over 25,000 docks would result in the degradation of the project's resources.

own more than one otherwise qualifying lot in an adjacent subdivision fronting the lake are denied additional permits under the "adjacent household/family membership" rules (id.). This requirement has artificially prevented private families for many years from obtaining permits for docks on adjacently owned properties. The historical precedent for this was possibly conceived for a generation ago when Lanier was euphemistically seen as primarily a weekend retreat for families. However, the effective result of this requirement over the years has been that developers have always been favored over private family owners of lake properties in obtaining multiple docks. While developers have had no difficulty obtaining multiple docks for multiple lots they are developing, private families who own multiple lots are precluded from ever receiving additional docks for more than one of their lots, until they sell them or otherwise dispose of them outside their perceived "family membership" group.

Now, with a sudden drastic action, a reduction in potential docks and the effective "red-lining" of certain parts of the lake from ever realistically obtaining new docks is being proposed. Those private individuals are being denied ever having full usage of their property rights as recreation users for their extra lots, not to mention vast amounts of wealth effectively confiscated from them by this new rule. In my own neighborhood, there are at least a half dozen families who own multiple lots fronting the lake and, except for this "family membership" rule, would qualify for multiple docks. There must be hundreds of such cases around the lake in existing neighborhoods and subdivisions. Nowhere in the study has any cognizance of these persons been paid or any thought been given to the negative impact on these persons affected by this monumental change in their status. How many potential cases of this circumstance exist? Why cannot grandfathering of such existing situations be made for future permits? If the rules can be changed for future developments who have notice of the changed policy, why should future permits be severely restricted and effectively denied for those who have complied with the previous rules and guidelines to their detriment. There is a real fairness issue here that is being completely ignored in these "proposed program improvements" that represents a retroactive confiscation of property rights.

Of course, no one wants to see all 16,734 possible docks placed on the lake, but does not fairness demand that a few hundred permits be set aside for those existing multiple lot owners who are having the rug pulled out from under them with this new arbitrary and capricious regulation? Since nobody seemed to care enough to study this issue in this gargantuan study, no one apparently knows how many persons are actually affected. But should we not find out and make reasonable provisions to accommodate this sector of the lake community?

Otherwise, are we not inviting these affected persons to take extraordinary measures to circumvent the rules to obtain some of the precious few permits that will remain by surreptitious methods. Such include retitling qualifying lots in the names of surrogates in order to secure permits and protect property interests and values. It is not hard to foresee a "gold rush" of those affected persons being forced to attempt manipulation of the USACOE in

[28 cont.] Prior to the preparation of this EIS, there has never been a study to determine how many private boat docks could be supported on the lake. A study was undertaken for the EIS to determine the carrying capacity of boat docks on the lake. The Corps SMP enforces the implementation of an existing Corps regulation aimed at sustaining the environmental, aesthetic, and recreational qualities of Lake Lanier to the highest possible levels in view of the intense development that is occurring on adjacent private lands. No existing docks are being removed and all landowners (individuals and developers) have been, and will continue to be treated equally with permit requests being evaluated and granted on a first come basis.

[28 cont.]

[28 cont.]

order to be rewarded with the "golden permit." This lottery could become especially fierce in those areas of the lake artificially restricted to a tiny percentage of the few permits available--areas which probably contain the highest concentrations of multiple lot owners. This severe deficiency in the EIS must be addressed before it can be approved as new changes to the Lakeshore Management Plan.

IV. Non-accountability of the USACOE.

It is not unfair to mention the fact that the USACOE is outside the normal review of and accountability to affected citizenry through their elected representatives. Decisions promulgated by the USACOE and its mysterious, faceless contractors are made behind closed doors by administrators and bureaucrats insulated and unaccountable to the affected citizenry. Historically the USACOE has been nearly unreachable by elected officials, through normal channels.

[29]

This insulation is reflected in the current proposals seen in the EIS. For example: Who decided planting "natural vegetation" is best for the lake shore area? Who decided "riprap" is the best form of shoreline control? Who decided that 16,734 potential docks should be slashed to 2,022 with around 200 allocated for the entire south end of the lake? I do not remember public hearings or studies justifying any of these decisions. I do not remember voting in elections on referendums for mandates creating these proposals.

Lake Lanier is a man-made lake. It would not exist if it had not been artificially created by humans. How then, can anyone suggest what is "natural vegetation" or better shoreline management such as "riprap" for such an "artificial" lake? Who selected the USACOE to be the agency to make these substantial environmental decisions? What about the EPA or the EPD? What method of review of these and future pronouncements, mandates and decisions do the lake resident community and the general public realistically have?

V. Summary.

Finally, this brash proposed expansion of the USACOE jurisdiction beyond the immediate recreational purposes of a boat dock permit into the realm of environmental mandates and agendas, while linking the approval process for boat dock permits as an enforcement weapon is very problematic. This monumental shift should not be approved without full public disclosure, consideration, and discourse.

[30]

The current process of appending these major government jurisdictional expansions into a gargantuan Environmental Impact Study document that takes hours to download from a limited access website is not a fair public review process. Holding a public meeting or two, and merely allowing a couple of weeks of public "comment" at the end, is a classic case of subterfuge. This misguided effort co-opts local government control of public health matters and attempts to create cross jurisdictional control of environmental protection issues.

[29]

There have been significant efforts made to solicit input from the public prior to the preparation of the EIS and the updated SMP in the form of public meetings and individual focus group meetings. The DEIS has also been made available at many public libraries in the area. All procedures mandated by the National Environmental Policy Act (NEPA) have been strictly followed. The public comment period lasted 6 weeks. Copies were also mailed to all individuals that requested a copy.

The public does not vote on policy and regulatory issues that affect the management of federal property.

There is voluminous scientific literature addressing the erosion control capabilities of native vegetation.

The United States Congress provided the Corps with the authority to construct and manager Lake Lanier. EPA reviewed the DEIS and stated that the agency has "no significant objections to the various management/operational changes being proposed." EPA assigned a rating of LO to the proposed changes – their highest acceptance rating.

[30]

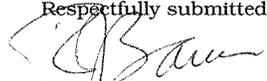
Comment noted. See above responses to related comments.

[30 cont.]

As the President of the defunct Lake Lanier Advisory Council; a Board Member and Officer of the Lake Lanier Association, Inc.; and an individual lakeshore property owner, I must speak out against these grave oversights in this EIS and its components.

This ___ day of December, 2002.

Respectfully submitted,



Roger J. Bauer, Attorney

Response to Comments
Douglas J. Beachem

December 20, 2002

Re: Draft EIS for Lake Sidney Lanier

— Objection to Proposed Program Improvement - Outgrants, Table 2-13

“Allowing commercial marinas to continue operations with their current number of boat slips and dry storage capacity until expiration of their leases, at which time an equitable reduction in the number of authorized commercial boat slips and dry storage capacity might be imposed if boating safety is at risk because of a high density of boats using the lake at any one time.”

[31] The only access the general public has to Lake Lanier is through the marinas, parks, and launch ramps. The ten marinas provide this service in partnership with the COE. The COE has always encouraged the commercial marinas to improve their facilities and expand their services for the general public. It would be impossible to secure a loan, attract investors, or sell a marina with a regulation like this. Each marina has a master plan, which was approved by the COE. Some are built out, others have room for expansion. Our business plans are based on these. Why would we continue to develop, improve, or expand our concession areas knowing that the COE could arbitrarily make us reduce our number of boat slips and dry storage capacity and thus reduce our return on investment? What is an equitable reduction? How will we be compensated for this?

[32] If the COE feels it might become necessary in the future to restrict the number of boats due to high density, then this should be done by restricting private boat slips on the lake. These are for the sole benefit of private land owners and do not provide access for the general public. It appears the COE has sided with the home owners and forgotten it's responsibility to the general public.

[33] I also disagree with the conclusions presented in the EIS regarding carrying capacity. I would urge you to update the 1984 study.

[34] My family has been a concessionaire on Lake Lanier since the beginning, first at Holiday and now at Lazy Days. We have enjoyed a good relationship with the COE over the years. This proposed regulation could ruin the value of all the marinas on Lake Lanier. I urge you to reconsider this.

Douglas J. Beachem, CEO
Lazy Days Marina

[31] All concessionaires have a Master Plan that defines their limits of development and the Corps works with the concessionaires to ensure that their development is consistent with the Master Plan.

The referenced statement of concern has been removed from the EIS.

[32] The SMP addressed in the EIS will limit the number of private boat docks that will be permitted in the future at Lake Lanier.

[33] Comment noted. There are no plans of this time to update the 1984 study.

[34] The Corps values all concessionaires at Lake Lanier and appreciates the positive relationship we share with them.

December 21, 2002

Attention: Lake Lanier Army Corps of Engineers

Comments on Proposed Shoreline Management Plan

There are a few items in the proposed management policy that I would like to comment on and request further consideration of these proposed items.

Page 17: "In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, no vessels may be moored at a private boat dock that exceeds the length of the dock, excluding the access walkway. All vessels permanently moored at private docks must belong to the permittee ..."

[35]

I disagree with the management policy clause restricting the size of the boat on the dock to be smaller than the dock. If there is sufficient space between docks to allow for the presence of a large boat, then I feel it should be acceptable. One option could be to use the existing policy of distance between docks should also apply to the boat in the dock. As such, the owner of the dock would be in violation of the management policy if the boat or the dock are less than 50' from the neighboring dock when the lake is at full pool (1071). This will allow the enforcement of a consistent policy to maintain distance between docks and continue to support safe navigation of the lake.

[36]

We own a houseboat and keep it at our dock. This boat although large, does not create excessive waves, travel at high speeds etc.. In the evaluation of environmental impact, I would expect that the larger power boats would have a larger environmental impact on the lake than a houseboat residing on a private boat dock. What is the environmental impact of large cruisers traveling on the lake as compared with large boats residing on private docks? How was the environmental impact of a large boat at a marina compared to a large boat on a private dock? I would also think that a potential priority for the environment would be to ensure that boats are adequately maintained so that they do not sink causing unnecessary oil or gasoline spills into the lake. These areas should be a higher priority than the size of a boat on the dock.

[37]

As for the aesthetics, a large well maintained and operational vessel has superior aesthetics as compared to many existing boat docks. Given the very subjective nature of aesthetics, how was it determined that a boat has less aesthetic appeal than a dock? The aesthetics of the lake are negatively impacted by boats in docks that are left in the dock on the ground, boats that are not maintained properly and do not even operate etc..

[38]

In the recent years when the lake level has dipped to a fairly low level, we have on occasion moved our boat to a friend's dock. I request that the mooring of a boat at another facility be considered temporary if the sole reason for the move is due to the lower level of the lake.

I appreciate your consideration of these comments and concerns. We enjoy living on the lake and enjoy having a houseboat on our dock. It provides for a safe, convenient location for our children and friends to enjoy the lake!

If you have any questions, please feel free to contact me!

Sincerely,

Ellen Boerger

Home: 770-531-7824 (evenings)

Work: 770-623-7567 (daytime)

Response to Comments

Ellen Boerger

[35] Text in the SMP has been changed to read as follows:

"In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities. Therefore, based on this language it is possible that boats larger than the dock could be moored. Each situation will be considered on a case-by-case basis. The prohibition of mooring boats at a dock of another is intended to eliminate permanent storage and commercial use of the facility. It is possible that a temporary arrangement can be permitted for safety reasons provided open discussion is initiated and maintained with the Lake Lanier Project Office."

[36]

It is the personal responsibility of boat owners to maintain their vessels and insure that they do not create a potential hazard or negative environmental impact.

[37]

The presence of a large boat at a dock facility does not necessarily improve the aesthetics.

[38]

This is a common practice and acceptable if site conditions allow for safe moorage and navigation is not impacted

Response to Comments
Joseph Bosworth

-----Original Message-----
From: Joseph Bosworth [mailto:jbos88@alltel.net]
Sent: Friday, December 13, 2002 8:23 AM
To: Coffee, Glendon L
Subject: Environmental Statement

I read some of the issues in the Dawsonville paper and wanted to comment on a couple.

1. Mowing permit: Brush is the issue for the vast majority of home owners. By mowing, it keeps the brush down. On my property there is no "lawn" but, the grass growing in the trees seems to hold soil erosion better than brush. Am I mistaken in this? If it is roughly equal to brush for soil erosion what is the harm in allowing the mowing permits?

[39] Currently I mow twice per year. This does not eliminate leaves and other small chopped brush from covering the ground but it does allow the grass to grow in areas that would be devoid of vegetation if brush were allowed to regain control. It does not have a negative effect on the trees.

What is most important to me as a home owner is keeping my view and access to the lake. I would appreciate your crafting a solution for the mowing issue that incorporates a home owner being able to preserve their current lake view and access.

[40] 2. Number of Dock Permits: I Like the idea of requiring community boat docks and the 50 ft buffer between docks. I don't think you should limit the number of boat docks to less than the original plan.

[41] 3. Dredging: I agree with permitting the dredging. Over time it will improve the quality of lake Lanier. I'm sure it will be used primarily on the north end of the lake.

Thank you,

Joseph Bosworth
506 Chestatee Circle
Dawsonville, GA 30534
706-216-1238
jbos88@alltel.net

[39] There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than species of grass. See Section 19, *Buffer Zones*, of the SMP.

[40] The intense level of development that is occurring on private lands surrounding Lake Lanier is posing significant demands on the project's resources. This is the first time boat dock capacity has been calculated using a methodology that adheres to the Corps' regulatory guidance. Compliance with the results of that analysis will limit the number of future boat docks permitted on the lake. This is important to maintaining the aesthetic, environmental, and recreational characteristics of Lake Lanier' resources that contribute to its appeal to the general public.

[41] Comment noted.

Response to Comments
Bobby and Allison Bradford

-----Original Message-----

From: ahbradford@bellsouth.net [mailto:ahbradford@bellsouth.net]

Sent: Thursday, December 12, 2002 4:04 PM

To: Coffee, Glendon L

Subject: Proposed changes at Lake Lanier

- [42] Dear Sirs:
We are homeowners on Holly Hill Road, which is off of War Hill Park Road. It has come to our attention that you are considering putting a marina at War Hill Park. We feel this is a very bad idea because of the many narrow arteries of the lake in this area, including the main channel.
- [43] We had a fatality just a couple of summers ago when a boat came around a corner and hit a skier in the water, severing his leg, causing him to bleed to death. We have also consistently noticed skiers and children in towables being closely followed by a stream of boat traffic. This is a very hazardous condition and is an accident waiting to happen. All it takes is a child falling out or a skier falling and being run over.
- [44] We strongly believe that adding a marina in this area will not alleviate boat traffic in the south part of the lake but will instead only attract new boaters, thus increasing the overall boat traffic on the lake.
- Please reconsider putting this marina up here. You will most probably be saving lives.
Thank you,
Bobby and Allison Bradford, 103 Holly Hill Road, Dawsonville

- [42] The proposed leasee is not interested in leasing the War Hill Park at this time. However, there is still a need for services on the Chestatee River and the Corps will continue to look for a way to provide a marina operation in the area.
- [43] Comment noted.
- [44] Comment noted.

Response to Comments
Gordon Brand

----- Original Message -----

From: Gordon Brand

To: glendon.i.coffee@sam.usace.army.mil

Sent: Thursday, December 05, 2002 10:16 AM

Subject: Lake Lanier DEIS

The following are my comments about the Draft Environmental Impact Statement for the operation and maintenance of Lake Lanier.

Table ES-1

- [45] Page ES-6.- Shoreline Management- Encourage those with grandfather authorization to mow to cease mowing project lands. Recommend deleting this entire statement. Grass mowing done properly does not cause shoreline erosion. Recommend a statement for those who do mow not to fertilize. Ceasing mowing project lands would have a major negative impact on real estate values of adjacent private lands.

Other comments:

Water Quality.

- [46] Has an environmental impact study been completed on the proposed discharge by Gwinnett County of 40 million gallons of treated waste into Lake Lanier? Do waste treatment plants such as the new Gwinnett County Facility remove medicines, drugs that are part of human waste.

- [47] What impact does steroids, hormones, growth enhancers, medicine, from chicken farms waste that reach Lake Lanier have on water quality.

Lake Safety

- [48] Is there a standard for watercraft speed and noise level for watercraft using the lake. Some of the speedboats create a safety threat by excessive speeds.

In general I agree with the draft plan.

Gordon Brand
120 Poplar Trail
Dawsonville, GA 30534
706 216-4725

- [45] The shoreline management program, as directed by Congress, includes environmental stewardship and protection of the natural resources under the control of the Corps. There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than species of grass. See Section 19, *Buffer Zones*, of the SMP.
- [46] An EIS is not required for a NPDES permit. However, during the permit application process, the applicant is required to demonstrate to the Georgia EPD that water quality standards will be maintained. A recent court decision has blocked, at least temporarily, permission for Gwinnett County to increase its discharge volumes into the lake.
- [47] Wastewater treatment plants do not specifically remove medicines or drugs. Medicines and drugs are organic compounds and will degrade at varying rates just as other wastes. The impact on water quality from steroids, hormones, growth enhancers, and medicine from chicken farm waste were not evaluated. Currently there are no tools available for an analysis, nor are there State water quality standards for these substances.
- [48] State law requires idle speed within 100 feet of all ramps and “no wake” zones are also posted around ramps and marinas. The State is responsible for enforcing speed limits on the lake; however, manpower and funding constraints limit the State’s ability to strictly enforce these limits. Current State regulations also require that boat exhaust discharge underwater, which results in a muffling of sounds. However, the Corps does not have the authority to propose, set or enforce noise standards.

Response to Comments

Larry Brooks

-----Original Message-----

From: Larry_Brooks@dadebehiring.com [mailto:Larry_Brooks@dadebehiring.com]

Sent: Monday, December 23, 2002 1:39 PM

To: Coffee, Glendon L

Subject: WAR HILL PARK PROPOSAL

[49] I am a resident of that part of the lake. I am opposed to the marina. Although it may be good for the lake users who responsibly use the lake, there are so many more that do not have a clue about safety, and do not care for others property or well-being. If you want to make an honest effort to do the right thing, you should visit that part of the lake during the summer and watch the circus. Can you ensure that the change will not be directly responsible for future DEATH ? I think not... because people are people. It is not your fault, but it is your responsibility to take this into consideration.

The boat owners that currently utilize that area tend to avoid the main lake (and travel Chesatee / Thompson) to avoid the enforcement officials for their booze and drugs. About one in ten calls to DNR gets an actual response because of the distance to that area from their normal patrol area.

[50] I know the decision has already been made, and someone's pockets will be lined accordingly - but please take steps to increase the availability of enforcement personnel to support the added risk from idiots.

thank you for your time
Larry Brooks

[49] The proposed leasee is not interested in leasing the War Hill Park at this time. However, there is still a need for services on the Chestatee River and the Corps will continue to look for a way to provide a marina operation in the area.

[50] No decisions have been made to date concerning the proposed marina for the Chestatee River.

Response to Comments
Susan and Hal Brown

December 7, 2002

Glen Coffee
US Army Engineer District-Mobile
Attn: CESAM-PD-E
PO BOX 2288
Mobile, AL 36628-0001

Re: COMMENTS: DRAFT ENVIRONMENTAL IMPACT STUDY for LAKE SIDNEY LANIER

Dear Mr. Coffee:

We have listed below, in no particular order of importance, our comments concerning your EI study for Lake Lanier. As a point of reference we would like for you to know that we have owned property and have lived approximately 25 % of our lives at Lake Lanier for the past 25 years. During that period we have seen and heard a lot.

- [51] 1. Because the Preferred Alternative does not include water flow and lake level control, it is a useless waste of our time, money and efforts. No plan could ever be acceptable without this. Consequently, we vote against it. The current plan or even no plan would be better. If you cannot deal with the real problem, leave it alone.
- [52] 2. The Preferred Alternative is entirely too long, too wordy and too difficult to grasp. To be effective, it must be streamlined and simplified.
- [53] 3. The Preferred Alternative feels like a "Rail Road Job" to us.
- [54] 4. From our personal observation and results, it is clear that you and your plan do not understand erosion and its causes very well. My bank has eroded 4 to 6 feet in the last 25 years. Simply stated, the cause of this erosion is reckless control of the lake level. It was not caused by development and construction, and it was not cause from run-off during heavy rains. When the water is against the bank, the bank retreats unless it is solid rock. Have you ever observed the vanishing or nearly destroyed islands in the lake? An over elevated lake level is the sole culprit of 95 % of the lake erosion! No doubt, some erosion is caused by development and heavy rain, but it is virtually not significant. The lake level should never be higher than 1069 or lower than 1064. The ideal target level is 1067. This optimizes most objectives.
- [55] 5. Second point on your lack of erosion understanding: Grass, i.e., a healthy growth of centipede grass will always outperform (reduce erosion) better than will trees. Our personal results are clear. Before we planted centipede grass, there were usually 3 deep, trench-like gullies washed into the beach in front of our property during the winter when the Corps dropped the lake levels. My centipede grass has eliminated all of those gullies. The only gullies in the general area now come from areas without grass.
- [56] 6. Rain levels have been down 5 to 10% in 2002, but the lake has been down 40 to 60 %!

- [51] 1. As explained in the EIS, the water management strategy for Lake Lanier will be evaluated in a separate NEPA process conducted after the Georgia, Alabama and Florida agree on a water allocation formula for the entire ACF basin. You will be provided an opportunity to participate in that process.
- [52] 2. The magnitude of the O&M activities performed at Lake Lanier require a lengthy discussion.
- [53] 3. Comment noted.
- [54] 4. We agree that fluctuating lake levels contribute to erosion. Lake Lanier was constructed to meet several Congressionally-authorized purposes, which result in fluctuating lake levels. The normal summer pool is 1,071 and the normal winter pool is 1,065; however, seasonal fluctuations, water release demands, and the relatively small drainage basin above the lake combine to make it extremely difficult to consistently manage for these levels.
- [55] 5. There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than grass. See Section 19, *Buffer Zones*, of the SMP.
- [56] 6. Georgia has been in a prolonged drought since 1998. We are not certain how or where the referenced figures were obtained. However, at an elevation of 1055, the lake would only be down 25 percent. With a return to normal rainfall at the time of preparation of the Final EIS, the lake has returned to normal elevations (1071).

- [57] - 7. Do not allow Lan-Mar Marina to expand out into the lake. Their plan is dangerous to me and all other boaters in that area of the lake. This expansion would create another "death trap" worse than the Bald Ridge corridor. Make them remove the new "No-Wake Buoys" recently installed.
- [58] - 8. Construct a large water supply pipe from Lake Lanier to Atlanta to provide the water needs of the city. Then dramatically reduce the flow in the river. Entirely too much water is sent down the Chattahoochee River.
- [59] - 9. Stop the dumping of sewage into the lake. Do not allow more sewage to be dumped into the lake. That is just stupid. If you cannot stop that, find someone who can!
- [60] - 10. Find an independent third party to operate Lake Lanier. The Army has proven that it is not truly set up to handle the lake, nor does it really want to manage the lake.
- [61] - 11. The amount of power produced by Lake Lanier generators is not significant. Stop lowering the lake for the purpose of generating power.
- [62] - 12. Once manufactured, Styrofoam does not pollute water or air. Stop suggesting otherwise. Many gardeners will add it to soil to improve growing conditions.
- [63] - 13. Septic Tanks installed in accordance with building codes do not effect ground water or lake water. Leave our septic tanks alone. If ours has a problem, we will fix it; we do not need "assistance" from the Army.
- [64] - 14. Redistribution of recreational facilities is unwise.

- [57] 7. All concessionaires have a Master Plan that defines their limits of development and the Corps works with the concessionaires to ensure that their development is consistent with the Master Plan. "No wake" buoys are safety measures designed to reduce the speed of boaters in congested areas.
- [58] 8. Water releases from Buford Dam meet multiple needs such as hydropower production, water supply, navigation, downstream recreation, etc. A pipe, while satisfying water supply needs for Atlanta, would not allow all of the other instream needs to be met.
- [59] 9. The GA EPD is the agency responsible for regulating water quality and point source discharges. A recent court decision has blocked, at least temporarily, permission for Gwinnett County to discharge into the lake.
- [60] 10. The Corps of Engineers has been charged by Congress to manage Lake Lanier and its natural resources.
- [61] 11. Generally, hydropower generation is accomplished incidental to releases made to satisfy other downstream requirements (i.e., minimum flows, water quality, etc.). As a result, releases solely for the purpose of hydropower generation are seldom made.
- [62] 12. Styrofoam is not biodegradable, and does in fact pollute the water and the shorelines. Styrofoam scattered along the shoreline and in the water degrades the aesthetics of the natural environment and represents a health hazard to waterfowl resulting from its ingestion.
- [63] 13. A septic system installation per building codes does not preclude system failure. However, not all residents fix their failed systems. The Corps only becomes involved in septic system issues when the system is located on Corp property.
- [64] 14. Comment noted. The EIS has been revised to no longer specify closure of recreational sites as a measure to redistribute recreation activities around the lake.

- [65] -15. Much of the native vegetation is a "nuisance plant".
- [66] - 16. Underwater exhausts are a much better method for reducing noise from boats than more vegetation will ever be. Having an exhaust at or above the water line is stupid. Limiting boat speeds to something less than 50 MPH will also help.
- [67] -17. Eliminate house boats.
- [68] - 18. Reduce the goose population by 75%.
- [69] -19. Provide an intelligent thought process which precludes docks from being lowered on to significant rocks.
- [70] 20. The issuance or the revocation of a dock permit is not related to removal of any vegetation.
- [71] 21. Having a limit on the number of docks is senseless. Dock limitations should occur by virtue of the natural environment and conditions of the site in consideration. If there is not enough space or a hazard is created, then a new dock should not be allowed. Acceptable conditions should be defined for average water levels and not for full pool.
- [72] 22. We do not know anyone who plants poison ivy.

12/08/02 5:50 PM

Page 2 of 3

Lanier EIS Comments 12-7-02

- [65] 15. Native vegetation is not considered to be a nuisance at Lake Lanier. Instead, such vegetation is an important component of the natural resources surrounding the lake which enhance the natural beauty of the lake, provide a buffer between the lake and the surrounding development, and provide needed habitat for the wildlife community occurring on project lands.
- [66] 16. Comment noted
- [67] 17. Comment noted
- [68] 18. There has been a general decline in the goose population from approximately 2,000 to 1,500 due in part from hunting and the effects of drought. Goose hunting is currently the only method for thinning goose populations on Lake Lanier. GA DNR believes the goose population at Lake Lanier is below the biological carrying capacity that could be potentially supported by Lake Lanier, and is at or near the capacity tolerated by most lake residents (social carrying capacity). No further management is believed to be necessary at this time.
- [69] 19. It is not possible to respond to this comment because it is unclear to what the comment refers.
- [70] 20. The removal of vegetation constitutes a violation of permit conditions and subjects the permit holder to criminal and administrative penalties. Revocation of a dock permit represents a potential administrative penalty.
- [71] 21. Disagree, managing the proliferation of boat dock on Lake Lanier is critical to protecting the long term integrity of the lakes resources. See the SMP in Appendix D for discussion of the criteria used in setting those limitations.
- [72] 22. Neither the EIS nor the SMP advocates planting poison ivy.

- [73] - 23. What is an USACE?
- [74] - 24. Riprap fails as do sea walls and it looks very strange, unnatural and out-of-place. Seawalls, on the other hand, look like they belong on the water. The Army should provide seawalls in all locations where it has/is destroyed/ing the lake banks with high water levels.
- [75] - 25. Dredge the lake and rebuild the islands.
- [76] - 26. The only realistic way to significantly reduce the "intensity of use" on the lake is to decrease the size and activities of/at the marinas. Campgrounds and private property pale in comparison.
- [77] - 27. Lake security should be substantially increased.
- [78] - 28. Navigation aids should be lighted to reduce nighttime accidents.
- [79] - 29. Deed all lands over to existing property owners where the existing government line is at a higher elevation than originally intended.
- [80] - 30. The Army should clear out all underbrush on the government land around Lake Lanier to help rid the area of rats, snakes and other vermin, which create health hazards. Many Georgia local governments have ordinances prohibiting tall grass, weeds and underbrush for this exact reason.

We hope our comments are helpful and will be useful to shape and change the direction in which you are headed. We know several of them are in direct conflict with your general feelings. These comments are sincere and valid.

Sincerely,



Susan and Hal Brown
191 Kings Row
Marietta, GA 30067

- [73] 23. Acronym for U.S. Army Corps of Engineers
- [74] 24. The "natural look" of man-made objects is a subjective observation. Many private landowners cannot afford to build proper seawalls nor to maintain them over time. The Corps has considerable experience with riprap around the lake and has found riprap to be an effective erosion control measure, less costly to install, and easy to maintain. See Section 14.3, *Section 404 and/or Section 10 Permits*, of the SMP
- [75] 25. Guidelines, regulations and policies set limitations on the extent of dredging that is permitted at water resource projects. Rebuilding islands would be cost prohibitive and impractical.
- [76] 26. All users contribute to congestion on the lake. Redistribution of recreational facilities is proposed as one method for decreasing boat traffic.
- [77] 27. In the wake of the events of 9/11, the Corps has been working diligently to improve the security at Buford Dam and Lake Lanier. The Corps has worked closely with local, state and federal law enforcement as well as Emergency Management agencies. Although the Corps is unable to disclose the actions that have been taken, the precautionary measures taken are deemed sufficient to meet the current conditions.
- [78] 28. All navigation aids used by the Corps comply with USCG standards. There is no federal or state requirement to provided lighted navigation markers on inland waters. Lighting is more often found on commercial transportation waterways in coastal regions where the navigation channels are usually very narrow and need to be well defined.
- [79] 29. All project lands at Lake Lanier are determined to be essential for project purposes. Should any lands be declared surplus to project needs, such lands would be made available for purchase by the public, and not necessarily to the adjacent property owners.
- [80] 30. The goal of the Corps is to maintain the property around the lake in its most natural state to protect the ecological integrity of the biological communities inhabiting the area.

Response to Comments
Holly Chitwood

-----Original Message-----

From: Holly Chitwood [mailto:hollychitwood@alltel.net]

Sent: Thursday, December 12, 2002 9:54 AM

To: Coffee, Glendon L

Subject: Changes proposed in the Environmental Study on Lake Lanier

[81]

Dear Sir, I had heard that there was an environmental study in the works at Lake Lanier. Until recently I did not understand what that meant. I assumed it had something to do with water quality, now I realize it is more about recreational lake use.

[82]

--- It appears that a marina is being considered for the War Hill Park area. I live in that area on the Chestatee River (which is quite NARROW just north of War Hill Park, check your map). We already have an unbelievable number of boats using this channel on summer weekends. It is literally like watching traffic on an interstate at rush hour. I cannot imagine how much busier and DANGEROUS it could be out there if a marina were located in our area. My husband and I have watched numerous boating accidents occur from our backyard. Before you permit a marina in our area I would invite you to my home and dock on any summer weekend afternoon, no kidding, come on over. T

[83]

--.The other conceivable problem with traffic would be on War Hill Park Road. It too is already dangerous to travel due to the number of vehicles pulling boats on EXTREMELY curving sections. If you have not traveled it before you should check it out. It is truly like a mountain road. Narrow and winding.

[84]

While I understand the Corps desire to move some of the boating to the north end of the lake I would urge you to consider that the Chestatee River north of the highway 53 bridge is not wide enough to handle much more boating traffic. A neighborhood marina was put in place at Harbor Point about 3 years ago and that has already had major impact.

Please feel free to contact me, I'm really not kidding about having you or someone from the corps come by on a Saturday afternoon in May or later, you wouldn't believe it.

Thanks for your attention to this matter

Sincerely, Holly Chitwood

111 Woodstone Place

Dawsonville, GA 30534 706 216 4743

dock permit #L00849

hollychitwood@alltel.net

[81]

The EIS addresses the environmental and socioeconomic impact of the operation and maintenance activities at Lake Lanier.

[82]

The proposed leasee is not interested in leasing the War Hill Park at this time. However, there is still a need for services on the Chestatee River and the Corps will continue to look for a way to provide a marina operation in the area.

[83]

Comment Noted.

[84]

Comment Noted.

Georgia Department of Natural Resources

Response to Comments
Richard Cloues

Lonice C. Barrett, Commissioner

Historic Preservation Division

W. Ray Luce, Division Director and Deputy State Historic Preservation Officer
156 Trinity Avenue, S.W., Suite 101, Atlanta, Georgia 30303-3600
Telephone (404) 656-2840 Fax (404) 657-1040 <http://www.gashpo.org>

June 7, 2002

Hugh A. McClellan
Chief, Environment and Resource Branch
Department of the Army
Mobile District, Corps of Engineers
P.O. Box 2288
Mobile, Alabama 36628-001

RE: **Environmental Impact Statement (EIS), Operations and Maintenance, Lake Sidney Lanier
Forsyth, Dawson, Lumpkin, Hall, and Gwinnett Counties, Georgia
HP010807-001**

Dear Mr. McClellan:

The Historic Preservation Division (HPD) has reviewed the Environmental Impact Statement (EIS) concerning future operations and maintenance at Lake Sidney Lanier, located north of Atlanta, in Forsyth, Dawson, Lumpkin, Hall, and Gwinnett Counties, Georgia. Our comments are offered to assist the Corps of Engineers in complying with the provisions of Section 106 of the National Historic Preservation Act.

[85] Comments noted.

[85]

Thank you for providing HPD with a copy of the EIS for the future operations and maintenance at Lake Sidney Lanier. We know of no additional cultural resources to be considered beyond those eligible sites identified in the archaeological surveys of the lake.

We do recommend that particular emphasis be placed on the effects of low lake levels and recreation use on the known cultural resources, as these two impacts are likely to become increasingly significant in the future.

We look forward to working with you as this project progresses. Please refer to project number HP010807-001 in future correspondence regarding this undertaking. If we may be of further assistance, please contact Serena Bellew, Environmental Review Coordinator, at (404) 651-6624.

Sincerely,



Richard Cloues
Deputy State Historic Preservation Officer

RC:sfc

cc: Dottie Gibbens, Inland Environment Team
Maurice Ungaro, Atlanta Regional Commission
Preservation Planner, Georgia Mountains RDC

Response to Comments
Roy Coleman

-----Original Message-----

From: Roy Coleman [mailto:yornameloc@alltel.net]

Sent: Friday, December 20, 2002 8:39 AM

To: Coffee, Glendon L

Subject: Draft Environmental Proposal

[86]

"vegetation" ES-6, [mowing to the shoreline should be continued as is the case now. If non-point pollution is an issue, then fertilizer application should be prohibited within so many feet of the shoreline. To cease mowing would, in the majority of cases, reduce the value of adjoining private property. This also would drastically affect county budgets. I respectfully request that this issue be removed from this document.] from Roy Coleman, immediate Past President of the Dawson County Homeowners Association.

[86]

Mowing is only restricted on Corps property. The shoreline management program, as directed by Congress, includes environmental stewardship and protection of the natural resources under the control of the Corps. There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than species of grass. See Section 19, *Buffer Zones*, of the SMP.

Melvyn & Beverly Copen
3870 Adams Road
Cumming, Georgia 30041

Tel: 770-889-5245 Fax: 770-781-4154 email:melcopen@hotmail.com

Response to Comments
Melvyn and Beverly Copen

December 21, 2002

Mr. Glen Coffee
US Army Engineer District, Mobile
Attn: CESAM-PD-E
P.O. Box 2288
Mobile, Alabama 35528

Dear Mr. Coffee:

Recently we were shown listing of proposed changes to the Shoreline Management Plan for Lake Lanier in Georgia. As residents of the lake area, we wanted to express some concerns which we know many of our neighbors share.

We live on the lake because of its beauty and utility. We have both esthetic and economic stakes in assuring its preservation. True for virtually all of us who reside on the lake. The Corps of Engineers should find many willing allies in its efforts to these ends. Yet many of the proposed regulations seem to establish standards that could destroy what currently exists, both esthetically and economically.

[87]

Specifically, I am referring to regulations that would require:

"a vegetative shoreline buffer"

"encouraging those with grandfathered authorization to mow to cease mowing"

"encouraging existing private dock permittees to convert to community docks..."

When we bought our home, many years ago, the land between our property and the lake was a major factor in both the decision and the price, as was the ability to have a dock. We have permits that we abide by, and the land has been maintained in a manner that enhances both our property and the lake. Changing it, for example by revegetating the part that we currently mow, will have serious negative repercussions. We are also concerned by the use of the term "encouraging." This could be misused by some overly zealous official hell bent on redoing the lake according to his or her own set of priorities.

[88]

Throughout the suggested changes there are items which would negatively affect the property owners who border the lake. In some cases, requirements may involve considerable cost, beyond the means of some of people in lower income categories and difficult for retirees on fixed incomes. In other cases, measures are not clearly defined, allowing sufficient discretion for both arbitrary and dictatorial administration.

We would hope that these measures are considered carefully before any implementation begins, keeping in mind that most of us whose land borders the lake share the same objectives, to keep the lake healthy. Additional regulations and changes in existing procedures should only be made where **serious** problems exist and then, by specifically

addressing those problems (rather than blanket issues) and what will be done to correct them. Thank you for your attention.

Sincerely,



Melvyn & Beverly Copen

[87] Existing mowing activities will be allowed, but minimization of mowing will be encouraged to help protect the lake's water quality. Adjacent landowners have the greatest impact and opportunity to protect and restore the lake's vegetative buffer. Through the years, grandfathered mowing privileges and permits have resulted in a general degradation of natural habitat along the Lake Lanier shoreline, and has created the appearance of private ownership of public property. Eliminating mowing on government lands will protect the natural resources, enhance wildlife habitat and the aesthetic value of the land surrounding the lake, and promote the use of public property by eliminating the appearance of private ownership.

[88] The decision to replace existing individual docks with a community dock is voluntary and is not required in the updated SMP. For example, out of necessity only neighboring facilities would be able to form associations and acquire community dock facilities. The rezoning of shoreline would only effect those properties that are using the community dock.

November 25, 2002

Response to Comments
Jud Davis

PROPOSED CHANGE TO DRAFT SMP

U. S. Army Corps of Engineers, Chief Ranger Chris Lovelady, VIA Fax 770-945-7428
Mobile District, Lake Sidney Lanier

A significant problem occurs when property adjacent to USACE managed land changes ownership. The USACE will only grant dock permit approval to the new owner once this owner purchases the property (provided all eligibility requirements are met). There is no guarantee to the new owner that this permit will be issued until AFTER the new owner purchases the property. If this person purchases the property hoping to be issued the dock permit, and is NOT issued the dock permit, this person has now bought property that is not worth what he/she has paid for the property.

Under the current guidelines, the prospective buyer may meet with a Ranger prior to the purchase to determine the eligibility for a new permit. The Ranger tells the prospective owner that he/she will RECOMMEND APPROVAL for a new permit to be issued. This is NOT a guarantee that a permit will be issued. The prospective buyer is basically forced to "roll the dice" and purchase the property, hoping that he/she will obtain the dock permit once he/she purchases the property.

It is very understood that the USACE does not issue dock permits for "speculative" purposes. However, a person paying \$500,000 or even \$50,000 for a lake front lot/home needs (and the Banks will soon require) a guarantee that a new permit will be issued for this property BEFORE CLOSING.

At this time, under the current and proposed SMP, the only way to safeguard a proposed buyer is to have a repurchase agreement in the purchase and sales contract. This forces a seller to repurchase a property should the "recommendation for dock permit approval" verbal commitment from the Ranger, NOT turn into an actual permit. This creates a huge financial and legal matter involving bank loans, property tax payments, real estate commissions, closing costs, legal fees, etc. having to be refunded to a vast group of individuals & companies. There has to be an entirely new closing performed just to revert the property back to the original owner, and replace the money and deeds back to where they belong. This creates a huge burden on both buyers and sellers of lakefront property.

My proposal to the USACE is to have the Ranger meet with the current owner of the property to discuss the possibility of a new permit being issued for a PROSPECTIVE new owner. At this time, the Ranger can have the current owner bring all aspects of his/her property into compliance (No longer will you hear from a new owner that "the previous owner must have done that"). Then, once the current owner has brought his/her dock, etc. into compliance, the Ranger can issue a Letter of Compliance GUARANTEEING that a new owner will in fact be issued a new permit for this property. This works also with vacant land that does not currently have a dock permit. Should a current owner choose NOT to bring his/her facility/uses into compliance, then at least the prospective new owner will be able to see, in writing, what will need to be done in order to obtain the new permit.

* The prospective buyer and seller would no longer have to risk great hardship should a new permit not be issued for the property.

* The Ranger could inspect the property PRIOR to the change of ownership.

* This eliminates any conflict between the USACE and a new owner. It is all in writing on the "Letter of Compliance" issued to the seller/current owner.

Thank you for your time, consideration, and as always, your continued good management of Lake Lanier!

Sincerely, Jud Davis 404-316-3720

[89] Permits are non-transferable. They become null and void upon sale or transfer of the property associated with the permitted facilities or the death of the permittee. New owners must notify the Operations Managers office of their purchase and make application for a new permit Assuming compliance with all Shoreline Management Plan policies and site requirements remain suitable, new property owners can be reasonably assured of being granted a permit.

[89]

Response to Comments
Randy Edwards

**Construction & Property
Consultants, Inc.**

November 25, 2002

via hand delivery

Mr. Chris Lovelady
Chief Ranger
Lake Sidney Lanier
U.S. Army Corps of Engineers
P.O. Box 567
Buford, GA 30515-0567

Re: Shoreline Management Program Comments

Dear Mr. Lovelady:

This letter is to provide comments on the draft copy of the Shoreline Management Program, specifically Section 15.4 Facility Inspection Program.

Our firm, Construction & Property Consultants, Inc. was awarded a contract in 1992 (DACW01-92-D-0026) for Inspections and Reinspections of Lakeshore Use Permits and Related Facilities at Lake Sidney Lanier, Buford, Georgia. During our one year contract from March 1992 to April 1993 we completed over 2,000 inspections. Based on the comments we received, the program was successful and our work was very satisfactory, but the contract was not renewed due to lack of funding.

Our firm is very interested in performing inspections for the Permittees under the revised Shoreline Management Plan; however, our firm does not meet the requirements of the American Society of Home Inspectors (ASHI) or Georgia Association of Home Inspectors (GAHI). In reviewing the qualifications of these organizations, they both require 250 fee paid inspections, among other requirements. Based on this requirement alone, the time required to obtain this qualification could take several years.

We also feel that limiting the facility inspection program to these two organizations may create problems for the U.S. Army Corps of Engineers if there are an insufficient number of certified home inspectors interested in performing this work.

We would propose that Section 15.4 Facility Inspection Program be amended to read as follows:

... At the time of permit renewal, change of ownership or at the discretion of the Operations Manager all Permittees will be required to contract the services of an inspector. The inspector must be a "full member" level inspector of American Society of Home Inspectors (ASHI) or Georgia Association of Home Inspectors (GAHI) **or have evidence of satisfactory completion of at least 250 facility inspections for the U. S. Army Corps of Engineers.**

5275 Triangle Parkway • Suite 250 • Norcross, Georgia 30092 • 770-205-9505 • Fax 770-209-7055

[90] The text has been changed to read as follows:
"All permitted facilities must be operated, used and maintained by the permittee in a safe, healthful condition at all times. At the time of permit renewal, change of ownership or at the discretion of the Operations Manager all permittees will be required to contract the services of a Corps certified 'candidate,' or higher, level inspector, who has passed all written exams and continues to meet the requirements for either: the American Society of Home Inspectors (ASHI) or Georgia Association of Home Inspectors (GAHI). Inspectors will provide at a minimum, a Corps of Engineers inspection report that details the deficiencies found and the inspector's final inspection and certification that the facilities are in full compliance with the permit conditions. Payment of costs associated with the inspection and certification will be the responsibility of the permit holder."

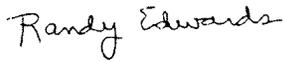
SENT BY: US ARMY CORPS OF ENGINEERS; 7709457428; DEC-16-02 12:14PM; PAGE

[90 cont.]

This change would give the Permittees and the U.S. Army Corps of Engineers the advantage of our experience, which, in our opinion, makes us better qualified than home inspectors to provide these services. This would result in a greater number of qualified inspectors benefiting the Permittees with increased competition resulting in improved service and lower prices, while the U. S. Army Corps of Engineers maintains a strict level of qualifications.

Thank you for your consideration of our comments. We look forward to your response.

Sincerely,



Randy Edwards
President

Cc: File
Congressman Nathan Deal

Response to Comments
Kevin Farrell

-----Original Message-----

From: Kevin Farrell [mailto:Kevin_Farrell@dnr.state.ga.us]

Sent: Monday, November 25, 2002 8:59 AM

To: Coffee, Glendon L

Subject: Draft EIS for L.Lanier

[91]

RE: Table 3-7 Pg 3-19

City of Lumpkin listing should be removed (this permit is in Stewart County).

Permit for City of Flowery Branch should be added:

Hall Co. - #069-0003 - M - .367 MGD - .367 MGD

Thanks

[91] Text edited to reflect comment.

Response to Comments
Marjorie and Bill Giambalvo

-----Original Message-----

From: Cybergram9@aol.com [mailto:Cybergram9@aol.com]
Sent: Monday, December 23, 2002 2:56 PM
To: Coffee, Glendon L
Subject: Recreational Sites on Lake Lanier

My husband and I are strongly opposed to War Hill Park Campground being considered for a marina.

First of all, the boat traffic on the northern end of the lake has already increased greatly. Harbour Point marina is just one case in point. Every weekend more and more boaters put in at the War Hill ramps. The campsites are always full as well. In fact, there is so much traffic, that we can no longer enjoy swimming off our own dock for fear of being run down. We cannot even sit on the dock without being rocked violently. Too many boaters have no idea whatsoever about the distance they are to stay away from docks. Having another marina would only make this serious problem even worse.

[92]

Right now the car traffic on Wall Hill Park Road is dangerous to say the least. The road is too narrow and too winding in several areas to handle additional traffic. We have been literally run off the road because of cars trailering boats, not staying in their own lane and not obeying the speed limit especially on the curves.

There was also a time when I enjoyed walking to War Hill Park. The traffic on this narrow road has kept me from doing so.

As members of the War Hill Park community we are against a marina in this area.

Marjorie and Bill Giambalvo
289 Julian Creek Road
Dawsonville, GA 30534
706-216-5482

[92]

The public has indicated the need for services for boaters, such as fuel service, boat storage, restaurants, etc. The potential leasee is not interested in leasing the War Hill Park at this time. However, there is still a need for services on the Chestatee River and the Corps will continue to look for a way to provide a marina operation in the area.

December 18, 2002

Mr. Glenn Coffee
US Army Engineer District, Mobile
Attn: CESAM-PD-E
P.O. Box 2288
Mobile, Alabama 35528-0001

Dear Mr. Coffee:

This letter is written to make you aware of the points of concern this organization has found in the proposed Shoreline Management Plan (SMP) for Lake Sidney Lanier in Georgia.

After reviewing the proposed Shoreline Management Plan the following are areas of concern which we would like to draw your attention to during this review process:

- ***The new SMP gives the local management office authorization to revoke a private land owner's Shoreline Use Permit (private boat dock permit) for all violations involving the unauthorized removal of vegetation.*** Under this scenario a neighbor could remove vegetation from the adjoining property and the property owner from which the vegetation was removed is penalized. Our concern is under what conditions would this occur? What proof of removal is required and who determines if the property owner is in fault?
The latitude is too broad and the private property owners are subject to the discretion of the rangers and office manager. Under extreme cases revocation is appropriate. Private property owners purchased lake lots, paid the premium to live on the lake to enjoy the view of the lake, and to access the lake directly via a private boat dock. This premium is reflected in the valuation of the property each year on the county tax bill. Therefore, a case can be made for such a scenario as described above which places a huge burden on the property owner.
- ***We ask that you put strict guidelines and limitations in place to prevent misuse of this proposed change.***
- ***Requiring all open areas where grass mowing is not authorized under the existing Shoreline Use Permits to be revegetated by the permittee or at the Corps discretion.***
The language is too ambiguous. This language gives the Corps of Engineers too much discretion to force a permittee to spend funds on revegetation that may be out of their ability to fund. There is no specification on what will be required to be used to revegetate the area. Private property owners paid a premium for a lake lot to see the lake. The owner pays higher taxes than property not located on Lake Lanier. The potential is that the Corps could require trees or vegetation that

[93]

[94]

[93]

Once a violation involving the unauthorized removal of vegetation from public lands surrounding Lake Lanier is brought to the Corps' attention, the Corps staff follows standard investigative procedures to determine all relevant facts surrounding the incident. Only after the Corps staff is confident that the perpetrator of the action can be identified with certainty will corrective actions be pursued against the responsible individual. Revocation of a Shoreline Use Permit is only one of the suite of punitive actions that could be taken by the Corps. While corrective actions are initiated at the Corps' Lake Lanier Project Management Office, the Mobile District Chief of Operations is responsible for making the decision to approve revocation of boat dock permits due to violations of the provisions of the SMP. The affected permit holder can appeal a decision to revoke a dock permit to the Mobile District Engineer who serves as the final arbiter in such matters.

[94]

Individuals owning property adjacent to Corps managed lands surrounding the lake should view these public lands with the same degree of respect as they would if those lands were owned by a private entity. Under that scenario, those same individuals would not believe they have the right to trespass onto

neighboring property to remove vegetation and otherwise alter the characteristics of the lands without the specific authorization and permission of the property owner. Similarly, the same individuals would in all likelihood view the reverse situation with disfavor should the same actions be taken on their lands by an adjoining property owner without their express approval. The shoreline management program, as directed by Congress, includes environmental stewardship and protection of Lake Lanier's natural resources under the control of the Corps. Although cognizant of the private lands surrounding the lake, the Corps must act in the interest of the general public. Unless an adjoining property owner has been granted specific authorization by the Corps to mow or remove vegetation from public lands, that individual should not assume he/she has the right to do so, regardless of how long that individual has taken those unauthorized actions in the past without being specifically directed not to do so by the Corps. Once the Corps decides that restoration actions are appropriate to replace illegally removed vegetation, the Corps will work with the landowner to develop a corrective remedy that best matches the nature and severity of the violation. Revocation of a Shoreline Use Permit is only one of the suite of punitive actions that could be taken by the Corps.

[94 cont.]

grows very tall thus diminishing views to the lake and reducing land / business and /or home values of the private property owner.

- We ask that you specify low growing vegetation would be required. Furthermore, if the owner is unable to afford the expense the Corps will not penalize the owner by revocation of Shoreline Use Permit. Today, there are residents whom live on Lake Lanier, but cannot afford additional expenses because they are on a fixed income, have experienced a loss of spouse or other circumstances which effect their monthly income.

- Encouraging existing private dock permittees to convert to community docks followed by rezoning of the shoreline from LDA to Protected Areas.

It is not clear under what conditions this rezoning may take place. We object to this change without clarification of the circumstances by which a rezoning is implemented. The potential is that a cove area where there are 10 docks may be rezoned by the Corps to protected area. As permits come up for renewal the local management office will not renew a permit, thereby forcing private dock owners to move to a community dock. This also allows the local management office the opportunity to deny a permit for a private dock on a resale home that has a private dock permit at the time of sale. The private dock owners would then have a dock without a home and money thrown away. In addition, the value of the property has significantly declined as a result of losing a private dock permit. We understand private dock permits are not transferable; however, the potential for eliminating docks is found in this change to the SMP. Private property owners, businesses and residents, that currently have a dock permit paid a premium on the purchase of their property/lot/home. A loss of dock permit will devalue the original purchase price a significant amount. The private property owner will bear the burden of the loss of value.

[95]

- We request that you give assurances to existing property owners with private docks by grand-fathering in current docks so that private property owners will not be negatively affected if an area is rezoned to "protected area". In other words, the private docks now in place should be grandfathered into the SMP to assure they will not be affected upon permit renewal if an area is rezoned to a protected area. This inclusion will provide the assurance to existing homeowners that, at the time of sale, a permit cannot be denied as a result of a rezoning.

- Providing that Shoreline Use Permits for private or community boat docks are ineligible for renewal (for a period of 1 year) in the event corrective actions are not taken effectively or in a timely manner.

[96]

We request some ability to give variances under specific circumstances. Such circumstances may be the inability to get a contractor to make repairs as required in the time allotted. While it is appropriate to have consequences for those property owners that do not take action at all, it is equally inappropriate to place this burden on a property owner that has made efforts to comply, but failed due to circumstances out of the owner's control.

[95]

The decision to replace existing individual docks with a community dock is voluntary and is not required in the updated SMP. Out of necessity, only neighboring property owners and facilities would be able to form associations and acquire community dock facilities. Rezoning of shoreline would only effect those properties that are using the community dock.

Shoreline Use Permits/Licenses are issued to individual landowners. At the time of sale of a property, all permits are voided. Prior to the purchase of a property, new buyers are encouraged to contact the Corps of Engineers to verify the existence of shoreline use permits. New buyers also need to inquire about the possibility of a new permit being issued once the property has been transferred. Assuming compliance with all SMP policies and site requirements remain suitable, new property owners can be reasonably assured of being granted a permit.

[96]

The Corps will work in good faith with all permit holders in the permit reissue process. This process allows up to a maximum of five months for permit holders to identify and take corrective actions before punitive measures are undertaken. We believe five months provides an adequate time frame within which corrective actions should be completed.

[97]

- On Page 25: *The requirement of a “full member” level inspector of the ASHI or GAHI is another expense for private dock owners and has the potential for disaster.* Some owners cannot afford an inspector. This places a huge burden on property owners to make costly repairs that may not, in fact, be critical to the dock’s function.
- We request that you delete this requirement. Property owners pay taxes which support the budget of the Corps and this should continue to be a responsibility of the Corps. By placing this task on the property owners this change will in effect, double tax property owners on the lake by forcing property owners to pay for this service in addition to the taxes paid to support the Corps budget.

[98]

- On page 32: *Section 19. Buffer Zones, paragraph 3, 3rd sentence: It is now required that “limited development” areas serve as an undisturbed, forested buffer.* This requirement is too broad. This should be clarified to specifically what is intended. The potential for harm to homeowners and businesses located on “limited development” areas is that you may require trees to be planted in sparse areas which would block views and thus reduce the value of the investment by the private owner.
- This requirement should be specified to low growing trees. The broad ability to direct private property owners to plant trees on the buffer area is not in the best interest of private property owners, which includes residents and businesses.

[99]

- *Providing that Shoreline Use Permits for private or community boat docks limit the maximum size of boats to the length of the boat dock.* The concern on this proposed change is there are several current boat owners with a private dock that do not meet this requirement. The SMP requires boats to be no longer than a maximum dock size allowable of 32 feet. This means a boat cannot be longer than 28 feet assuming there is a 3 ft. walkway incorporated into a 32 ft. dock. The real concern is that at such time a boat owner has to purchase a dock to replace an old dock the owner will be denied a permit if their boat is longer than the new dock. This requirement will create an incredible nuisance and place an unfair burden on boat owners that, at the present time, have a private dock for their boat.
- There is no provision for grand-fathering and protecting all current boat owners with a private dock . Therefore, we recommend this requirement be deleted.

[100]

Finally, we request that the Corps of Engineers keep in mind the need to protect the investments of the property owners on Lake Sidney Lanier. The majority of the property owners consider themselves custodians of Lake Lanier and take pride in maintaining private property in a proper manner on Lake Lanier. Please avoid placing so much authority in the local management office to the detriment of the

[97]

Due to the volume of permitted facilities the Corps does not have the manpower or the expertise to conduct inspections. The requirement within the updated SMP that Corps certified inspectors be used is intended to ensure that all inspections are completed in a technically competent and objective manner. Costs of inspections are to be paid by the permit holders since they receive all benefits of the permitted facilities.

[98]

It is the responsibility of the Corps to protect the valuable natural resources at Lake Lanier to promote environmental sustainability through a healthy ecosystem for current and future generations to enjoy. These goals and objectives are pointed out in both the SMP and EIS. Maintenance and preservation of the forest buffer at Lake Lanier contributes to these objectives.

[99]

Text in the SMP has been changed to read as follows:
 “In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner’s ability to safely moor and protect from storm damage must be stored in marina facilities. Therefore, based on this language it is possible that boats larger than the dock could be moored. Each situation will be considered on a case-by-case basis.”

[100]

The local USACE project office is responsible for managing the lake and the government lands surrounding the lake. Management oversight is provided by the Mobile District and South Atlantic Division offices. Although cognizant of the surrounding area, the Corps must act in the interest of the general public. Most of the lake users do not live on Lake Lanier.

[100 cont.]

property owners. Restrictions and firm guidelines must be also written and enforced so there is a true balance of relationship between property owners and staff of the Corps of Engineers.

Thank you for considering these comments as you revise the draft of the Shoreline Management Plan under consideration.

Sincerely,



Mark D. Hamilton
President & CEO

CC: U.S. Senator Zell Miller
U.S. Senator-Elect Saxby Chambliss
U.S. Congressman Nathan Deal
U.S. Congressman John Linder

Response to Comments
Bill Hess

-----Original Message-----

From: Penguinmch@aol.com [mailto:Penguinmch@aol.com]
Sent: Wednesday, December 04, 2002 5:27 AM
To: Coffee, Glendon L
Cc: YORNAMELOC@excite.com; gbrand@floortechinc.com
Subject: Lake Lanier--DEIS

Here are my comments about the Draft Environmental Impact statement for the operation and maintenance of Lake Lanier.

- [101] Table ES-1
Page ES-6--Shoreline Management--"Encouraging those with grandfathered authorization to mow to cease mowing project lands," --Recommend deleting this entire statement. Present grass mowing done properly without fertilization should not cause shoreline erosion. This would have a major impact on real estate values of adjacent private land.
- [102] Table 2-2, page 2-5 Present statement "replant Liberty Point". This area is already overgrown with vegetation and does not need replanting. Recommend creating small wildlife openings by mowing in areas where the understory vegetation can still be mowed.
- [103] Table 2-9, page 2-30 Present Statement "War Hill is being considered as a potential site for a marina on the Chestatee River." Add to this statement. The potential marina would be studied in relationship to the impact on the existing War Hill Road.

Other general comments:

- [104] Although not presently included in the proposal--the plan should address setting sound standards for all watercraft using the lake.
- [105] More rigorous law enforcement is needed to set reasonable speed limits for all watercraft. Presently some of the larger speedboats create a major threat by using excessive speed.

In general, I agree with the plan.

Bill Hess
236 Indian Cove Drive
Dawsonville, Ga. 30534
706-216-1469

- [101] There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than grass. See Section 19, *Buffer Zones*, of the SMP. The non-application of fertilizer would have no bearing on erosion forces.
- [102] The area is to be replanted for forest and wildlife management. Small openings may eventually be created for wildlife management.
- [103] The proposed leasee is not interested in leasing the War Hill Park at this time. However, there is still a need for services on the Chestatee River and the Corps will continue to look for a way to provide a marina operation in the area.
- [104] Current State regulations also require that boat exhaust discharge underwater, which results in a muffling of sounds. However, the Corps does not have the authority to propose, set or enforce noise standards.
- [105] State law requires idle speed within 100 feet of all ramps and "no wake" zones are also posted around ramps and marinas. The State is responsible for enforcing speed limits on the lake; however, manpower and funding constraints limit the State's ability to strictly enforce these limits.



GWINNETT COUNTY
Board of Commissioners
(770)822-7000

WAYNE HILL, CHAIRMAN
MARCIA L. NEATON-GRIGGS, District One
BERT NASUTI, District Two
JOHN P. DUNN, District Three
KEVIN KENERLY, District Four

December 6, 2002

Mr. Glen Coffee
U.S. Army Corps of Engineers
Mobile District
P.O. Box 2288
Mobile, Alabama 36628-0001

Attn: CESAM-PD-E

RE: Draft Environmental Impact Statement for the Operation and Maintenance of Lake Sidney Lanier, Georgia and Corresponding Shoreline Management Plan

Dear Mr. Coffee:

[106] We note on page 3-24, Section 3.3.3.3, Current In-Lake Water Quality, that the Draft EIS is incorrect, because it is based on 1998 data in Appendix F. Lake Lanier has since been removed from the 2002 Clean Water Act Section 303(d) list by the state of Georgia and this removal was approved by the U.S. Environmental Protection Agency in April, 2002.

[107] We note on page 3-28, that Section 3.4.4 recognizes the November 2000 issuance of the Gwinnett County permit to discharge to Lake Lanier. However, the list of NPDES permits in Appendix G does not include a reference to Gwinnett County's permit.

[108] We strongly support the requirement that septic tanks must only be located above elevation 1,085. We also strongly encourage the COE requirement that in the renewal of Shoreline Use Permits the permittee must show proof that the septic tank has been pumped out at 5-year intervals and certified that it is functioning properly.

Sincerely,

F. Wayne Hill, Chairman

C: District Commissioners
Charlotte Nash
Tommy Furlow
Jim Scarbrough

Frank Stephens
Hazel McMullin
Tyler Richards
Lee DeHihns

FWH/h)PU:

75 LANGLEY DRIVE • LAWRENCEVILLE, GEORGIA 30045-6900

Response to Comments
Wayne Hill

- [106] The 2002 303 (d) list was not available at the time the DEIS was initially prepared. The document has been edited to reflect the change in the 303(d) list.
- [107] The permit number for the Gwinnett County discharge to Lake Lanier is GA0038130. It has been added to the table in Appendix G. A recent court decision has blocked, at least temporarily, permission for Gwinnett County to discharge into the lake.
- [108] Comment noted.



United States Department of the Interior

OFFICE OF THE SECRETARY
OFFICE OF ENVIRONMENTAL POLICY AND COMPLIANCE
Richard B. Russell Federal Building
75 Spring Street, S.W.
Atlanta, Georgia 30303

ER 02/1023

December 20, 2002

Response to Comments
Gregory Hogue

Mr. Glen Coffee
US Army Corps of Engineers
ATTN: CESAM-PD-E
109 St. Joseph Street
Mobile, AL 36602

RE: Draft Environmental Impact Statement for the Operation and Maintenance of Lake Sidney Lanier, Georgia

Dear Mr. Coffee:

[109] The Department of the Interior has reviewed the referenced document. We have no comments to provide for your consideration at this time. I can be reached 404-331-4524 if you should have any questions.

[109] Comment noted.

Sincerely,

Gregory Hogue
Regional Environmental Officer

cc:
OEPC, WASO
EWS, R4

Response to Comments

Toni Hurst

-----Original Message-----

From: Toni Hurst [mailto:lanetoni@alltel.net]

Sent: Wednesday, December 18, 2002 3:10 PM

To: Glendon.L.Coffee@sam.usace.army.mil.

Subject: Lake Lanier

Re: proposed marina at War Hill Park

Please consider:

1. There is a two lane road four miles long down a peninsula to get to the park area.
2. The water department figures about 2500 single family units are on the short side roads that feed into War Hill Park Road. About 80% of them are permanent residents.
3. School busses from two counties deliver children on this road.
4. There is a 350 slip private marina across the Chestatee River from War Hill Park. It is visible by looking across the river.
5. Athens Boat Club, which is maybe two minutes by pontoon boat from War Hill Park, Has Gasoline and many slips. It is also on the Chestatee.

Concerns are:

1. Road traffic
2. Safety
3. Water traffic
4. Water safety
5. Pollution - Water, land, air, and noise

Thank you for considering these factors.

Toni A. Hurst

[110]

[110] The proposed leasee is not interested in leasing the War Hill Park at this time. However, there is still a need for services on the Chestatee River and the Corps will continue to look for a way to provide a marina operation in the area.

Georgia Department of Natural Resources

205 Butler Street, S.E., Suite 1058 East Tower, Atlanta, Georgia 30334-9000
Nolton G. Johnson, Branch Chief
(404) 651-5188

Response to Comments

Nolton G. Johnson

November 22, 2002

Mr. Glen Coffee
US Army Corps of Engineers, Mobile District
ATTN: CESAM-PD-E
109 St. Joseph St.
Mobile, AL 36602

RE: Draft EIS for Lake Lanier O&M

Dear Mr. Coffee:

The following are some preliminary comments by the Georgia Environmental Protection Division for your consideration at the November 25, 2002 public meeting in Gainesville regarding the referenced draft document. We may have additional comments to offer prior to the December 23, 2002 comment period deadline. Our preliminary comments have also been e-mailed to you.

- | | | | |
|-------|--|-------|---|
| [111] | 1) Page ES-1, need to include water supply as a purpose of Lake Lanier for the Executive Summary. | [111] | Text edited to reflect comment. |
| [112] | 2) Page ES-1, not clear if COE management practices included in the current use levels that stress environmental resources, degrade water quality, cause erosion and siltation, and diminish aesthetic qualities. | [112] | Text edited as follows: "Current levels of public use stress environmental resources, degrade water quality, cause erosion and siltation, and diminish aesthetic qualities." |
| [113] | 3) Page ES-3, need to clarify the statement that during drought periods, the lake may be as low as 1035 feet msl. There have been significant periods of drought since construction of the lake, including 1981, 1986, 1988, and more recently the 1998 through 2002 period drought. The lowest level reached was 1057 feet, which is significantly higher than 1035 feet. | [113] | The elevations during the droughts have been noted. The 1035 level is the modeled elevation from the ACF EIS. The basis for the use of this elevation is explained in the text. |
| [114] | 4) Page 2-9. Line 25. and Appendix I. Georgia adopted water quality standards for Lake Lanier and implemented sampling to assess compliance in 2000. The sampling program includes work done at a number of lake and tributary stations. Sampling locations and data are available from Mork Winn of EPD. | [114] | The Corps believes the water quality analysis conducted for the EIS is appropriate for its intended purpose to obtain an understanding of the water quality conditions in the lake and surrounding watershed. The Corps does believe additional water quality analyses are necessary for the EIS. |
| [115] | 5) Page 2-46. Lake Lanier levels fluctuate more due to COE operation and management practices than water use demands. Release for hydropower and navigation windows will create bigger impacts on the lake levels than releases for water supply. The high lake, medium lake, and low lake level descriptions ignore the significant impact on lake levels from COE releases for these other purposes. | [115] | Lake Lanier must operate according to its Congressionally-authorized purposes, which include hydropower generation and navigation. |

[116]	6)	Page 3-17. Line 10. The text indicates that the water use designation for the Chattahoochee River Watershed is recreation. This statement is not entirely correct as the water use designation for the watershed varies depending upon the location within the watershed. Please refer to the Georgia Rules and Regulations for Water Quality Control for a list of water use designations in the Chattahoochee River Basin. The rules and regulations are available in hard copy from Mork Winn of EPD and are also available on the EPD website at www.dnr.state.ga.us/dnr/environ .	[116]	Text edited to reflect comment.
[117]	7)	Page 3-17. Lines 12-14. Appendix F. The information on the Georgia 303(d) list based on the USEPA, 2001 reference is outdated. A review of the material in Appendix F indicates that the information appears to be based on the 1998 list. The Georgia 303(d) list was updated and approved by the USEPA in 2000 and 2002. The material in the EIS should be updated based on the Georgia 2002 303(d) list which was approved by the USEPA in April, 2002. The list is available in hard copy from Mork Winn of EPD and is also available on the EPD website.	[117]	Text edited to reflect changes of the 303(d) list.
[118]	8)	Page 3-18. Line 3. Same comment as above (Comment 6) with respect to the Chestatee River Watershed.	[118]	Text edited to reflect comment.
[119]	9)	Page 3-18. Lines 5-6. Appendix G. Same comment as above (Comment 7) with respect to the Chestatee River Watershed.	[119]	Text edited to reflect changes of the 303(d) list.
[120]	10)	Page 3-19. Table 3-7. The permit holder in Lumpkin County is the City of Dahlonega in lieu of City of Lumpkin. Also the monthly and average annual withdrawal limit by permit is 0.7 MGD and 0.672 MGD, respectively. There are other missing EPD permitted M&I groundwater permit holders and you should contact Bill Frechette of GA EPD to update this table.	[120]	Text edited to reflect comment.
[121]	11)	Page 3-24. Line 10-12. The text states that "waters of the lake have been listed as impaired under the Clean Water Act Section 303(d) listing program for mercury in fish tissue and pH (alkalinity)". Lake Lanier is no longer listed on the Georgia 303(d) list. As noted above, the information upon which the draft EIS is based is outdated. The material in the EIS should be updated based on the current Georgia 303(d) list.	[121]	Text edited to reflect changes of the 303(d) list.
[122]	12)	Appendix F. Page F-1. As noted above (Comment 6), the information on water quality standards is incomplete and should be updated in accordance with the Georgia Rules and Regulations for Water Quality Control.	[122]	Text edited to reflect changes of the water quality standards.

[123]

13) Appendix F. Table F-2. As noted above (Comment 7) the information presented with respect to the 303(d) list should be updated with current information from the Georgia 2002 303(d) list.

[124]

14) Page 4-2. Appendix H. Will the Section 4 and Appendix H materials suffice for compliance with the 40 CFR 1508.7 requirements for cumulative effects analysis? Have all required environmental and socioeconomic parameters been addressed by the Appendix H model? Have the effects been adequately demonstrated in relation to past, present, and future actions? Were the social and temporal boundaries adequately described? Were all impact causing factors and critical pathways in relation to the selected indicators explained thoroughly? Have the ecosystem components, which are cumulatively impacted, adequately identified?

[125]

15) Page 4-49. Appendix H. In addition to the few water quality parameters addressed by Appendix H, will there be a need to look at cumulative effects of the following for this Draft EIS for the O&M plan for Lake Lanier?

- changes in sediment erosion and transport and filling rates
- alteration of discharge and retention rates of water
- changes in velocity of water moving through the system
- impacts on wetlands
- impacts to aquatic fish and plant species

If you have any questions, please contact me at (404) 651-5168 or Alan Hallum at (404) 675-1750.

Sincerely,



Nolton G. Johnson, P.E., Chief
Water Resources Branch

NGJ:bb

Cc: Alan Hallum, Water Protection Branch
Gary Mauldin, South Atlantic Division

[123] Text edited to reflect changes of the 303(d) list.

[124] Yes. The model used for predicting instream water quality impacts included existing land uses and the three lake levels to quantify existing conditions. Land use was changed to represent future development and the model was again used to identify the impact from the growth/development within the watersheds. The permitted wastewater discharges were included as well. Model runs included the various permitted flows and loads to determine their impacts.

[125] The Corps believes the water quality analysis for the EIS is appropriate for its intended purpose to obtain an understanding of the water quality conditions in the lake and surrounding watershed. The Corps does not intend to conduct additional water quality analyses.

Georgia Department of Natural Resources

Response to Comments
Denise P. Messick

Lonice C. Barrett, Commissioner

Historic Preservation Division

W. Ray Luce, Division Director and Deputy State Historic Preservation Officer
156 Trinity Avenue, S.W., Suite 101, Atlanta, Georgia 30303-3600
Telephone (404) 656-2840 Fax (404) 657-1040 <http://www.gashpo.org>

December 12, 2002

Mr. Glenn Coffee
U. S. Army Corps of Engineers
ATTN: CESAM-PD-E
109 St. Joseph Street
Mobile, Alabama 36602

RE: **Draft Environmental Impact Statement for the Operation and Maintenance of
Lake Sidney Lanier, Georgia
Forsyth, Dawson, Lumpkin, Hall, and Gwinnett Counties, Georgia
HP-010807-001**

Dear Mr. Coffee:

[126]

Thank you for providing a copy of the *Draft Environmental Impact Statement for the Operation and Maintenance of Lake Sidney Lanier, Georgia*. The Historic Preservation Division previously provided its comments under Section 106 of the National Historic Preservation Act by letter dated June 7, 2002 (copy enclosed). We have no further comments at this time. If you have any questions, please feel free to call me at (404) 651-6777.

[126] Comment noted.

Sincerely,



Denise P. Messick
Environmental Review Historian

Enclosure: Letter dated June 7, 2002 to Hugh McClellan from Richard Cloues

cc: Sam Pett, Tetra Tech, Inc.
Maurice Ungaro, Atlanta Regional Commission
Preservation Planner, Georgia Mountains RDC



HALL COUNTY PARKS & LEISURE SERVICES

1086 Rainey Street, Gainesville, GA 30501
Phone 770-535-8280 Fax 770-531-3985

Deborah L. Mockus, CPRP
Director

PARKS & LEISURE SERVICES BOARD
Larry Poole, Chairman
Lynda Skarda
Tammy Green
Eugene Welchel
Harold Nichols

Response to Comments
Deborah L. Mockus

12/18/2002

Mr. Glen Coffee
US Army Corps of Engineers
Attn: CESAM-PD-E
109 St. Joseph St.
Mobile, Alabama 36602

RE: Draft Environmental Impact Statement for the Operation and Maintenance of Lake Sidney Lanier, Georgia

Dear Mr. Coffee:

Staff has reviewed the Draft Environmental Impact Statement for the Operation and Maintenance of Lake Sidney Lanier (EIS).

[127] Comment noted.

[127]

Pertinent to our department operations is the *Operation and Maintenance Category*. This section has been reviewed closely and we concur with the *Proposed Program Improvements* relative to *Shoreline Management-Vegetation and Recreation*, some of which is currently being done. It is felt the improvements will have a positive environmental impact on water quality and erosion control.

Please notify us should additional information be needed.

Sincerely yours,

Deborah L. Mockus, CPRP
Parks & Leisure Services Director

XC: Jim Shuler, County Administrator
Robert Rivers, Public Works and Utilities Director



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION 4
 ATLANTA FEDERAL CENTER
 61 FORSYTH STREET
 ATLANTA, GEORGIA 30303-8960

DEC 2 0 2002

Response to Comments
 Heinz J. Mueller

Mobile District, Corps of Engineers
 P.O. Box 2288
 Mobile, AL 36628-0001
 ATTN: Mr. Glenn Coffee

Subject: **Draft Environmental Impact Statement (DEIS) for the Program Improvements to Operation and Management Activities at Lake Sidney Lanier, Georgia, CEQ #020445 ERP # COE-E39060- GA (October, 2002)**

Dear Sir:

[128]

Pursuant to Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA), EPA (Region 4) has reviewed the subject document, an evaluation of environmental and socioeconomic consequences of proposed modifications to the existing operation/maintenance procedures which manage the recreation and natural resources at Lake Lanier (LL). These changes are being made to improve the on-going program goals (flood control, hydropower generation, navigation, etc.) as well as manage the various resource categories at an enhanced level and in a more sustainable basis. This analysis focuses on those conditions which will be changed as a result of the various modifications to current practices. While the alternatives under examination are limited to the preferred and no-action options, the former is sufficiently comprehensive to capture the major activities taking place on the government owned property at LL. It should be noted that water allocation decisions and/or the effects on LL that would be manifested by different water allotments are not discussed in this document. However, they will be examined in future NEPA evaluations when a final decision is made in this regard.

[128] Comment noted.

[129]

Lake Lanier is one of the Corps of Engineers' most popular water resources projects. As a result, there is a compelling need to balance serving present needs with protecting/preserving the significant attributes of this valuable amenity. For example, one of the proposed program improvements in the Preferred Alternative (PA) would be to lessen the total number of additional private docks which can be built around the Lake. Moreover, this change includes reducing the number of additional docks based on excess structures currently located in over-developed areas. Elimination of septic tanks immediately adjacent to the Lake and more stringent regulations on those that remain on public land at higher elevations are also important components of the PA..

[129] Comment noted.

[130]

Mowing the vegetation around the margins of LL together with re-vegetating (native plant materials) areas presently experiencing critical erosion are very positive modifications to the current policy. Riprap is also proposed in lieu of bulkhead type structures to reduce erosion. While the former is preferable to the latter, EPA is on record as favoring the use of bio-engineered means to lessen erosion wherever possible.

[131]

The impacts of stormwater (both quality- and quantity-wise) continue to be major unresolved problems in the watershed. EPA is committed to assisting the Mobile District in addressing this issue in overview; however, the bulk of the regulatory tools necessary to obtain specific solutions has been delegated to the State of Georgia. Regarding the Section 404 permitting process, EPA's Wetlands Regulatory Section remains an asset to support the Corps of Engineers via its independent review and comment of proposed Regional Permits relevant to LL. While there are a number of proposed changes to the current dredging program, we suggest that sediment removal within the Lake continue to follow the protocols noted in the Inland Testing Manual.

[132]

From a water quality perspective these modifications to existing procedures are very positive changes which EPA can strongly support. Unfortunately, there are some important environmental impacts being experienced at LL which are not addressed by this document. For example, while the Noise Control Act of 1972 requires the federal government to set/enforce uniform noise control standards for various equipment and activities, control of community noise (boat/personal watercraft) is left to state and local agencies. This issue will continue to be a matter of discussion among all the involved parties using LL. This notwithstanding, the majority of the proposed changes are very positive and should meet the proposal's major purpose and need objectives. Therefore, on the basis of our review a rating of LO was assigned. That is, we have no significant objections to the various management/operational changes being proposed.

[133]

Thank you for the opportunity to comment. If we can be of further assistance, Dr. Gerald Miller (404-562-9626) will serve as initial point of contact.

Sincerely,



Heinz J. Mueller, Chief
Office of Environmental Assessment

[130] Bioengineering remains an acceptable alternative for appropriate locations on the lake.

[131] Comment noted.

[132] Comment noted and suggestion will be appropriately considered.

[133] Current State regulations require that boat exhaust discharge underwater, which results in a muffling of sounds. However, the Corps does not have the authority to propose, set or enforce noise standards.



655 Atlanta Rd. Suite 610, Cumming, GA. 30040, 770-887-1960

Response to Comments
Jack S. Murphy

December 19, 2002

Mr. Glenn Coffee
US Army Engineer District, Mobile
Attn: CEDSM-PD-E
P.O. Box 2288
Mobile, Alabama 35528-0001

Dear Mr. Coffee:

- This letter is being written to express my concerns as a homeowner and as a Georgia State Representative regarding the Shoreline Management Plan (SMP) for Lake Sidney Lanier.

I represent almost all of the western side of Lake Lanier in Forsyth and Dawson Counties. I have reviewed the proposed changes in the (SMP) and it's apparent that the changes I have outlined will place an undue burden on the current homeowner, taxpayer and future homeowners of property on the lake.

Many of the homeowners are retired, some have lost their spouses and these properties are their biggest asset. They are in most cases living on fixed incomes and simply cannot afford the changes that the Corp. is proposing.

I ask that you please review my comments carefully, your decision will affect thousands of taxpayers, homeowners, and property value.

[134]

- *Providing that Shoreline Use Permits for private or community boat docks are ineligible for renewal (for a period of 1 year) in the event corrective actions are not taken effectively or in a timely manner.*
- **I request some ability to give variances under specific circumstances. Such circumstances may be the inability to get a contractor to make repairs as required in the time allotted. While it is appropriate to have consequences for those property owners that do not take action at all, it is equally inappropriate to place this burden on a property owner that has made efforts to comply, but failed due to circumstances out of the owner's control. What kind of warning will be issued?**

- [134] The Corps will work in good faith with all permit holders in the permit reissue process. This process allows up to a maximum of five months for permit holders to identify and take corrective actions before punitive measures are undertaken. We believe five months provides an adequate time frame within which corrective actions should be completed.

- **On Page 25: The requirement of a “full member” level inspector of the ASHI or GAHI is another expense for private dock owners and has the potential for disaster.** Some owners cannot afford an inspector. This places a huge burden on property owners to make costly repairs that may not, in fact, be critical to the dock’s function.
- **I request that you delete this requirement in its entirety. Property owners pay taxes which support the budget of the Corps and this should continue to be a responsibility of the Corps. By placing this task on the property owners this change will in effect, double tax property owners on the lake by forcing property owners to pay for this service in addition to the taxes paid to support the Corps budget.**

[135]

- **On page 32: Section 19. Buffer Zones, paragraph 3, 3rd sentence: It is now required that “limited development” areas serve as an undisturbed, forested buffer.**
- This requirement is too broad. This should be clarified to specifically what is intended. The potential for harm to homeowners and businesses located on “limited development” areas is that you may require trees to be planted in sparse areas which would block views and thus reduce the value of the investment by the private owner.
- **This requirement should be specified to low growing trees. The broad ability to direct private property owners to plant trees on the buffer area is not in the best interest of private property owners, which includes residents and businesses. This would also place a burden on the homeowner and taxpayer**

[136]

- *Providing that Shoreline Use Permits for private or community boat docks limit the maximum size of boats to the length of the boat dock.*
I see no reasoning for this requirement, the current (SMP) calls for boat docks to be no more than 32 feet in length, with a 3 foot platform that would make the dock 28 feet. There are hundreds of boats on the lake that would not meet that requirement. A homeowner that builds a house worth \$700,000 to \$800,000 has a boat that is 34 feet long would not be able to put their boat in their own dock. Is the Corp going to authorize the docks to be more than 32 feet in length? I propose this provision be deleted in its entirety.

[137]

- **The new SMP gives the local management office authorization to revoke a private land owner's Shoreline Use Permit (private boat dock permit) for all violations involving the unauthorized removal of vegetation.** Under this scenario a neighbor could remove vegetation from the adjoining property and the property owner from which the vegetation was removed is penalized. Our concern is under what conditions would this occur? What proof of removal is required and who determines if the property owner is in fault?
 The latitude is too broad and the private property owners are subject to the discretion of the rangers and office manager. Under extreme cases revocation is

[138]

[135] Due to the volume of permitted facilities the Corps does not have the manpower or the expertise to conduct inspections. The requirement within the updated SMP that Corps certified inspectors be used is intended to ensure that all inspections are completed in a technically competent and objective manner. Costs of inspections are to be paid by the permit holders since they receive all benefits of the permitted facilities.

[136] The Corps is not proposing that landowners plant trees on their property, but rather plant trees on Corps property where they have previously been removed by adjacent landowners. The goal is to provide a vegetated protective buffer around the lake. One must remember that the majority of lake users do not own homes on the lake.

[137] The SMP has been modified to read as follows:
 “In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner’s ability to safely moor and protect from storm damage must be stored in marina facilities. Therefore, based on this language it is possible that boats larger than the dock could be moored. Each situation will be considered on a case-by-case basis. The decision to replace existing individual docks with a community dock is voluntary and is not required in the updated SMP. For example, out of necessity only neighboring facilities would be able to form associations and acquire community dock facilities. The rezoning of shoreline would only effect those properties that are using the community dock.”

[138] Same response as to Comment No. 93 above.

[138 cont.]

appropriate. Private property owners purchased lake lots, paid the premium to live on the lake to enjoy the view of the lake, and to access the lake directly via a private boat dock. This premium is reflected in the valuation of the property each year on the county tax bill. Therefore, a case can be made for such a scenario as described above which places a huge burden on the property owner.

I ask that you put strict guidelines and limitations in place to prevent misuse of this proposed change. These guidelines should include some provision for warnings.

Requiring all open areas where grass mowing is not authorized under the existing Shoreline Use Permits to be revegetated by the permittee or at the Corps discretion.

[139]

The language is too ambiguous. This language gives the Corps of Engineers too much discretion to force a permittee to spend funds on revegetation that may be out of their ability to fund. There is no specification on what will be required to be used to revegetate the area. Private property owners paid a premium for a lake lot to see the lake. The owner pays higher taxes than property not located on Lake Lanier. The potential is that the Corps could require trees or vegetation that grows very tall thus diminishing views to the lake and reducing land / business and /or home values of the private property owner.

We ask that you specify low growing vegetation would be required. Furthermore, if the owner is unable to afford the expense the Corps will not penalize the owner by revocation of Shoreline Use Permit. Today, there are residents whom live on Lake Lanier, but cannot afford additional expenses because they are on a fixed income, have experienced a loss of spouse or other circumstances which effect their monthly income. I would ask that if they cannot be amended, that it be str

Encouraging existing private dock permittees to convert to community docks followed by rezoning of the shoreline from LDA to Protected Areas.

[140]

It is not clear under what conditions this rezoning may take place. We object to this change without clarification of the circumstances by which a rezoning is implemented. The potential is that a cove area where there are 10 docks may be rezoned by the Corps to protected area. As permits come up for renewal the local management office will not renew a permit, thereby forcing private dock owners to move to a community dock. This also allows the local management office the opportunity to deny a permit for a private dock on a resale home that has a private dock permit at the time of sale. The private dock owners would then have a dock without a home and money thrown away. In addition, the value of the property has significantly declined as a result of losing a private dock permit. We understand private dock permits are not transferable; however, the potential for eliminating docks is found in this change to the SMP. Private property owners, businesses and residents, that currently have a dock permit paid a premium on the purchase of their

[139]

The shoreline management program, as directed by Congress, includes environmental stewardship and protection of the natural resources under the control of the Corps. There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than species of grass. See Section 19, *Buffer Zones*, of the SMP. The local USACE project office is responsible for managing the lake and the government lands surrounding the lake. Management oversight is provided by the Mobile District and South Atlantic Division offices. Although cognizant of the surrounding area, the Corps must act in the interest of the general public. Most of the lake users do not live on Lake Lanier.

[140]

The decision to replace existing individual docks with a community dock is voluntary and is not required in the updated SMP. Out of necessity, only neighboring property owners and facilities would be able to form associations and construct community dock facilities. Rezoning of shoreline would only effect those properties that are using the community dock.

Regarding the concern over the influence of a boat dock on property values, Shoreline Use Permits/Licenses are issued to individual landowners. At the time of sale of a property, all permits are voided. Prior to the purchase of a property, new buyers are encouraged to contact the Corps of Engineers to verify the existence of shoreline use permits. New buyers also need to inquire about the possibility of a new permit being issued once the property has been transferred. Assuming compliance with all SMP policies and site requirements remain suitable, new property owners can be reasonably assured of being granted a permit.

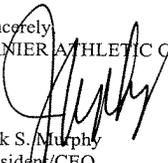
[140 cont.]

property/lot/home. A loss of dock permit will devalue the original purchase price a significant amount. The private property owner will bear the burden of the loss of value.

I request that you give assurances to existing property owners with private docks by grand-fathering in current docks so that private property owners will not be negatively affected if an area is rezoned to "protected area". In other words, the private docks now in place should be grandfathered into the SMP to assure they will not be affected upon permit renewal if an area is rezoned to a protected area. This inclusion will provide the assurance to existing homeowners that, at the time of sale to a new owner, a permit cannot be denied as a result of a rezoning.

Thank you for considering these comments as you revise the draft of the Shoreline Management Plan under consideration.

Sincerely,
LANIER ATHLETIC CENTER, INC.



Jack S. Murphy
President/CEO

JSM/slp

Cc: Congressman John Linder
Congressman Nathan Deal
Senator Zell Miller
Senator-Elect Saxby Chambliss



Department of
PUBLIC WORKS AND UTILITIES
HALL COUNTY, GEORGIA

ROB RIVERS
 Director

Post Office Drawer 1435 • Gainesville, Georgia 30503
 Phone: 770/531-6800 • Fax: 770/531-3945

Response to Comments
 Robert B. Rivers

December 16, 2002

Mr. Glen Coffee
 US Army Corps of Engineers
 Attn: CESAM-PD-E
 109 St. Joseph St.
 Mobile, Alabama 36602

RE: *Draft Environmental Impact Statement for the Operation and Maintenance of Lake Sidney Lanier, Georgia*

Dear Mr. Coffee:

Subsequent to reviewing the *Draft Environmental Impact Statement for the Operation and Maintenance of Lake Sidney Lanier* (EIS), we have the following comments:

[141]

- EIS recommendation allows for minor underbrushing within 20 feet on either side of a 6-foot wide path. **It does not get specific** about what size plants may be removed.

Watershed Ordinance allows clearing of up to 1" diameter plants. Invasive species (kudzu) of any diameter may be cleared. Also, watershed ordinance allows for a 4-foot wide path (vs. 6).

[141] The authorization to underbrush is limited to the removal of vegetation with a diameter of two inches (2") or less and pruning of tree limbs not to exceed head height.

[142]

- The EIS recommends more rigorous enforcement of mowing or clearing where unauthorized, and requiring revegetation in areas that have been mowed.

This will closely reflect intention of ordinance.

[142] Comment noted however, it is unclear as to what watershed ordinance this comment is referring.

[143]

- The EIS overall calls for improving shoreline through vegetation with native species and protecting against erosion through plantings or rip-rap.

These activities are not in conflict with the ordinance, and should have a positive impact on water quality.

[143] Comment noted.

[144]

- The EIS has recommendations concerning limiting future docks, requiring community docks where feasible, and encouraging private dock owners to convert to community docks.

These activities are not in conflict with ordinance, and should have a positive impact on water quality.

[144] Comment noted.

[145] | The EIS proposes requiring any adjacent property owner seeking to renew a Shoreline Permit for a private boat dock to indicate whether his or her residence uses a septic system that is located on public property above elevation 1085. If so, the owner must provide proof that system has been pumped in last 5 years and is functioning properly.

This is similar language to what was in the original watershed protection ordinance. It should have a positive effect on water quality.

[146] | The EIS discusses establishing additional boat launch facilities in north end of the lake and closing facilities in the south part of the lake in order to redistribute the boats and people evenly between north and south.

I see this as a potential negative impact, but not in conflict with watershed protection ordinance. I think it will simply result in overcrowding at the facilities in the southern part of the lake and more grading/development in the northern part.

Additional items that we think would benefit water quality in Lake Lanier are as follows:

[147] | The gradual phasing out of 2-stroke engines on the lake.

[148] | Placing standpipes on the upstream sides of culverts to create mini wetlands/ pretreatment lagoons prior to the main body of water. These smaller areas would be easier to clean out if excess sedimentation occurs.

If you wish to discuss these comments further, please do not hesitate to contact me.

Sincerely,



Robert B. Rivers
Public Works and Utilities Director

RBR/dpg

Cc: Mr. Jim Shuler, County Administrator

[145] Text has been changed to remove the Corps requirement that the system be pumped out every 5 years. However, the County may require pump out as a condition of certification. Comment noted that the requirement should have a positive effect on the lake water quality.

[146] The text in the EIS has been changed to no longer specify closure of recreational sites. The Corps agrees that the redistribution of recreational use will pose a challenge. However, the redistribution of use has been proposed as a method for reducing the intensity of use on the southern portion of the lake.

[147] Comment noted.

[148] The suggestion will be considered where appropriate.

Response to Comments
John and Marci Russo

December 23, 2002

Chris Lovelady
Chief Ranger
Lake Sidney Lanier
US Army Corps of Engineers
PO Box 567
Buford, GA 30515

Dear Mr. Lovelady,

I would like to submit comments on the recent Lake Lanier Shoreline Management Plan. My key area of interest is in the proposed management plan restriction on the size of a boat and the ownership of said boat that can reside on a dock, section 15.2 *Site Requirements*.

There are several points that I disagree with regarding this new clause:

[149]

1. I disagree with the new policy restricting the size of the boat on the dock to be smaller than the dock. This should remain acceptable in cases where there is sufficient space between docks to allow for the presence of a large boat and all navigation rules are maintained. While the navigation stipulation in this clause is clear and understandable, the points about environmental damage and aesthetics are not and seem subjective in nature. Environmental damage from the existence of a boat should be no greater than the existence of a dock, provided appropriate rules are followed with respect to securing the boat. In addition, using aesthetics to justify this stipulation creates a risky precedent that could then be applied to a large percent of docks I've seen on the lake and are open to subjective interpretation.

[150]

2. In addition, I am unclear what constitutes a "permanently moored" vessel, with respect to time frame. In periods of low water, our friends have temporarily moved their houseboat to our dock. Is this an acceptable practice, specifically noting that the need is due to low water conditions? In addition, we sometimes tie a small ski-boat to the houseboat for a day or a couple days on the weekend. This short-term situation of mooring one vessel to another vessel would violate the specific comment "in no case shall a vessel be moored to another vessel". In order for this to be enforceable, I feel that specific time frames must be identified.

Thank you for your consideration of these comments. I look forward to better understanding the plans for Lake Lanier in the future.

Sincerely,

John & Marci Russo

- [149] The text in the SMP has been changed to read as follows:
"In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities."

Environmental damage refers to the potential for hazardous material spills that occurs when boats sink or when holding tanks are illegally discharged.

- [150] All vessels moored at private docks must belong to the permittee and in no case shall a vessel be moored to another vessel.

Response to Comments
Linda Harris Ryan

-----Original Message-----

From: Lindahryan@aol.com [mailto:Lindahryan@aol.com]
Sent: Monday, December 23, 2002 10:05 PM
To: glendon.l.coffee@saqm.usace.army.mil
Subject: PROPOSED PROGRAM IMPROVEMENTS UNDER THE DRAFT...

[151] Dear Mr. Coffee,
As a Homeowner who is a neighbor of the Army Corps of Engineers property on Lake Lanier, I respect many of the plans and programs you do for the environment and for keeping Lake Lanier a beautiful habitat.

I have just recently become aware of the "Proposed Program Improvements under the Draft Environmental Impact Statement to Operation and Maintenance Activities at Lake Lanier." While many of the proposals are necessary and for a good cause, there are a couple under the category of "Shoreline Management" that cause me great concern. Namely, (1) encouraging those with grandfathered authorization to mow to cease mowing project lands and (2) Maintaining a vegetative shoreline buffer consisting of native woody shrubs and trees along all shoreline allocation zones..."

[152] For over ten years we have spent time and money mowing and maintaining the beautiful corps property that adjoins ours. You would be proud of the beauty we have contributed to the lake, beauty that so many neighbors on Clearwater Drive enjoy. The mowing, with the nutrients the grass provides, returned to the soil, has continued to fertilize the natural ground.

To take away the permit for mowing or to not be able to transfer that permit in a future sale of the property would be devastating. The impact on the real estate value around the lake would be a negative financial drain to the budget of Dawson County. This would be a burden to the taxpayers and one that would not be taken lightly.

I would like to ask that you reconsider this proposal and ALLOW THOSE WITH GRANDFATHERED AUTHORIZATION TO MOW TO CONTINUE TO MOW PROJECT LANDS.

Thank you,
Linda Harris Ryan
94 Clearwater Drive
Dawsonville, GA 30534
706-216-2516

[151] Comment noted.

[152] There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than species of grass. (See Section 19, Buffer Zones, of the SMP). Therefore, upon transfer of ownership, while existing mowing activities will be allowed, minimization of mowing will be encouraged to help protect the lake's water quality. Adjacent landowners have the greatest impact and opportunity to protect and restore the lake's vegetative buffer. Through the years, grandfathered mowing privileges and permits have resulted in a general degradation of natural habitat along the Lake Lanier shoreline, and has created the appearance of private ownership of public property. Eliminating mowing on government lands will protect the natural resources, enhance wildlife habitat and the aesthetic value of the land surrounding the lake, and promote the use of public property by eliminating the appearance of private ownership. Therefore no new authorizations will be granted for grass mowing.

Response to Comments

Terry Ryan

-----Original Message-----

From: Terencejryan1@aol.com [mailto:Terencejryan1@aol.com]

Sent: Monday, December 23, 2002 10:29 PM

To: Coffee, Glendon L

Subject: PROPOSED PROGRAM IMPROVEMENTS

Dear Mr. Coffee,

[153]

It has been brought to my attention that some of the new proposed items in the "Lakeshore Management plan" may cause many Homeowners a tremendous devaluation of their property value adjoining Lake Lanier. Namely, to discontinue issuing permits for grass cutting on land with grandfathered authorization would be a terrible mistake.

I believe this would result in many lawsuits as well as class action lawsuits from property owners. I hope you will reconsider this item in particular and allow for mowing on those properties.

[154]

Another concern is the water quality issues. It seems discriminatory that only Homeowners who are requesting a Shoreline Use Permit are required to pump or move their septic system. There seems to be a bigger problem with the Gwinnett County sewerage dumping into the lake that should be addressed. Again, I feel you will have numerous lawsuits due to the expense to the Homeowners and by not addressing the Gwinnett County issues.

Sincerely,

Terry Ryan, Lake Property Owner

[153] The shoreline management program, as directed by Congress, includes environmental stewardship and protection of the natural resources under the control of the Corps. There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than species of grass. See Section 19, *Buffer Zones*, of the SMP.

[154] Septic systems are being linked to Shoreline Use permits because it takes advantage of an existing inspection system (managed by the counties) to address a number of land management issues, such as encroachments.

The SMP does not govern municipal utilities systems such as county point source discharge requests. The regulation of point source discharges, such as the Gwinnett County discharge, is the responsibility of GA EPD and EPA. A recent court decision has blocked, at least temporarily, permission for Gwinnett County to discharge into the lake.

Response to Comments
Ronald E. Seder

Ronald E. Seder
6355 Barberr Hill Place
Gainesville, Georgia 30506
770-889-1088
ronseder@mindspring.com

December 21, 2002

Mr. Glen Coffee
US Army Engineer District, Mobile
Attn: CESAM-PD-E
P.O. Box 2288
Mobile, AL 36628-0001

Dear Mr. Coffee,

I am a Lake Lanier resident of many years who is very interested in the preservation of Lake Lanier and the quality of life benefits it provides to millions of people.

This correspondence deals with my comments on the "Draft Environmental Impact Statement for the Operation and Maintenance of Lake Sidney Lanier, Georgia" (EIS).

The EIS and its associated material is voluminous and more than I could adequately comment on in a comprehensive manner, especially during the demands of the Christmas season. I think it unfortunate that there was not more timely and continuous interaction with the public during the development of the EIS. The comments I offer here cover some of my observations. An exploration of all of my thoughts concerning the EIS would require more writing than I am willing to do, but a few hours with the authors would produce a more comprehensive review of the material.

My comments follow and are in no order of priority.

[155] - The first page after the title page of the EIS (no page number) says the counties that affect the Lake's watershed are Dawson, Forsyth, Lumpkin, Hall, and Gwinnett. However, White and Habersham Counties contain a very significant portion of the Lake Lanier watershed. I think there are also two other counties that contain a miniscule portion of the watershed, but might be as significant as the very small portion of the Lake Lanier watershed in Gwinnett County. The quality and quantity of water in Lake Lanier results from the quality and quantity of the water coming to the Lake from its entire watershed.

[156] - Page ES-6: The Proposed Program Improvements "Allowing for the revocation of Shoreline Use Permits (private boat dock permits) for all violations involving the unauthorized removal of vegetation". I agree with enforcing the vegetation removal rules, but if this statement is taken literally the unwitting removal of vegetation gets the same penalty as the knowing removal of large trees to produce a better view. The dock permit is tremendously important to most homeowners' enjoyment of Lake recreation

[155] White and Habersham counties do represent a significant portion of the watershed and will be added to the statement describing the watershed of Lake Lanier.

[156] To protect the lake's vegetative buffer and water quality the Corps utilizes many criminal, civil and administrative penalties. Of these penalties permit revocation is just one method to deter the unauthorized clearing of public property.

[156 cont.] and to the market value of their home. I suggest there be less severe penalties, than removing the dock permit, for less severe rules infractions.

[157] Pages ES-5,6,10: The choice offered for the maximum number of boat docks is either 25,327 or 10,615. The 25,327 is apparently the maximum boat docks, according to current rules, determined by straight simple mathematical calculation applied to the currently identified LDA shoreline (I assume that the total number of boat docks that could be practically accommodated would somewhat less than 25,327). The 10,615 is apparently determined by applying a 50% rule from the COE ER 1130-2-406 to the currently defined LDA shoreline. There seems to be little logical rationale behind these calculations to support an optimum number of boat docks. I do not understand the rationale or science behind the 50% rule in COE ER 1130-2-406, and therefore, I assume it can be changed. There are some things said about the boat capacity of the Lake being exceeded, but I see no rationale to support this conclusion other than number of boats in the area of the Lake and a reference to a 1985 study (not enough divulged about that study for me to determine if I think it was valid or not) concluding that the Lake surface was overused by 71% on one occasion (pages 1-10, 3-56). My observation is that the Lake is very much less used during most days of the prime boating season than indicated by the published results of the study (non weekend and holiday days). I would like to see a more logical and scientific method of determining the best maximum number of boat docks on Lake Lanier.

[158] Are community and courtesy boat docks included in the maximum number of private boat docks? Are the number and use of slips in community/courtesy boat docks limited to the building lots abutting the COE line rules as are other private boat docks?

[159] I see many benefits listed in the EIS assessments for having fewer boat docks, but I see no credit given to more boat docks providing more recreation to a greater number of people. Lake Lanier is a recreation gem in the Atlanta Metropolitan Area, and as the Area continues to grow the recreation offered by Lake Lanier will hopefully provide a quality of life benefit for a greater number of people. The selfish approach for me, as a Lake Lanier resident with a boat dock permit, would be to favor anything that reduces the number of people who enjoy Lake Lanier, but that approach would ignore what should be done for the greatest good.

[160] Page ES-7: "Providing that Shoreline Use Permits for private or community boat docks limit the maximum size of boats to the length of the boat dock" (which I think is identified as 32 feet). It bothers me that an individual with a 35 foot boat must rent a slip in a marina for his boat rather than tie it to his dock. There certainly are areas of the lake that should have boat size limitations because of the concentration and proximity of boat docks. However, there are other areas of the Lake with boat dock configurations that could accommodate larger boats.

[161] Page ES-7: "Requiring the mooring of boats in boat slips". What is the definition of a boat slip? If one has a boat dock with one internal boat slip and two sides, can three private boats of the owner be moored to that dock? Are each of the two sides considered to be a boat slip in this proposal?

[162] Page ES-7: "Requiring that owners plant natural vegetation or install riprap or other shoreline or bank stabilization measures when applying for a new Shoreline Use Permit, renewal of a Shoreline Use Permit for a private boat dock or community boat dock, or

[157] The methodology used to determine the number of potential boat docks as described in Appendix D is based upon guidance found in ER 1130-2-406 which states:

"The density of facilities will not be more than 50% of the Limited Development Area (LDA) in which they are located. Density will be measured by determining the linear feet of shoreline as compared to the width of facilities plus associated moorage arrangements which restrict the full unobstructed use of that portion of the shoreline."

These criteria are to be applied to all Corps impoundments throughout the nation to maintain the aesthetic, environmental, and recreational quality of Corps managed public lake projects for enjoyment by all segments of the general public in addition to neighboring property owners.

[158] A variety of factors are considered when negotiating the number of slips allowed within a community dock. Those factors include length of adjoining shoreline and number of adjacent lots. Under no circumstances would the number of slips in a community dock ever exceed the number of slips which could have been authorized utilizing private docks for a specified length of shoreline when the criteria contained within ER 1130-2-426 is applied.

[159] The SMP and the limitation on the number of private boat docks is intended to maintain the resource value of Lane Lanier at the highest possible levels for use and enjoyment by all members of the public.

- [160] Text in the SMP has been changed to read as follows:
“In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner’s ability to safely moor and protect from storm damage must be stored in marina facilities.”
- [161] This wording from the executive summary will be changed to agree with the wording contained in the complete SMP, which does not have this requirement.

- [162 cont.] upon granting or renewing USACE outgrants. Such measures would not be required, however, upon an applicant's clear showing that such an erosion control effort is infeasible or otherwise not required because of soil composition, erosion potential, or other circumstances." I do not agree with this application of bureaucracy if it means that all dock permit renewals will require the expenditure of hundreds or thousands of dollars unless the person renewing the permit proves (how can this be proven?) that he should not have to spend the money.
- [163] - Page 1-4 and others: There is discussion about septic systems polluting the Lake. Of course, a failing septic system is bad and should be corrected, but I am concerned about any rules or bureaucracy established to enforce a septic system routine, unless there is science to show the need. Are there any studies/science that shows that septic systems are contributing significantly to the pollution of a lake? I have seen assumptions made about septic pollution for other projects, but I have never been able to find empirical data that proves or quantitatively demonstrates it.
- [164] However, the UGA "DIAGNOSTIC/FEASIBILITY STUDY OF LAKE SIDNEY LANIER, GEROGIA" (commonly referred to as the Lake Lanier Clean Lakes Study) (on the web at <http://www.cviog.uga.edu/projects/lanier/>), on page 5-53 says: According to the EPA's Seven Rural Lake EIS, "abandoning septic tank/soil absorption systems along the shorelines will seldom result in significant change in lake trophic status."
- [165] Page 2-46: I do not think that the High, Medium and Low Lake Level definitions given would match the assessment of Lake Lanier users. A low lake level would be much higher than 1056 and a level of 1043 would be an even worse disaster, which has never been experienced on Lake Lanier.
- [166] Page 3-2: "During extreme drought periods, the lake may drop as low as 1,035 feet msl". This statement may represent the official Corps of Engineers view, but it is not all practical to consider lowering the Lake to that Level. My suggestion, for the necessary recreational, economic and water supply insurance benefits to be provided by the Lake, is that the Lake not be planned to go below 1056 feet msl during extreme drought periods.
- [167] Page 3-15: Statement says, elevations in the watershed range from more than 1,311 feet to 229 feet at lakeside. 229 feet is much too low for an elevation at lakeside.
- [168] Page 3-31: Estimates the economic value of the Lake at \$155 Million. Other work I have seen cause me to believe that \$155 million is much too low. I would like to see more concentration on this benefit and more reconciliation with other assessments of Lake Lanier's economic value.
- A "Marine Trade Association of Metropolitan Atlanta" report, "Lake Sidney C. Lanier A Study Of The Economic Impact Of Recreation", dated September 2001, shows recreation on Lake Lanier to be the dominant portion of a \$5.5 billion recreational contribution to the economy. A letter at the beginning of the report, signed by Kit Dunlap, President/CEO of the Greater Hall Chamber of Commerce says "The economic impact is over \$5 billion annually...recreation a predominant part of that number"
- The UGA "DIAGNOSTIC/FEASIBILITY STUDY OF LAKE SIDNEY LANIER, GEROGIA" (commonly referred to as the Lake Lanier Clean Lakes Study) (on the web at
- [162] The installation of riprap will not be required for all permits (see Section 15.2, *Site Requirements*, of the SMP). The text referenced in the comment has been changed to read as follows:
- "Shoreline stabilization measures (riprap) may be required with the issuance of new permits that require fixed steps or are located on sites already affected by erosion."
- This requirement applies to both new permits and to the renewal of existing permits. However, placement of riprap would only be required on a maximum length of 10 feet of the shoreline on either side of the point where the fixed steps are located along the shoreline. The purpose of the riprap is to protect the integrity of the steps against erosion so as to avoid the potential creation of an unsafe condition on public lands should the steps be damaged by the loss of shoreline soils. This requirement also protects the landowner's financial investment in the structure.
- [163] Numerous studies are available in the scientific literature regarding the effects of failing septic systems. However, no studies within the Lake Lanier watershed were located. Septic tank failure rate used in modeling represents an estimated rate gathered from the various local county agencies.
- [164] The full statement from the Clean Lakes Study on the page cited reads as follows: "According to the EPA's Seven Rural Lake EIS, "abandoning septic tank/soil absorption systems along the shorelines will seldom result in significant change in lake trophic status" (EPA, 1983). This does not imply that septic tanks do not contribute to lake pollution. To minimize the impact of septic tanks on the lake it is necessary to ensure that they are being used properly." The study goes on to state that "The main problems with inappropriate use of septic tanks are using them beyond their life expectancy (50 years for concrete/fiberglass/plastic, 10 years for metal) and the tanks not being pumped and emptied frequently enough. This can be combated by having the tanks inspected at least every two years and having them pumped once every three to five years. Another problem lies with the cumulative effect of having too many septic tanks in the same area. There should be fewer than five per hectare (Adriano, 1994). Local zoning requirements may need to be developed to control the concentration of septic tanks in certain areas."

- [165] The various lake levels used in the analysis are based on previous modeling efforts described in the Environmental Impact Statement for the Water Allocation for the Apalachicola-Chattahoochee-Flint River Basin, Alabama, Florida, and Georgia. The levels are those that can be reasonably expected to occur based on historical and seasonal fluctuations.
- [166] The 1,035 level represents a lake level that could occur during extreme drought conditions.
- [167] Text has been edited as follows:
“...more than 4,439 to 1,071 feet at lakeside.”
- [168] No assertion is made in the document of the exact economic value of the lake, only that the lake is economically beneficial to the region and that the value varies depending on the study. The Marine Trade Association estimated value of \$5.5 billion is already cited in the EIS, in addition to the REAS \$155 million estimate, and information on the \$2 billion dollar estimate from the UGA study has been added as well. It should be noted that this information is used for descriptive purposes only, and has no bearing on the impact analysis.

[168 cont.] <http://www.cviog.uga.edu/projects/lanier/>), referring to Lake Lanier recreation, says on page 6-2 "Recreation is the biggest revenue producer on the lake, generating \$2 billion per year (McCafferty, 1995)."

Page 4-16: "An analysis of lake elevation levels and USACE monthly visitor data indicated that there is no significant correlation between lake elevation levels and visitor attendance for historical lake level fluctuations (from 10,59 feet msl to 1,071 feet msl)". I suggest that a lack of correlation on just a few data points, without considering other cause and effect relationships, is a misuse of statistical analysis.

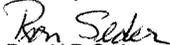
[169] The Corps of Engineers, "Water Allocation for the Apalachicola-Chattahoochee-Flint (ACF) River Basin" (on the web at <http://www.sam.usace.army.mil/pd/actacfeis/acfdraft.htm>), in the Volume 2 Appendices, Table F-5-32 on page F-5-34, shows Lake Lanier boater trips at a Lake level of 1065' msl to be only 51% of the boater trips at 1071' msl. The table also shows boater trips at a Lake level of 1055' to be only 13% of the boater trips at a Lake level of 1071. This identifies a huge impact on Lake usage at lower Lake levels.

[170] Page 4-50: I think the statement "Development would have the most direct influence in creating adverse effects to water quality due to increases of dissolved oxygen", is incorrect. More dissolved oxygen is good. I think development would more tend to reduce dissolved oxygen.

[171] For fairness and considering past expectations, I suggest that current dock permit holders be exempted from (grandfathered) most of the proposed changes.

If you would like to discuss my observations included here, or others not included here, please contact me.

Sincerely,


Ronald E. Seder

[169] The discussion in Chapter 4 and Appendix A, as acknowledged in the document, was based on limited data and is not intended to serve as a definitive statistical analysis. Nonetheless, there seems to be sufficient information to indicate that lake levels have not had a profound effect on overall lake visits. This is not to say some activities, such as boating trips, are immune to changing water levels. Regardless of our findings on the potential correlation between lake levels and lake visits, the impact analysis considers a large range of potential decreases in attendance with lower lake levels. For example, the analysis assumes up to a 50 percent reduction in visits at the lowest lake levels.

[170] Text has been edited as follows:
"Development would have the most direct influence in creating adverse effects to water quality due to increases in concentrations of total phosphorus and total nitrogen and a decrease in dissolved oxygen."

[171] All Shoreline Use Permit/Licenses are issued for a maximum of a five-year period. The permit may be reissued when the current term expires if the permitted facilities and uses of public land are in compliance with the conditions of the permit. When reissuing permit privileges prior permitted activities are often "grandfathered".

Comment Form

Draft EIS for Lake Sidney Lanier

All comments must be received by December 23, 2002.

*Name (optional) LEO SHEPPARD
 Agency/Organization _____
 Address 15 NORTH CHESTNUT POINT DAWSONVILLE, GA 30534

*(If you wish to have your name listed as a commenter in the Final EIS, please provide your name and address.)

I. Please check the affiliation that is applicable to you.

(Please check only one):

- Lake Lanier Resident Lake Lanier Recreational User Civic Organization
 University Environmental Organization Local/County Government
 State Government Federal Government Other _____

II. Demographic Information

County DAWSON
 City DAWSONVILLE
 State GA ZIP Code 30534

III. Comments on the No Action Alternative

NEEDS SOME REVISION.

IV. Comments on the Preferred Alternative

[172]

I WOULD LIKE TO SEE THE VERBAGE OF THE GRANDFATHER CLAUSE TO BE CHANGED TO ANSWER QUESTIONS SUCH AS, WHAT HAPPENS IF THE DOCK IS DESTROYED, NEEDS REPLACING, OWNERSHIP TRANSFERRED ETC. I WOULD LIKE TO HAVE THESE ANSWERS AND WORKED AS SUCH INTO THE GRANDFATHER CLAUSE

V. Comments by Issue

• Fisheries, Wildlife, and Forestry Management:

• Boat Docks: I'm in agreement to limiting the number of docks and their sizes. I FEEL THAT DOCKS SHOULD BE LIMITED IN LENGTH TO 25 FT WITH A DOCK LENGTH ALLOWANCE TO BE NOT MORE THAN 5 FT OVER EACH END OF THE DOCK. THE WIDTH SIZES ACCORDINGLY.

[173]

[172] The SMP has been modified to read as follows:
 "A 'grandfathered' item is defined as an activity, facility or structure that was authorized under a previous policy and prior permit, but new permits are no longer issued for their construction. Existing permits will continue to be reissued for these items until they reach a state of disrepair, create health or safety hazards or are no longer functional. These items must remain in substantial compliance with the conditions of the permit."

The special condition section of the Shoreline Use Permit/License referring to grandfathered facilities has been modified to read as follows:

"This facility is in a protected/recreation area and must be maintained in a usable and safe condition, not occasion a threat to life or property, and the permittee must be in substantial compliance with the existing permit conditions in order for permit to remain valid. If the permitted facilities do not meet these requirements they must be removed and cannot be replaced."

[173] The maximum boat dock size was established in the original 1977 SMP and since that time it has become customary and accepted by the public. A change at this time would create hardships and it is not clear what benefits would be produced.

•Watersheds and Water Quality:

•Recreation and Aesthetics:

•Shoreline Management:

•Commercial Activities:

VI. Other Comments

[174]

WHERE I LIVE, THE COVE IS SMALL, SO I COULD NOT GET A big DOCK. THE VERBIAGE IN THE preferred ALTERNATIVE would or could possibly eliminate my dock and/or THE SIZE of my boat to 12ft. I prefer to NOT NAVIGATE THIS SIZE of LAKE IN SUCH A SMALL BOAT. Also if the VERBIAGE is NOT CHANGED, I COULD STAND the possibility of LOSSING my dock, EFFECTING THE VALUE of my PROPERTY TREMENDOUSLY.
I would like to be GRANDFATHERED IN AS I AM NOW. (EX 12 DOCK 20ft BOAT) DOCK REPAIRABLE AND/OR REPLACED AND TRANSFERABLE

[174] No permits for private use will be issued for new platform/T-Docks due to safety concerns and general unsuitability as a mooring facility. Existing docks of this configuration that are currently authorized under permit will not be affected by this change in policy.

Response to Comments
Nona and Doug Stacks

-----Original Message-----

From: Nona Stacks [mailto:nonastacks@msn.com]
Sent: Thursday, December 19, 2002 4:28 PM
To: Coffee, Glendon L
Subject: War Hill Marina

Dear Mr. Coffee,

[175]

It our understanding that the War Hill area is under consideration for a marina to relieve boating activity on the south end of the lake. The following are reasons we oppose this action.

[176]

There is significant traffic on the Chestatee River already. There is not as wide a span of water to accommodate large boats in this area as there is on the Southern part of the lake. There are adequate boat launches, community docks, private docks that already contribute to a high volume of boating activities. Traffic from the Southern part of the lake on the Northern part of the lake is extremely heavy now.

As a percentage of navigable water space available, there are probably as many boats on the northern part of the lake now as there are on the Southern. There already exists a problem when large ocean size boats and houseboats venture

past Brown's Bridge. As the lake narrows and with increased boating traffic, danger of accidents increases significantly.

[177]

Many campgrounds with public access are on the Northern part of the lake that contribute to much of the boating traffic now. The population of people moving up to the Northern part of the lake has probably already doubled in the past five years due to new construction and development of new communities on the lake, which also contributes to an increase in lake usage.

[178]

It appears to us that it is more feasible and much less expensive to expand existing facilities in the Southern part of the lake where there is more useable space on the lake and more room to expand.

Thank you for your consideration in this matter.

Sincerely,

Nona and Doug Stacks

[175] The proposed leasee is not interested in leasing the War Hill Park at this time. However, there is still a need for services on the Chestatee River and the Corps will continue to look for a way to provide a marina operation in the area.

[176] Comments noted.

[177] The recreational sites along the northern portion of the lake do not currently receive the level of use experienced by the sites located on the southern portion of the lake.

[178] Presently, marina facilities are lacking altogether on the Chestatee River arm of the lake. Expansion of the existing marinas on the southern portion of the lake would not satisfy the need for such facilities on the Chestatee River because they would be too far away to be of efficient value. Marina facilities on the Chestatee River would be available to the recreational visitors using that area, as well as to the adjoining property owners that possess boat docks that arm of the lake.



December 10, 2002

Mr. Glenn Coffee
 US Army Engineer District, Mobile
 Attn: CESAM-PD-E
 P.O. Box 2288
 Mobile, Alabama 35528-0001

Dear Mr. Coffee:

This letter is written to make you aware of the points of concern this organization has found in the proposed Shoreline Management Plan (SMP) for Lake Sidney Lanier in Georgia.

After reviewing the proposed Shoreline Management Plan the following are areas of concern which we would like to draw your attention to during this review process:

[179]

- **The new SMP gives the local management office authorization to revoke a private land owner's Shoreline Use Permit (private boat dock permit) for all violations involving the unauthorized removal of vegetation.** Under this scenario a neighbor could remove vegetation from the adjoining property and the property owner from which the vegetation was removed is penalized. Our concern is under what conditions would this occur? What proof of removal is required and who determines if the property owner is in fault? The latitude is too broad and the private property owners are subject to the discretion of the rangers and office manager. Under extreme cases revocation is appropriate. Private property owners purchased lake lots, paid the premium to live on the lake to enjoy the view of the lake, and to access the lake directly via a private boat dock. This premium is reflected in the valuation of the property each year on the county tax bill. Therefore, a case can be made for such a scenario as described above which places a huge burden on the property owner.
- **We ask that you put strict guidelines and limitations in place to prevent misuse of this proposed change.**

Response to Comments
 Jeff Stephens and Joni Owens

THE PRESIDENT'S COUNCIL

Prestige Level Members

Northside Hospital

Platinum Level Members

City of Cumming
 Forsyth County Board of Commissioners
 Forsyth County News
 North Fulton Regional Hospital

Gold Level Members

Baptist Medical Center
 BellSouth
 Kroger
 Northwoods Medical Specialists
 The Rouse Company
 Wachovia Bank

Silver Level Members

American Proteins, Inc.
 automationdirect.com
 Bank of America
 Bank of North Georgia
 BB & T
 Chattahoochee National Bank
 Chestatee State Bank
 Citizens Bank of Forsyth County
 Crescent Bank
 Development Authority of Forsyth County
 Embury State Bank
 Fidelity National Bank
 First Colony Bank
 First National Bank of Johns Creek
 First Union National Bank
 Georgia Power Company
 H & H Staffing Services
 Hoover Precision Products, Inc.
 Ingles
 Integrity Bank
 L3 Communications Corp.
 McKESSON
 National Bank of Commerce
 Norman's Landing
 Publix Super Markets
 Regions Bank
 Solvay Advanced Polymers
 Southern Staircase
 SouthTrust Bank, N.A.
 Suntrust Bank of N.E. GA, N.A.
 Technology Park/Atlanta, Inc.
 Terrabrook/Laural Springs &
 Windermere Communities
 United Community Bank
 Wal-Mart

Bronze Members

Atlanta Gas Light Company
 Exhibit Systems, Inc.
 Georgia Power Company
 Hansgrohe, Inc.
 Highwoods Properties
 N.E. Georgia Medical Center
 NorthSide Foods
 PBD, Inc. Worldwide Fulfillment Services
 Sawnee EMC
 Scientific Games International
 Siemens Energy & Automation

The Cumming-Forsyth County Chamber of Commerce
 212 Kelly Mill Road Cumming, GA 30040
 p:770-887-6461 f:770-781-8800
 fccoc@forsythchamber.org

[Note: This letter is a duplicate of the letter by Mark Hamilton (comments 93 - 100. All responses to comments are the same for this letter as for the letter written by s.)

[179] Same response as to Comment No. 93 above.

- [180] • **Requiring all open areas where grass mowing is not authorized under the existing Shoreline Use Permits to be revegetated by the permittee or at the Corps discretion.**
The language is too ambiguous. This language gives the Corps of Engineers too much discretion to force a permittee to spend funds on revegetation that may be out of their ability to fund. There is no specification on what will be required to be used to revegetate the area. Private property owners paid a premium for a lake lot to see the lake. The owner pays higher taxes than property not located on Lake Lanier. The potential is that the Corps could require trees or vegetation that grows very tall thus diminishing views to the lake and reducing land / business and /or home values of the private property owner.
- **We ask that you specify low growing vegetation would be required. Furthermore, if the owner is unable to afford the expense the Corps will not penalize the owner by revocation of Shoreline Use Permit. Today, there are residents whom live on Lake Lanier, but cannot afford additional expenses because they are on a fixed income, have experienced a loss of spouse or other circumstances which effect their monthly income.**
- [181] • **Encouraging existing private dock permittees to convert to community docks followed by rezoning of the shoreline from LDA to Protected Areas.**
It is not clear under what conditions this rezoning may take place. We object to this change without clarification of the circumstances by which a rezoning is implemented. The potential is that a cove area where there are 10 docks may be rezoned by the Corps to protected area. As permits come up for renewal the local management office will not renew a permit, thereby forcing private dock owners to move to a community dock. This also allows the local management office the opportunity to deny a permit for a private dock on a resale home that has a private dock permit at the time of sale. The private dock owners would then have a dock without a home and money thrown away. In addition, the value of the property has significantly declined as a result of losing a private dock permit. We understand private dock permits are not transferable; however, the potential for eliminating docks is found in this change to the SMP. Private property owners, businesses and residents, that currently have a dock permit paid a premium on the purchase of their property/lot/home. A loss of dock permit will devalue the original purchase price a significant amount. The private property owner will bear the burden of the loss of value.
- **We request that you give assurances to existing property owners with private docks by grandfathering in current docks so that private property owners will not be negatively affected if an area is rezoned to "protected area". In other words, the private docks now in place should be grandfathered into the SMP to assure they will not be affected upon permit renewal if an area is rezoned to a protected area. This inclusion will provide the assurance to existing homeowners that, at the time of sale, a permit cannot be denied as a result of a rezoning.**
- [182] • **Providing that Shoreline Use Permits for private or community boat docks are ineligible for renewal (for a period of 1 year) in the event corrective actions are not taken effectively or in a timely manner. We request some ability to give variances under specific circumstances.** Such circumstances may be the inability to get a contractor to make repairs as required in the time allotted. While it is appropriate to have consequences for those property owners that do not take action at all, it is equally inappropriate to place this burden on a property owner that has made efforts to comply, but failed due to circumstances out of the owner's control.

[180] Same response as to Comment No. 94 above.

[181] The decision to replace existing individual docks with a community dock is voluntary and is not required in the updated SMP. Out of necessity, only neighboring property owners and facilities would be able to form associations and acquire community dock facilities. Rezoning of shoreline would only effect those properties that are using the community dock.

Regarding the concern over the influence of boat docks on property values, Shoreline Use Permits/Licenses are issued to individual landowners. At the time of sale of a property, all permits are voided. Prior to the purchase of a property, new buyers are encouraged to contact the Corps of Engineers to verify the existence of shoreline use permits. New buyers also need to inquire about the possibility of a new permit being issued once the property has been transferred. Assuming compliance with all SMP policies and site requirements remain suitable, new property owners can be reasonably assured of being granted a permit.

[182] The Corps will work in good faith with all permit holders in the permit reissue process. This process allows up to a maximum of five months for permit holders to identify and take corrective actions before punitive measures are undertaken. We believe five months provides an adequate time frame within which corrective actions should be completed.

[183] On Page 25: *The requirement of a "full member" level inspector of the ASHI or GAHI is another expense for private dock owners and has the potential for disaster.* Some owners cannot afford an inspector. This places a huge burden on property owners to make costly repairs that may not, in fact, be critical to the dock's function.
We request that you delete this requirement. Property owners pay taxes which support the budget of the Corps and this should continue to be a responsibility of the Corps. By placing this task on the property owners this change will in effect, double tax property owners on the lake by forcing property owners to pay for this service in addition to the taxes paid to support the Corps budget.

[184] On page 32: *Section 19. Buffer Zones, paragraph 3, 3rd sentence: It is now required that "limited development" areas serve as an undisturbed, forested buffer.* This requirement is too broad. This should be clarified to specifically what is intended. The potential for harm to homeowners and businesses located on "limited development" areas is that you may require trees to be planted in sparse areas which would block views and thus reduce the value of the investment by the private owner.
This requirement should be specified to low growing trees. The broad ability to direct private property owners to plant trees on the buffer area is not in the best interest of private property owners, which includes residents and businesses.

[185] *Providing that Shoreline Use Permits for private or community boat docks limit the maximum size of boats to the length of the boat dock.*
The concern on this proposed change is there are several current boat owners with a private dock that do not meet this requirement. The SMP requires boats to be no longer than a maximum dock size allowable of 32 feet. This means a boat cannot be longer than 28 feet assuming there is a 3 ft. walkway incorporated into a 32 ft. dock. The real concern is that at such time a boat owner has to purchase a dock to replace an old dock the owner will be denied a permit if their boat is longer than the new dock. This requirement will create an incredible nuisance and place an unfair burden on boat owners that, at the present time, have a private dock for their boat.
There is no provision for grand-fathering and protecting all current boat owners with a private dock. Therefore, we recommend this requirement be deleted.

[186] Finally, we request that the Corps of Engineers keep in mind the need to protect the investments of the property owners on Lake Sidney Lanier. The majority of the property owners consider themselves custodians of Lake Lanier and take pride in maintaining private property in a proper manner on Lake Lanier. Please avoid placing so much authority in the local management office to the detriment of the property owners. Restrictions and firm guidelines must be also written and enforced so there is a true balance of relationship between property owners and staff of the Corps of Engineers.

Thank you for considering these comments as you revise the draft of the Shoreline Management Plan under consideration.

Sincerely,

Jeff Stephens
Chairman of the Board



Joni Owens
President & CEO

CC: U.S. Senator Zell Miller
U.S. Senator-Elect Saxby Chambliss
U.S. Congressman Nathan Deal
U.S. Congressman John Linder

[183] Due to the volume of permitted facilities the Corps does not have the manpower or the expertise to conduct inspections. The requirement within the updated SMP that Corps certified inspectors be used is intended to ensure that all inspections are completed in a technically competent and objective manner. Costs of inspections are to be paid by the permit holders since they receive all benefits of the permitted facilities.

[184] It is the responsibility of the Corps to protect the valuable natural resources at Lake Lanier to promote environmental sustainability through a healthy ecosystem for current and future generations to enjoy. These goals and objectives are pointed out in both the SMP and EIS. Maintenance and preservation of the forest buffer at Lake Lanier contributes to these objectives.

The Corps is not proposing that landowners plant trees on their property, but rather plant trees on Corps property where they have previously been removed by adjacent landowners. The goal is to provide a vegetated protective buffer around the lake. One must remember that the majority of lake users do not own homes on the lake.

[185] Text in the SMP has been changed to read as follows:
"In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities. Therefore, based on this language it is possible that boats larger than the dock could be moored. Each situation will be considered on a case-by-case basis."

[186] The local USACE project office is responsible for managing the lake and the government lands surrounding the lake. Management oversight is provided by the Mobile District and South Atlantic Division offices. Although cognizant of the surrounding area, the Corps must act in the interest of the general public. Most of the lake users do not live on Lake Lanier. Corps' management of Lake Lanier's resources benefit all segments of the public, not just the interests of adjacent private property owners.

Response to Comments

Lionel Varner

-----Original Message-----

From: lgvarner [mailto:lgvarner@charter.net]

Sent: Sunday, December 22, 2002 4:16 PM

To: Coffee, Glendon L

Subject: DEIS for the Operation and Maintenance of Lake Sidney Lanier, Georgia

Dear Mr. Coffee:

[187]

In reviewing the draft environmental impact statement for the operation and maintenance of Lake Sidney Lanier, Georgia I commend the majority of the recommended management changes outlined in the proposal.

[187]

Comment noted.

[188]

The proposal referring to the change in mowing grass in open areas is in my opinion treating home owners unfairly as it would affect quality of current living conditions and resale value. I fully understand you and all Corps officials know this.

[188]

The shoreline management program, as directed by Congress, includes environmental stewardship and protection of the natural resources under the control of the Corps. There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than grass. See Section 19, *Buffer Zones*, of the SMP.

Without elaborating any further on this recommended change, I respectfully request the Corps management team leave the mowing policy as it is currently by eliminating this proposal from the new draft environmental impact statement.

Yours truly,

Lionel "Lee" Varner
6652 Garrett Rd.
Buford, GA 30518
(770) 932-1158

Response to Comments
David Waller

Lonice C. Barrett, Commissioner

Georgia Department of Natural Resources
2070 U.S. Highway 278, S.E., Social Circle, Georgia 30025
David Waller, Director, Wildlife Resources Division
770/918-6400

December 23, 2002

Mr. Glen Coffee
Environment and Resources Branch
United States Army Corps of Engineers
Post Office Box 2288
Mobile, Alabama 36628

Dear Mr. Coffee:

- [189] Thank you for the opportunity to review the Draft Environmental Impact Statement (DEIS) for the operation and maintenance of Lake Sidney Lanier. Within this document, the discussion of aquatic and terrestrial wildlife habitats, their dependent species, and the public recreation opportunities associated with Lake Lanier's wildlife resources is indeed appreciated. My staff has reviewed this document and would like to offer some comments that will hopefully strengthen your final draft. We have some generalized comments regarding your proposed management direction, followed by specific suggested edits on your text. [189] Comment noted.
- [190] The Georgia Wildlife Resources Division (GAWRD) understands the increasing public demand on your agency for abundant and high quality recreational experiences. Your effort to seek a balance between providing that desired recreation and protecting the reservoir's natural resource and aesthetic values is indeed appreciated. The proposed Shoreline Use Policy, which sets a new limit for private boat docks and mandates community docks when applicable, appears to reach a proper balance between private development interests and your desires to protect natural resources and maintain public access to public property. Your proposals to improve shoreline management via the rehabilitation of vegetative buffer zones and the mandated use of riprap and biostabilization techniques are excellent. [190] Comment noted.
- [191] Suggested natural resource management initiatives, including a deer management program with recreational hunting opportunities, a continued fish habitat improvement program, an emphasis on native vegetation management, wetlands protection, improved erosion control and sediment removal efforts, and an island conservation directive, are particularly appealing to GAWRD. In terms of recreational use, we are pleased to read of increased emphasis in providing a) improved boating access to the northern end of the lake and b) more bank fishing opportunities throughout the project. Given the fact that fishing was second only to boating as the lake's most popular recreational activity (Table 3-30), we believe that your management direction is well justified. [191] Comment noted.
- [192] There are, however, several areas of the DEIS that do raise some questions or present your agency with greater opportunity. First, the most important factor for maintaining Lake Lanier and its associated recreational values is one that, granted, is mostly beyond your direct control. That factor is nonpoint source pollution and its effects on lake water quality (see our attached comments regarding page 4-50). Despite this lack of direct control, your agency still has an excellent opportunity for public education on the topic of nonpoint source pollution. Your EIS document presents a forum to highlight this critical concept for all lake users. We suggest that you take advantage of the opportunity before you with some enhanced text on pages 2-9 and 2-10 describing water quality issues, especially dissolved oxygen at both the surface and at deeper water levels and its critical impact on the ecological health of the lake. [192] We agree that it would be helpful to provide educational and informative passages in the EIS. However, the Corps has tried to avoid including tutorial passages in the EIS in an effort to keep the size of the already voluminous document to a minimum. In fact, some comments have been critical of the size of the current EIS.
- [193] Second, we are concerned that your proposed efforts to redistribute recreational use from the southern end of the lake to the northern end (Park Operations, Page ES-9; Page 2-3 1) will not work. The pressure on the southern end, due to a growing metro Atlanta region, will continue (Page 4-45, Line 27) and will not be easily redirected to the more distant portion of Lake Lanier due to human nature. We suspect that the majority of Atlantans, especially those that boat, will still choose to recreate closer to home. By constructing new recreational facilities on the northern end of the lake, you will simply encourage lake use by residents of the growing northern lake counties (especially Dawson, Lumpkin, and Hall). The end result will be a net increase in developed sites and in recreational use of the lake, rather [193] The intended purpose of the redistribution of recreational activities is to accommodate the day use visitation demand on the south end of the lake and to shift camping activities to the northern portion of the lake.

Mr. Glen Coffee
December 23, 2002
Page 2

[193 cont.]

than your goal of simply redistributing the pressure. Development specifics (sites, facilities, capacity, etc.) for proposed northern zone improvements were not provided in the document, so the assessment of their impacts on existing wildlife habitat and local recreational users was not possible but is of concern.

[194]

Third, your specific goals on redistribution of recreational use are not clear. Is it to reduce boating pressure on the lower lake? If so, then where will you reduce the number of marina slips or boat ramp parking spaces to accomplish this? Where on the northern end of the lake will you then mitigate for this loss? Is your goal to reduce camping pressure on the southern end or to accommodate greater day use such as picnicking and swimming? With any of these three goals, your suggested list of recreation area leases/closures (Table 2-9) appears to be inconsistent with your intention to redirect use to the northern end of the lake and with your stated commitment to improve northern zone boating access and lakewide bank fishing opportunities. Twelve of sixteen sites in that table are located north of Brown's Bridge. You may be considering the closure of only the picnic areas or campsites and not the boat ramps or bank-fishing accesses at these parks, but it is unclear in your text. We recommend that as many boat ramps as possible remain open.

[195]

Lastly, we believe that you have an opportunity to improve boating access to the lake by extending key boat ramps. The past several years of low lake levels demonstrated how boat ramp availability severely limited boater access. The extension of several key boat ramps around the lake would seem to be a practical and economic solution to this challenge. This recreational user need and possible solutions should be better documented in your final EIS.

Specific comments on the DEIS text follow on the attached pages. If you have any questions regarding these technical comments, feel free to contact Assistant Fisheries Chief John Biagi at the address and telephone number above. I have appreciated our longstanding cooperative working relationship with your agency's Lake Lanier staff for decades and do hope that these comments help your scientists and consultants to develop the best plan possible for managing this valued resource.

Sincerely,

David Waller

DW:lc

Attachment

cc: Mr. Erwin Topper
U.S. Army Corps of Engineers
Post Office Box 567
Buford, Georgia 30515

[194]

Because of the proximity of Atlanta and Gwinnett County to the southern portion of the lake, we agree that redistribution of use will pose a challenge. However, the redistribution of use has been proposed as one method for reducing the intensity of use of the finite recreation facilities on the southern portion of the lake. The text in the EIS has been changed to no longer include closure of recreational sites.

[195]

The depth of Corps-operated boat ramps are generally determined by lake bottom conditions (i.e., deep drop offs or other obstacles beyond the end of existing ramps).

**Georgia Wildlife Resources Division
Comments on U.S Army Corps of Engineers - Draft Environmental Impact Statement
Operation and Maintenance of Lake Lanier**

Executive Summary

- | | | | |
|--|---|-------|--|
| [196] | Page ES-4, Line 29: The minimal measures for Operations Level 1 seem to be assumed and are not clearly documented. Would this action level be similar to the no action alternative? | [196] | The minimal measures would include all the operations and maintenance activities under the no action alternative that have not been noted for improvement or change under the Preferred Alternative as outlined in Tables ES-1 and 2-13. |
| [197] | Page ES-7, Island Management: Omit the word "bank" to describe fishing activity on the islands (also on page 2-14, line 21). | [197] | Text edited to reflect comment. |
| [198] | Page ES-7, Island Management: Replace the term "wildlife sanctuaries" with "wildlife conservation areas" throughout your document to better reflect a conservation rather than preservation philosophy. This would support your intent for active timber and wildlife management programs on the project. | [198] | Text edited to reflect comment. |
| [199] | Page ES-8, Section 404 Permitting: We appreciate your efforts to improve littoral fish habitat by promoting the use of riprap, biostabilization, and sediment dredging. | [199] | Comment noted. |
| [200] | Page ES-8, Day Use Park Operations: We are concerned over the potential loss of boat ramps. See our opening remarks. We support the Belton Bridge Park plan and appreciate efforts to promote bank fishing. A list of potential bank fishing improvement sites should be considered for the final EIS. | [200] | The text in the EIS has been changed to no longer include closure of recreational sites. |
| [201] | Page ES-9, Special Events: Define "frequent" rowing events. Boat ramps are limited on the upper Chattahoochee River arm and frequent closures may have a significant local impact on other recreationists. A maximum number of closures should be considered to balance the use of this highly popular ramp. (Also mentioned on page 2-39, lines 11-13.) | [201] | The word "frequent" is being changed to read "major" rowing events. The text in the EIS has been changed to no longer include closure of recreational sites. |
| [202] | Page ES-1 1, Recreation: If there are a finite number of recreation sites, marina slips, and boat ramp parking spaces, we would not expect "increased crowding" as the effect under the no action alternative. For the preferred alternative, we have doubts whether the redistribution of lake use can be achieved. (Also discussed on page ES-13, line 31.) | [202] | Under the No Action Alternative, the potential for an additional 16,734 boat docks could lead to at least that number of additional boats. Current practices, such as mooring more boats at a dock than the dock is designed to handle, would add even greater numbers of boats on the lake. We agree that redistribution of use will pose a challenge. However, the redistribution of use has been proposed as a method for reducing the intensity of use on the southern portion of the lake |
| <u>Section 2.0: Proposed Action and Alternatives</u> | | | |
| [203] | <p>Page 2-4, Lines 12-13: The sentence should read, "When surface temperatures reach suitable levels for black bass spawning (low 60s to low 70s in degrees....)"</p> <p>Lines 17-18: Should read: "...creel surveys, <u>fish community sampling, fish tissue sampling for contaminants analysis, investigating...</u>"</p> <p>Page 2-5, Table 2-2: We appreciate the fish and wildlife management initiatives. Volunteers do help with fish shelters, so add check marks to the appropriate cells. Starting with line 9, change to "<u>DNR conducts annual goose counts, regulates hunting seasons, and assists with nuisance abatement when necessary. The Corps conducts scare tactics to disperse geese away from high activity areas. The summer 2000 Canada goose population estimate of 1,700 on Lake Lanier was below the stated minimum target level of 2,000, which is deemed unacceptable due to nuisance problems.</u>" The Corps does not capture and relocate Canada geese.</p> <p>Page 2-6, Line 1 – Change to "<u>Wildlife nest structures including wood duck and bluebird boxes are maintained annually on Lake Lanier.</u>"</p> <p>Line 2-Change to "...and remove <u>domestic</u> nonnative"</p> <p>Line 3-Change to "...hybrid <u>domestic</u> species."</p> | [203] | Text edited to reflect comments. |

- [204] Line 5 & 6-Change to "...control of domestic species, Lake Lanier...."
Line 7-Omit "As a part of wildlife management,"
Line 9-Omit "by using volunteers"
Line 12- 1. 5-Rewrite to say, "Hunting on Lake Lanier is limited because of the lake's high density off shoreline, housing and the potential for conflict between hunters and other lake users. The only hunting permitted on Lake Lanier is waterfowl, small game, turkey and archery deer hunting in Don Carter State Park along the Chattahoochee River."
Lines 16-24-Rewrite to say, "Waterfowl hunting for Canada geese and ducks is allowed during the state hunting season. All state and federal waterfowl regulations apply on Lake Lanier (see Late Season Migratory Bird Regulations). Waterfowl hunting is allowed in the following campgrounds, which are closed on a seasonal basis: Shoal Creek, Chestnut Ridge, Old Federal, Duckett Mill, Bolding Mill, War Hill, Shady Grove, Sawnee, and River Forks. Waterfowl hunting is allowed in the seasonally closed portion of the following du-use recreation areas: War Hill, Keith's Bridge, Long Hollow, Six Mile, Athens Park, Lumpkin County Park, and Bethel Park. Hunting areas are subject to change based on Corps and Georgia DNR' recommendations."
Lines 25-29-Rewrite to say, "Lake Lanier has licensed 513.5 acres to Georgia DNR to manage as wildlife habitat. Hunting is permitted in the area known as The Lula Bridge Tract. Georgia DNR also leases the 274.5-acre Corps property that is contiguous to the state-owned Don Carter State Park. Both areas are north of Gainesville along the upper Chattahoochee River."
Page 2-10, Line 5: Change to "... is a year-round trout stream that sports both wild and stocked fish. Georgia DNR..."
Page 2-14, Line 21: Delete the word "bank."
Line 23: Change to "...islands as wildlife conservation areas through..."
Add additional PMO measure-(3) Explore the establishment of archery deer hunting to control over-abundant deer populations on the islands.
Page 2-17, Line 4: Change to "Forest health, timber, wildlife habitat, air..."
Line 20-Change to "by permit. The Corps will conduct vegetation management, including timber harvest, as needed to maintain forest health and control invasive exotic species. Clearing to obtain..."
Page 2-19, Line 22: Change to "... around the lake or their placement as fish habitat."
[205] Page 2-26, Line 9: More details are needed on developing northern campgrounds in order to assess their effects.
[206] Page 2-29, Table 2-8 (Actions Proposed for Day Use Parks) - 1) It is not clear what a "staging area" is for fishing tournament events at Little Hall Day Use Area. Would this include a weigh-in station and/or fish release site? 2) Does the term "launching area" mean boat ramp? 3) Since three of these locations (Bethel, Little Ridge, and Nix Bridge) are being considered for leasing/closure in Table 2-9, a footnote denoting this is needed at the bottom of this page. 4) On boat ramp improvements, wording should include ramp extensions to mitigate for low lake levels. 5) The proposed development of a canoe and small boat launching area at Belton Bridge Park is positive.
[207] Page 2-30; line 11-12 - We appreciate the proposal to increase bank angler access and offer a draft list of sites (GAWRD Table 1, enclosed) for Corps consideration and further discussion.
[204] Text edited to reflect comments.
[205] Relocated and/or renovated camping sites will be provided in existing recreational areas. Planning for these will be pursued as funding permits.
[206] 1) In concept, a staging area at Little Hall Park would include utilizing the existing boat ramp facility and the addition of shelter, weigh-in station, and fish holding tanks elsewhere in the park. 2) Text changed to read "boat launching area." 3) A footnote to the table has been added. 4) Specific boat ramp improvements will depend on funding. 5) Comment noted.
[207] The Corps will evaluate the enclosed list of proposed sites.

- [208] Page 2-30, Lines 5-8: This measure conflicts with the goal of increasing recreational opportunity on the north end of lake. We are concerned that closing all of these parks would have a negative effect on boating access and bank fishing opportunities. For instance, at Wahoo Creek Park, the riprap shoreline at the bridge is a prime bank fishing area for crappie, catfish, white bass, and black bass. If parks are to be closed, the closure should affect day uses such as picnicking, but not public access for continued bank fishing and the use of existing boat ramps at many of these sites.
- [209] Line 13: Add PMO measure, "Promote native plantings in park areas to minimize goose problems."
- [210] Page 2-30, Table 2-9: GA WRD does not have the staff or operating funds available to consider leasing the Belton Bridge or Lula parks. Given the Corps stated goal of increasing recreational opportunities on the northern portion of the lake, and the paucity of boat ramp sites in the upper Chattahoochee River arm, we would expect these sites to be given higher consideration. The Corps should consider redirecting its proposed efforts toward establishment of an education center (Page ES-8) and focus those efforts on maintaining existing recreation sites.
- [211] Page 2-46, Line 18: For the "low lake level" category, the upper limit of 1,056 feet elevation is too low for prolonged drought conditions and high consumption rates. Lake Lanier has experienced drought conditions during the past four years and lake levels have, for the most part, remained above 1,056 feet.
- [212] Page 2-47, Line 12: Change to "...flotation materials, Promote active timber stand improvement with benefit of extra funding and better wildlife habitat."
- Section 3.0: Affected Environments
- [214] Page 3-3, Table 3-1: If the total number of 46 boat ramps represents only Corps ramps, add private and leased ramps, since the table refers to all features at Lake Lanier.
- [215] Page 3-3, Line 11: Insert the number of shoreline miles before the word "miles".
- [216] Page 3-5, Public Recreation Areas: The document states, "most of the project is considered available for limited recreational use." However, there appears to be a Corps directive to restrict recreational use at lake access points such bridges due to littering and access problems. Some of these locations (example: Bell's Mill Bridge) are prime bank fishing areas. Limiting or denying access to anglers at these unmanaged sites would have a negative effect on bank fishing opportunities. At the least, there should be documentation in the final EIS concerning any proposed actions to close these areas to the public. Protected shoreline and public recreation areas constitute about 53% of the lake's shoreline. It appears that only a small percentage of this shoreline is really accessible to bank anglers.
- [217] Page 3-6, Line 15: Excellent sentence on public access that needs to be retained in the final EIS.
- [218] Page 3-7, Tables 3-2 and 3-3: There are rounding errors in totals for shoreline allocations.
- [219] Page 3-11; Table 3-4: Should the percent values in Table 3-4 for land use be the same as percent values for land cover on Page 3-9, lines 21-24?
- [220] Page 3-21, Table 3-8: Error in overall total.
- [208] The text in the EIS has been changed to no longer include closure of recreational sites. The sites originally indicated for closure in the EIS will remain available for lease.
- [209] Line 13 comment: It is unclear as to how planting native plants would help to minimize goose problems. More discussion and information would be needed for this to be considered.
- [210] The Corps continues to propose that the Belton Bridge and Lula Park recreation sites be leased to the State of Georgia since the State already has an existing real estate agreement to manage wildlife on other project lands surrounding these parks. At these two sites, the unimpounded Chattahoochee poses physical riverine constraints that create boating needs which are considerably different from those typically provided by the Corps on the downstream Lake Lanier. For these reasons, the Corps believes the recreational boating demands at these sites are more compatible with the scope of the management program practiced by the State on the surrounding lands. Hopefully, the State will be able to program in the future the necessary resources to accept management of these two recreation sites under a lease from the Corps.
- [211] The Corps' involvement in the development of an education center would involve cost sharing. In other words, the Corps would set aside land on which to locate and build the education center. The actual construction of the center would be funded by the county in which it is located.
- [212] The range of elevations for each lake level category is based on modeled elevations presented in the ACF draft EIS. The low lake level is representative of a combination of conditions consisting of high demands on water supply, high consumptive rates, prolonged drought conditions and seasonal fluctuations.
- [213] The management actions suggested by this comment are contained within the document on pg 2-47, lines 8 through 10.

- [214] Text in table edited to reflect comment. There are a total of 83 Corps, private and community-operated boat ramps on Lake Lanier.
- [215] Text edited to reflect comment.
- [216] Due to limited Corps land, steep terrain and traffic safety issues, bridges are generally unsuitable for recreational development. The Corps has no plans to deny bank fishing opportunities at these locations. However, safety issues and access into and out of parking areas will be considered.
- [217] Comment noted.
- [218] Rounding errors have been corrected.
- [219] The text on pg 3-9 has been edited to show the correct values.
- [220] Errors in overall totals have been corrected.

- [221] Page 3-55, Line 10: This section gives the impression that Lake Lanier is heavily overused. Consider rewriting to explain that the lake is heavily overused on weekends during mild weather. For most weekdays and during the off-season, the lake is not overcrowded. In an effort to control summer weekend problems by limiting some permanent access points, the Corps may unnecessarily impact "off-peak" lake users.
- [222] Page 3-59, Line 2: Whose regulations protect the lake buffer? If it is a Corps regulation, then increase the amount of your fine or demand in-kind replacement of the vegetative buffer to protect public property from private encroachment.
- [223] Page 3-61, Line 1: Establish objectives or goals for non-forested land to allow you to write a plan to meet them.
Line 10-Delete sentence "Big game hunting is not a major activity on lands adjacent to the lake." This sentence is in error.
Line 11-Change to "occurs on the lake in September, November, December....."
Page 3-61, Line 22 - Omit "yellow perch" as a popular sport fish species in Lake Lanier and move the term to Line 24.
Page 3-16, Line 24 - Inserted "blueback herring" in place of "minnows" in sentence.
- [224] Pages 3-61 (Lines 26-30) and 3-62 (Lines 1-2): Contain many inaccuracies. Replace with: "In the mid 1960s Georgia DNR established a two-story coldwater trout fishing in the lake (Weaver and England 1982). Annually stocked rainbow trout (*Oncorhynchus mykiss*) survived in the deep, cold oxygenated zone not normally occupied by warmwater species, and thus improved the quality of the sport fishery. The trout stocking program, however, was discontinued in 1987 after it became apparent that the lake could no longer support significant trout survival through the summer stratification period, when dissolved oxygen levels dropped too low in the metalimnion and hypolimnion. Stripe bass can tolerate slightly warmer water temperatures and slightly lower dissolved oxygen levels than trout, and have since filled that cool water niche. The current striped bass fishery is sustained through annual stockings of fingerlings produced at GAWRD hatcheries. As a result of hypolimnetic releases from Buford Dam, a significant trout fishery does occur in the first 45 miles of the Lake Lanier Tailwater. The trout fishery is sustained through stockings of hatchery-raised fish By GAWRD and the US Fish And Wildlife Service to accommodate high angling pressure. The federal stockings are considered mitigation for the negative effects of the Buford Dam Project on the native fish community and sport fishery."
Page 3-72; line 21 - Insert "roadway bridges" as potential spill sites.
- Section 4.0: Consequences
- [225] Page 4-6, Line 5: "Wildlife habitat around the lake would continue to decline as more homes were built." More significant access improvements or recreation areas built on the northern end of the lake could also degrade wildlife habitat.
- [226] Page 4-7, Lines 13-28: These are broad, optimistic statements that may or may not be supported by your analyses. Some of your conclusions regarding boating and dock density as a result of the preferred alternative seem to be well supported. Some of your other determinations, however, are not. For
- [221] The text in the EIS has been changed to no longer include closure of recreational sites. The sites originally indicated for closure in the EIS will remain available for lease.
- Text has been revised to reflect greater use of the resources during the weekends.
- [222] The Corps' regulation as described in the Shoreline Management Plan protects the lake buffer. Options are being considered to increase the level of protection afforded to the lake buffer. There is currently a regulation for in-kind replacement using native vegetation, but enforcement has not always been successful
- [223] The Corps has prepared a 5-year Operational Management Plan that addresses the management of all lands, forested and non-forested, on Lake Lanier. This plan specifies management goals and objectives and is updated annually.
- [224] Text edited to reflect comments.
- [225] Agree. The construction of addition recreation areas and associated access improvements would have some effects on wildlife habitat. Therefore, the Corps would take great care in their design to minimize habitat destruction. Development of private lands surrounding Lake Lanier will undoubtedly adversely impact wildlife resources.

- [226] cont. example, if boat ramp facilities were indeed increased on the northern end of the lake, recreational users may benefit. However, the only specifics in the document suggested that some northern boat ramps may instead be closed. If recreational developments were extensive on the northern end, terrestrial wildlife habitat could suffer, instead of benefit, as you claim. The level of expected disturbance is undefined. The statement, "Expanded opportunities for rafting, kayaking, and canoeing" seems to be supported in the text only by the suggestion to build a canoe ramp at Belton Bridge, which is on your list of sites to be leased or closed. Therefore, that conclusion appears weak. Once again, we are also somewhat skeptical of the conclusion that recreational effort can indeed be redistributed more evenly across the lake. Consider a more careful analysis of your preferred alternative.
- [227] Page 4-15, Line 14: Specifics are needed.
- [228] Page 4-32, Table 4-7: The statement, "Developing both the northern and southern portions..." is not a "no-action alternative." "No action" would consist of leaving the northern end alone, and possibly assigning visitor quotas to your southern recreation sites because you would not develop them any further.
- [229] Page 4-33, Lines 3-15: Excellent analysis.
- [230] Page 4-35, Table 4-8: A small marina at War Hill Park, with fuel pumps, would likely benefit northern lake users and DNR Law Enforcement patrols. A large marina could accelerate congestion and user conflicts in this lake section.
- [231] Page 4-38, Line 17: This sentence is confusing.
Line 20: Is the problem the amount of the fine or limited staff resources to enforce the regulation?
Lines 24-26: These sentences lend support to maintaining sport hunting as a recreational activity on the project.
- [232] Page 4-42, Table 4-10: This table should include an assessment of recreational development on the northern end of the lake.
- [233] Page 4-50, Lines 10-18. The water quality data used in Appendix J are too sparse and were collected during different months, which negates much comparability. Therefore, conclusions on water quality trends based on these analyses are weak. We are most concerned with the impression given that dissolved oxygen in Lake Lanier may increase over time. An important factor in the biological health of Lake Lanier and its tailwater is the dissolved oxygen level in the metalimnion and hypolimnion, not simply the oxygen level in surface waters. The cool water habitat for striped bass in the lake and for trout in the tailwater depends on the maintenance of dissolved oxygen in the deep, winter-stored water through the summer and fall. This concept should be discussed more thoroughly in the document. Granted, the effects on lake oxygen levels from the no action or the preferred alternative are very minor when compared to effects of watershed inflow, so a comparison between alternatives should not show a significant difference. The concept of oxygen demand in deeper layers of the lake should be presented in the EIS to highlight the importance of watershed protection and nutrient management in maintaining the ecological health of the lake.
- [234] Page 4-52, Lines 29-30: Change to "...deer that currently exceed normal carrying capacity in certain locations."
- [226] Because of the proximity of Atlanta and Gwinnett County to the southern portion of the lake, we agree that redistribution of use will pose a challenge. However, the redistribution of use has been proposed as one method for reducing the intensity of use on the southern portion of the lake.
- [227] Specific information on the funding of development in the northern area of the lake is not available at this time.
- [228] The no action alternative includes the potential for development of recreational areas in the northern and the southern portions of the lake as described in the Master Plan. Actual development of facilities would be based on availability of funding and need.
- [229] Comment noted.
- [230] Users of the northern portion of the lake have expressed a need for marina services. However, the proposed leasee has indicated that there is no longer an interest in War Hill Park. Consideration needs to be given to the size of any marina that might be developed in that area of the lake.
- [231] Text has been edited to eliminate confusion. Penalties imposed for the illegal cutting of vegetation have been largely unsuccessful because the fine for minor violations is relatively insignificant. In addition, there are limited staff resources for enforcement. For many residents, the fine is insignificant. The Corps is currently instituting alternative methods to obtain compliance, such as revocation of Shoreline Use Permits for noncompliance.
- [232] Text was revised to assess impacts resulting from recreational development on the northern end of the lake.

- [233] There was a statement at the beginning of the Appendix J that the data is limited and that only generalized statements may be made. With that qualifier, the results of the modeling effort showed that the range of DO concentrations has increased (swings from high to low concentrations) which is an indication of possible increased productivity (eutrophication). When there is increased productivity in the epilimnion, depressed DO concentrations occur in the hypolimnion. There is no trend other than widening of the range in DO concentrations. There is no increasing trend DO concentration in Lake Lanier. There was the error on page 4-50, line 9-10 claiming an increase in DO. Sentence has been edited to read:
“Development would have the most direct influence in creating adverse effects to water quality due to decrease in concentration of dissolved oxygen and increases in concentrations of total phosphorus, and total nitrogen.”
- [234] Text edited to reflect comment.

Appendix H: Modelin

[235] Page H-11: It is hard to believe that the dissolved oxygen concentration in the bottom of the lake is 12 mg/l, as stated.

Appendix J: Water Quality

[236] Page J-1: The "lumping" of water quality data may be too simplistic of an analysis in this case and may lead to errant conclusions.

[237] Page J-2, Physical Characteristics: We suggest that you write "state" water quality standard if that is what is implied.

[238] Page J-4: Chestatee River Headwaters - the two water quality stations are too dissimilar to allow their grouping to assess water quality in this lake section.

[239] Pages J-8, J21-26: See our comments regarding page 4-50.

[240] Page J-27; Station 12040001 - The document states that no dissolved oxygen data are available for this sampling site. However, dissolved oxygen data are recorded for this station in the tables J-2, and J-9.

Table 1. Potential sites on Lake Lanier for new or improved bank fishing access.

Enhancements for shoreline fishing may include adding trails to non-accessible areas, improving existing roads that are now gated, adding fish attractors/fish habitat and fishing piers.

1. Charleston Park
2. Thompson Creek Park
3. Lumpkin County Park
4. Robinson Park
5. Longwood Park
6. Clarks Bridge
7. Mountain View Park
8. Lake Lanier Islands
9. Lanier Point Park (island peninsula/COE land)
10. Chattahoochee River Park

[241] Non-recreational park sites where access and fish habitat can be enhanced.

1. Six-Mile Creek Bridge (riprap areas)
2. McEver Road at Flowery Branch Road crossing
3. Browns Bridge (Hall County side)
4. Cove upstream of DNR office on Highway 53 (old roadbed)
5. Limestone creek along Highway 284
6. Mud Creek above Belton Bridge
7. Bells Mill Bridge area
8. Wahoo Creek Bridge (riprap areas)

[235] This statement was an error and has been deleted.

[236] The limited amount of data restricts the use of any higher level of analysis.

[237] Text edited to reflect comment.

[238] Station 2333500 is a riverine station. Station 12036501 that is located at the top of the Chestatee River Arm of Lake Lanier experiences lake effects. Although the stations are dissimilar hydraulically they can be used to assess the water quality of the Chestatee River when it enters Lake Lanier.

[239] See response to comment for pg 4-50.

[240] Text has been changed to read:
 "The range in dissolved oxygen has remained comparable. Both phosphorus and nitrogen concentrations have increased, and pathogen levels have decreased."

[241] The Corps will evaluate the list of proposed sites.

[241 cont.]

9. Squirrel Creek at Highway 60
10. Back of Ada Creek
11. Sardis Creek at Sardis Road
12. Johnson Creek at Chestatee Road
13. Thompson Creek at Highway 53
14. Two Mile Creek Bridge (west side)

The following comments were submitted via e-mail through the online comment form on the Lake Lanier EIS web site (www.usacelakelaniereis.net). These electronic comments appear below, in alphabetical order by last name of the commenter, exactly as they were received. Anonymous comments are provided at the end of the table.

Commenter ID No.	Comment ID No.	Comments	Responses
Charline Acosta	242	<p>Will boats be able to moor to platform docks? Ex. I have a 18 foot boat but my platform dock is 12x10.</p> <p>The ranger on scene was unsure how that would be handled.</p> <p>I want to be able to continue mooring my boat to my platform dock. I was advised when I applied for the dock permit that I would be able to moor a boat there and bought a boat based on that information. In my situation, living on the lake and keeping my boat in the water, I do not use the lake during heavy traffic time. It more appealing to me to go out a hour or two during low use times and if I get out and the crowds are there it's no problem to come back home. If I was burning time putting in and taking out at a ramp I would be more incline to stay on the lake to make the travel to/from the ramp worth wild.</p>	Yes. See SMP sec 15.2 Site Requirements page 17.
Tommy Bagwell	243	I have had a 100' boat at a private dock on Lake Lanier since 1975, and considering the great expense of building a new heavy dock in 1999, I would request that my boat be grandfathered.	All Shoreline Use Permit/Licenses are issued for a maximum of a five-year period. The permit may be reissued when the current term expires if the permitted facilities and uses of public land are in compliance with the conditions of the permit. When reissuing permit privileges, prior permitted activities were often "grandfathered".
	244	On this next point I may sound a little belligerent, so I will first point that I have been a great friend to the corps., to the govt, to charities, and to the community by allowing my vessel the Amistad to be used for vip tours, promoting north Ga., rasing money for charity, as well as rewarding people for public service. Having said that I would like to bring up the issue of the 1085 line that is involved in the flood easements. I have talked with people that were not allowed to build a pool on their own property. why? I have talked with people who were told they could not build a driveway on their own property why? Also the poor lady on six mile creek who had her home condemned on her own property just because it was below the 1085' line, was this true? If the issue is that the corps. might get sued, then the property owner could be req. to sign a release.	In some areas where the flood elevation occurred on private property, a perpetual flowage easement was purchased. These lands remain private property, but have restrictions placed on their use. A flowage easement is a real property interest that allows the Corps to occasionally flood private property. This restricts the private owner from constructing habitable structures and prohibits alteration of the existing contour. The Corps can evaluate specific requests for the construction of facilities within flowage easements. Facilities that do not comply with the rights purchased cannot be authorized.
	245	Regarding set backs: I would strongly support the corps. right to insist on the removal of someone's deck or any thing built on govt. property. However I will strongly oppose any efforts to legislate set backs from public property.	Comment noted.
	246	The amount of lake frontage and amount of open water (ie. not a narrow cove) on a person's property should be considered when regulating the size of boat allowed at a dock. For example a 100 ft. boat on a property with in 1000'of frontage on open water, presents less of a problem than a 30 ft boat on a 100' lot in a narrow cove.....By the way my property has well over 1000' of frontage.	Text in the SMP has been changed to read as follows: "In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities. All vessels moored at private docks must belong to the permittee and in no case shall a vessel be moored to another vessel."

Commenter ID No.	Comment ID No.	Comments	Responses
	247	The taking away of a dock permit could amount to a hugely excessive fine for a minor infraction. To explain: a lot with no permit vs one with a permit could be worth 100,000 dollars less money. so if a person cut one small tree and lost their permit it could cost them 100,000dollars. I would strongly urge the corps. to have some way of defining the degree of damage that would result in some type of penalty that would reflect or match the seriousness of the offence.	Numerous options exist in the enforcement of permit issues and violations of federal regulations. The revocation of permits is just one of them.
Mike Burgess	248	I agree that we should limit the number of docks to the approximately 10,100 as proposed. Preserving the lake and the much of the remaining natural shoreline is important. It would also enhance navigation and safety on the lake.	Comment noted.
Al Burns	249	I have been fishing Lanier for many years. It has got to the point that there is too much boat traffic on weekends and it is too dangerous to fish. I think there needs to be size limits and speed limits on the lake. When I go out fishing on a Monday, the water is full of bottles, cans and other trash from the weekend users I see high speed racing boats running 60-70 mph at night. There needs to be more patrols, night and day on weekends. Let the boaters pay for it in launch and docking fees. This would help pay for clean up too.	<p>The Corps does not have the authority to regulate the size of boats on the lake, and speed is regulated by the DNR. The intensity of patrolling is influenced by manpower and funding limitations for both the Corps and GA DNR.</p> <p>Volunteers routinely conduct shoreline clean-ups around the lake. The Corps does not have the manpower nor the funding to routinely pick-up trash in the waters of the lake.</p>
	250	I agree that there are too many boat docks but, they do provide cover for fish. I catch some nice ones under them. However, there are far too many in disrepair or abandoned. These are eyesores and a hazard to navigation when they break loose. I think the Corps of Engineers should vigorously enforce the removal of abandoned docks, and the upkeep of docks. I think all docks regardless of age should be made to replace the floats to the ones that are sealed in black plastic. I see a lot of styrofoam pellets floating in the water and the shores will be white with the pulverized styrofoam.	The proposed Updated SMP incorporates an inspection program intended to improve the condition of private docks by identifying deficiencies needing correction. See SMP sec 15.4 page 25.
Jesse Carter	251	I am opposed to any restrictive changes to permitting boat docks. The land my family owns has been in our family since before the lake was built. The land, held as an investment, was capable to have a boat dock for each buildable lot if the shoreline and water depth permitted. The new plan is in effect private condemnation of a lake owners previous rights or privileges. One could quite possibly prove, if necessary, that the lake level has been intentionally kept below 1063 thru releases to other lakes to prevent additional boat dock permits from being issued until this EIS study becomes law. I agree that environmental issues are a concern but assert that lake lot owners have a vested interest and are not the culprit. On numerous occasions I have seen municipalities grade and move dirt without silt fences or other protective measures. I understand they are exempt from the standards that are imposed to everyone else. My issue is simple. Lake Lanier's health is not negatively impacted by boat docks but rather by irresponsible actions of municipalities and land developers (SILT).	<p>The development of private property is beyond the Corps jurisdiction. It is the Corps responsibility to manage the resources entrusted to it. The no action alternative would allow over 25,000 docks on the lake, which could degrade the lake and public property. The preferred plan would limit the total number of docks allowed on the lake in the interest of preserving the quality of the lake's resources for the benefit and use of the public. The preferred plan, which would limit the number of docks on the lake, is consistent with Corps regulations to protect the quality of the lake's resources for the benefit and use of the public.</p> <p>Lake levels are controlled by many factors one of them is not issuance of private dock permits.</p>
	252	If we are truly concerned about the lake, let spend our efforts in productive areas: 1. A lake dredging program. 2. Prevent waste water discharges into Lanier. If they claim it is clean enough to be put back into our drinking water source; then why pump it back into the lake, tell them to recycle and drink it!	Comments noted.

Commenter ID No.	Comment ID No.	Comments	Responses
Dave Casper	253	<p>As a Realtor in the area, I am concerned about the economic impact of the proposed changes concerning boat docks. First is the proposal to reduce significantly the number of new boat docks permissible. When selling a lake front lot without a dwelling, the ability to have a boat dock substantially increases the selling price of that lot (by 200% or more in most cases).</p> <p>With the amount of land around the lake potentially available for sale, if many of the lots are reduced in value due to inability to get a boat dock permit, this will contribute to the already slumping economy. I would ask that the boat dock permitting process remain as is.</p> <p>Secondly, the proposal to require community docks in all new subdivisions will have a similar effect on lowering the value of lots, though not as drastically. I would ask that this requirement be on a case by case basis, rather than for all new developments. Thank you for your consideration.</p>	<p>Comment noted. However, the purpose of this plan is to protect the project for the general public for years to come. As a public agency we cannot sacrifice that goal to preserve the speculative value of adjacent private lands.</p>
Maurice Chapman	254	<p>Grass and weeds will survive without fertilizer but not without sunshine. If existing grassy areas on corp land is not mowed, it will become thick with small trees. Within a few years the grass will not have enough sunlight to survive. Without the existing grass, more soil erosion will result.</p> <p>Ban the use of fertilizer and pesticides on Corp land but continue to allow mowing to help control soil erosion.</p>	<p>Because grass is not a high quality vegetative buffer, it is project policy to restore grassy areas to a more natural state. When such areas are not maintained and woody vegetation has reestablished itself this portion of the permit will not be renewed. During changes of ownerships minimization of permitted mowed areas will be encouraged to help protect the lakes water quality. Natural vegetation will provide sufficient protection from erosion.</p> <p>Broad uses of chemical agents such as pesticides are not authorized on Corps lands. Chemical products such as pre-emergence, weed killers, fertilizers, growth retardant, etc., may not be used on public lands. However, some topical application to control noxious or nonnative species may be allowed under rigid control via a Specified Acts Permit. The use of such products on private property must not affect adjacent public lands or waters.</p>
	255	<p>Reduce the number of existing boat docks by not allowing any one household to have more than one private boat dock.</p>	<p>In the current and proposed SMP permits are limited to one per household membership. This does not preclude an individual from purchasing properties with existing permits.</p>
Grena Chapman	256	<p>Grass and weeds will survive without fertilizer but not without sunshine. If existing grassy areas on Corp land is not survive. Without the grass, more erosion will result.</p> <p>Ban the use of fertilizer and pesticides on Corp land but continue to allow mowing to control erosion.</p>	<p>Duplicate comment. See response to comment no. 254 above.</p>
Tom Corbin	257	<p>Don't incorporate "zero tolerance" into program, but allow the Corps to use judgment for exceptional circumstances.</p>	<p>It is not clear to what this comment refers. A search of the document for the phrase 'zero tolerance' yielded no results.</p>

Committer ID No.	Comment ID No.	Comments	Responses
	258	I note a set maximum number of docks are proposed. Use this as a projected upper limit, but don't consider this a hard number. Permit docks based upon the conditions of the shoreline for each request and not on linear feet of shoreline. Note that a convex shore can accommodate more docks than a concave shore.	The methodology used to determine the number of potential boat docks as described in Appendix D is based upon guidance found in ER 1130-2-406 which states: "The density of facilities will not be more than 50% of the Limited Development Area (LDA) in which they are located. Density will be measured by determining the linear feet of shoreline as compared to the width of facilities plus associated moorage arrangements which restrict the full unobstructed use of that portion of the shoreline."
	259	Regarding septic tank certifications; if implemented, in addition to County Health personnel to certify systems, allow other qualified individuals e.g., septic system installers or civil engineers or soil scientists. Possibly, allow a copy of an invoice that the system has been cleaned and inspected.	A number of alternatives for septic tank certification are currently being considered, including those mentioned in the comment.
	260	1) Allow mowed areas to remain. 2) Encourage but not require vegetative or structural shoreline stabilization as a requirement for dock permits. Perhaps reduce the permit cost if improvements implemented.	1) Because grass is not a high quality vegetative buffer, it is project policy to restore grassy areas to a more natural state. When such areas are not maintained and woody vegetation has reestablished itself this portion of the permit will not be renewed. During changes of ownerships minimization of permitted mowed areas will be encouraged to help protect the lakes water quality. 2) Shoreline stabilization measures (riprap) may be required with the issuance of new permits that require fixed steps or are located on sites already significantly affected by erosion.
	261	Allow (encourage?) clearing of nuisance vegetation such as poison ivy and honeysuckle.	Some topical application of pesticides to control noxious or nonnative species may be allowed under rigid control via a Specified Acts Permit.
	262	With growing population, additional campsites in the north end of the lake will be welcome, however, do not close existing sites at the south end of the lake. The south end has more water surface area per linear foot of shoreline and can support more people.	The text in the EIS has been changed to no longer include closure of recreational sites.
	263	Not sure what category this falls into or what if anything should be done, but just a note that large cruisers (maybe 40 feet and up) create huge wakes that erode the shoreline and can damage docks and moored boats.	The Corps agrees that wakes have the potential to erode the shoreline. State law requires idle speed within 100 feet of all ramps and 'no wake' zones are also posted around ramps and marinas.
	264	Additional lake accessible restaurants would be welcome - especially at the north end of the lake.	The public has indicated the need for services such as fuel service, boat storage, restaurants, etc.

Commenter ID No.	Comment ID No.	Comments	Responses
Frans De Vliever	265	<p>Currently there are problems with how the Corp or Engineers issue dock permits and shoreline management. We own property in a yellow area and of course we cannot get a dock permit. However, the yellow or "green" area on and around our property is nothing more than a rats nest full of beetle infested pines and deep undergrowth laced with garbage. We do not believe this is how the original designers saw the lake. We suggest permits be issued in a new manner. Issue permits for community docks only - allowing docks with 4 to 20 slips. These docks should be built and maintained to corps standards. In return for the dock permit, communities would be required to clean shoreline areas, replant trees and other natural vegetation, provide bird feeders and other items that the corps feels will bring back the natural beauty and wildlife around the lake. We were told by a member of the corps at the public meeting on 11/25/02 "that mother nature will take care of the shoreline". That reflects how out of touch we all are about this beautiful area, we expect everything to magically get fixed. Without the corps and the community working together nothing will improve. If a proactive approach is not taken, let us assure you that our children will be confronting the same issues 20 years from now. As a side note we feel the meeting last night was to give the locals a chance to talk so they will feel better. This will keep them quit for a little while. Sometimes the corp acts as though the public is the enemy. Folks let us remind you that working together is the only answer. Judging from the look of the shoreline and condition of the water the corps needs the help of all to correct the problems on Lake Lanier.</p>	<p>An important environmental stewardship goal of the Corps is to manage the lands surrounding Lake Lanier in such a manner as to provide natural habitat typical of the north Georgia region. This means that a variety of conditions will be periodically experienced and observed by lake visitors on project lands that are created in response to the effects of disease, weather, and aging of natural ecosystems. However, the accumulation of trash and other debris of anthropogenic origins on project lands is an undesirable condition. The Corps agrees that it is important to develop effective working relationships with local communities, organizations and adjoining properties. To this end, the Corps regularly participates in numerous activities that are beneficial to both the lake and the surrounding communities. One of these is the annual "Shore Sweep" of Lake Lanier's shoreline to remove unsightly debris. The Corps welcomes the assistance of all volunteers in this and other similar programs that enhance the aesthetic quality of the lake.</p>
James Dekle	266	<p>Septic Systems – Requiring any adjacent property owner seeking to renew a Shoreline Use Permit for a private boat dock to indicate whether his or her residence uses a septic system that is located on public property above elevation 1,085 feet MSL. If so, the property owner must show proof that the septic system tanks were inspected and certified that the system has been pumped out at 5-year intervals and is functioning properly. County Health Department officials can provide this certification upon request. In addition, all septic tanks below 1,085 feet MSL on public property will be removed. Page ES-7, Table ES-1 Issues:- "The LLA strongly supports standardization for the inspection of septic systems. Should the Corps verify whether or not these systems are on Corps Property" I agree with the position of the LLA.</p> <p>I do not believe there is any logic nor is it right to tie these provisions to the permitting process. Each needs to stand on its own and be something that the owner can challenge on its own merits, not something that can be used to coerce compliance. What would you propose the homeowner do if he disagrees - pull his dock out and put it in his front yard while appealing? Lots of problems with your solution.</p>	<p>Comment noted.</p> <p>Homeowners must provide septic system certification documents from the County Health Departments. If the system fails to pass county inspection and replacement is required then the homeowner must comply with the county requirements to replace the septic system on private property.</p>

Commenter ID No.	Comment ID No.	Comments	Responses
	267	<p>In reference to: 15.3.14 Furniture, Decorative Items and Garden Plants, Etc.</p> <p>I believe there is no sound reason why a chair should be permitted but a hammock not permitted as a piece of furniture. Both are removable, both can be used to sun oneself and no one would consider a hammock evidence of permanent habitation. It's just stupid government regulation.</p> <p>In respect to the banning of security cameras, what possible logic could there be for that? Many find that this type of system is helpful in monitoring their children on the dock, watching their boat, etc. If you will allow a telephone, then why not video device? More bureaucratic nonsense. If the intrusion is no more intrusive than a jet ski, a telephone, a chair or a hydrohoist, then why not permit it? Has there ever been any incident where a video system on a dock has been a problem? How about a boat burglar alarm?</p> <p>Let's remember the users are supposed to use their docks!</p> <p>I would like to make it clear that these comments are my own personal ones and do not necessarily reflect the opinions of any organization or business.</p>	<p>Hammocks are typically tied to the dock structure over narrow walkways and effectively limit access where located.</p> <p>Lake visitors have the right to be free from any type of electronic surveillance while recreating on public property.</p>
	268	<p>Encouraging those with grandfathered authorization to mow to cease mowing project lands. Page ES-6, Table ES-1: I disagree with this as mowed grass has been an accepted method of erosion control, requiring people to change long established practices without compensation is just wrong. This is particularly true when taken in the context of the huge damage done by sewage and sewer discharge of added nutrients like phosphates the Corps is strangely silent about!</p>	<p>There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than grass. See Section 19, <i>Buffer Zones</i>, of the SMP.</p>
	269	<p>Requiring that owners plant natural vegetation or install riprap or other shoreline or bank stabilization measures when applying for a new Shoreline Use Permit, renewal of a Shoreline Use Permit for a private dock or community boat dock, or upon granting or renewing USACE out-grants. Page ES-7, Table ES-1.</p>	<p>Text indicated in comment and located in Tables ES-1 and 2-13, and pg 2-9, lines 10 –15 has been changed to read as follows: "Shoreline stabilization measures (riprap) may be required with the issuance of new permits that require fixed steps or are located on sites already affected by erosion." The installation of riprap will not be required for all permits. See Section 15.2, <i>Site Requirements</i>, of the SMP.</p>
	270	<p>This is a burden that should be shared by all users of the lake, including water withdrawal permits by municipalities downstream. Why doesn't the Corps seek a tax and use permit for all boaters and swimmers and a water removal and discharge fee to municipalities to fund these improvements? Asking property owners to do it is irresponsible and impractical as many may not be able to afford it.</p>	<p>This requirement is to offset erosion directly related to issuance of individual shoreline use permits. Therefore the cost of any erosion control measures should be borne by the individual permittee.</p>
Art Domby	271	<p>A set standard of 1085 above MSL for proof of proper operation of septic systems (page ES-7, Table ES-1) should have alternate standards based on distance from lakeshore. In other words, 1085 above MSL or XXX distance from lakeshore at full pool should be the standard. XXX should be set by knowledgeable hydrologists, taking into consideration the typical soil characteristics around the Lake.</p>	<p>The objective is to manage septic systems encroaching on public property and to eliminate the flood hazard to septic systems. Elevation is the controlling factor in a flood and not the distance from waters edge. An elevation of 1085 is the top of the flood pool.</p>
	272	<p>Mowing, clearing and thinning of vegetation, as well as fertilization and herbicide applications, should be prohibited on project lands. (Page ES-6, Table ES-1). Unaltered project lands can serve as a better filter for runoff and eliminate nutrient/herbicide loads.</p>	<p>Comment noted.</p>
	273	<p>An effective enforcement program should be developed for violations of Project regulations, including forfeiture of permissive uses (e.g. revocation of dock permits for repetitive violations of significance).</p>	<p>Comment noted.</p>

Committer ID No.	Comment ID No.	Comments	Responses
	274	Current standards, combined with a limit on additional docks and community docks for residential subdivisions, should address the issue of total docks (and associated uses/water quality impacts). Conversion to community docks is problematic due to existing land use patterns around the Lake. COE should work with Counties to implement County-based zoning/rezoning/overlay district restrictions.	The Corps has worked with counties in the past to resolve property problems and will continue in the future.
John J. & Christoph Durand	275	<ul style="list-style-type: none"> The proposed regulations regarding the maximum number of additional dock permits to be issued favors the immediate race of developers and landowners for securing dock permits. Such a race would encourage development rather than control it and would be counter to the desired outcome. It would also allow all the allocated permits to be used up on a first come basis while penalizing property owners who have held and conserved their lakeside property for years in its natural state and would like to continue to do so without losing the ability to benefit from a controlled, dock permitable, development in the future. Certain adjacent owners may wish to develop their frontage after all the permits have been issued, and though their lots have met or exceeded all the necessary criteria for obtaining dock permits, would be precluded from doing so. The EIS and/or Boat Dock Capacity Study does not adequately address this issue. 	The new requirements are made for the benefit of the resource and not to benefit one group of property owners over another, although ultimately all adjacent owners and lake users will benefit from the results of a long range plan and controlled shoreline development. Boat dock permits are issued on a first come-first serve basis.
	276	<ul style="list-style-type: none"> Placing a limit on the total number of dock permits to be issued will change the development characteristics of adjacent property. The EIS assumes that if boat docks are not permitted, adjacent land will not be developed (EIS Section 4.2.1) and further states that conversion of forestland to residential lots can increase pollutant loadings (4.2.1.1). There is no basis for this assumption as adjacent property will still be developed, possibly at a faster rate due to a greater number of lower priced lots resulting from the elimination of frontage restrictions necessary to obtain dock permits. As soon as the dock permit limit is reached, lakeside developments will be based on density of housing rather than density of private dock facilities. Without the larger lots that almost always result from private dock permit allocations, the shoreline will be burdened more severely due to denser adjacent development and uncontrolled use. The EIS and/or Boat Dock Capacity Study does not adequately address this issue. 	The development of private property is beyond the Corps jurisdiction. It is the Corps responsibility to manage the resources entrusted to it. The no action alternative would allow over 25,000 docks and inarguably future degradation of the lake and public property as a result. The preferred alternative may well encourage high-density private development. However, the adverse impacts of such development could be reduced by effective erosion control, storm water management and improved vegetative buffers.
	277	<ul style="list-style-type: none"> The Private Boat Dock Carrying Capacity Study shows no justification for placing a cap on the number of private boat docks. The study failed to report any negative environmental impact resulting from boat dock use other than scenic attractiveness. Page 31 of the capacity study states however, "Conceivably, docks well integrated into a landscape could improve scenic attractiveness." Such a cap on number of docks allowed could have devastating economic repercussions to long time large tract owners. The EIS and/or Boat Dock Capacity Study does not adequately address this issue. 	<p>The methodology used to determine the number of potential boat docks as described in Appendix D is based upon guidance found in ER 1130-2-406 which states:</p> <p>"The density of facilities will not be more than 50% of the Limited Development Area (LDA) in which they are located. Density will be measured by determining the linear feet of shoreline as compared to the width of facilities plus associated moorage arrangements which restrict the full unobstructed use of that portion of the shoreline."</p> <p>This study, and the related regulation, do, in fact, provide justification for the cap on the number of private boat docks.</p>

Committer ID No.	Comment ID No.	Comments	Responses
	278	<ul style="list-style-type: none"> No consideration has been given to long time adjacent property owners who have preserved their property undeveloped allowing all to enjoy while still paying highest and best use property taxes based on future potential with private boat docks. Not a single focus group (or members of any focus group) represented large tract owners with permissible frontage. The value of their property is directly proportional to the ability to obtain private boat dock permits and will see severe negative impacts as a result of the elimination of this development potential. The EIS and/or Boat Dock Capacity Study does not adequately address this discrimination issue. 	<p>The new requirements are made for the benefit of the lake's resources and the general public and not to benefit one group of property owners over another. Although ultimately all adjacent lake owners and lake users will benefit from the results of a long range plan and controlled shoreline development.</p> <p>Boat dock permits are issued on a first come-first serve basis without regard to speculative value. Focus group members were selected from a wide range of lake interests including numerous experienced developers of adjacent residential communities. It is believed these individuals represented the interests of property owners and the value issues associated with adjacent property.</p>
	279	<ul style="list-style-type: none"> The Private Boat Dock Carrying Capacity Study shows no justification for favoring community boat docks over private boat docks. Though community docks may be favorable in some situations, their use or non-use should not be dictated in the SMP as such stipulations could have huge repercussions on adjacent land values. The currently proposed SMP states that community docks are to be required in all new residential developments. The EIS and/or Boat Dock Capacity Study shows no justification for such a requirement. Existing regulations on dock use and application should suffice provided they are based on sound engineering and environmental principles. The EIS and/or Boat Dock Capacity Study does not adequately address this issue. 	<p>Lake Lanier's LDA is near saturation (per ER 1130-2-406) with regard to private boat docks. Community docks provide a reasonable alternative. Community dock developments focus lakeshore use into the most favorable locations to provide boat storage while protecting public land and general public interests. Community facilities also provide access to the lake to a greater number of residents in a cost effective manageable permit process.</p>
	280	<ul style="list-style-type: none"> No consideration has been given to the fact that private boat dock owners have a vested interest in maintaining their adjacent portion of the shoreline as well as the entire shoreline in general. Example in fact is the many lakeshore clean up days organized by lakeside property owners, subdivisions, and lakeside property owners' organizations. The trash they are cleaning up has been littered by non-vested lake users. The EIS and/or Boat Dock Capacity Study does not adequately address this issue. 	<p>The Corps of Engineers manages the lake for all users. It is commendable that adjacent landowners would perform such activities as you describe but it is also true they reap the benefits from owning property adjacent to the lake and it is in their self-interest to support such activities. The Corps annually spends a greater portion of its budget cleaning up boat dock related debris than does it spend on the removal of trash in parks left by a much greater number of users. Abandoned boat docks and floatation are routinely removed from the lake at taxpayer expense.</p>
	281	<ul style="list-style-type: none"> The assumption has been made that private boat docks are more harmful to the shoreline than community docks and that adjacent development without boat docks will require less control for shoreline management than development with boat docks. There are regulations that private boat dock owners must adhere to in order to preserve their rights to such a permit. Such is not the case for non-dock owners and will likely be harder to enforce for community dock or courtesy dock users. Higher use by non-dock owners could increase erodible trails, unauthorized cutting of vegetation, uncontrolled use of motorized vehicles, shoreline clutter, and generally lower quality development. The EIS, proposed SMP, or Boat Dock Capacity Study does not adequately address this potentially negative environmental issue. 	<p>Experience with private dock permitting has revealed that an excessive amount of time is spent correcting violations with individual permittees. Community dock permits adhere to the same requirements and Code of Federal Regulations but allow additional penalties from the Homeowners Association utilizing neighborhood covenants and restrictions to preserve the privilege to such a permit. Additionally with a community dock a small section of the shoreline is affected while private docks can be spread out over extended parts of the shoreline.</p>

Committer ID No.	Comment ID No.	Comments	Responses
	282	<p>•Restricting future private boat dock permits will have extreme effects on property values for owners all around the lake. Real estate values will drop for property no longer eligible for private boat dock facilities and will increase for those properties currently maintaining permitted boat docks. This shift in property values could be devastating for certain property owners while producing an unfair windfall for others. The EIS and/or Boat Dock Capacity Study does not adequately address this issue.</p>	<p>The new requirements are made for the benefit of the resource and not to benefit one group of property owners over another, although ultimately all adjacent owners and lake users will benefit from the results of a long range plan and controlled shoreline development. Boat dock permits are issued on a first come-first serve basis without regard to speculative value.</p>
	283	<p>•No consideration that fewer private docks could lead to increased use of larger vessels (houseboats, cabin cruisers, etc.) moored at marinas. Such larger vessels create much larger wakes even at idle speeds and are a primary reason for shoreline erosion. They are also disruptive to smaller craft and boat dock users and encourage dangerous maneuvers by smaller craft in their wakes. They contain their own sewage which can be dumped in open water with little hope of enforcement even though it is illegal to do so. The EIS and/or Boat Dock Capacity Study does not adequately address this issue.</p>	<p>Marina services on Lake Lanier exist to provide boat storage opportunities to the public that do not have private docks privileges. Marinas also provide storage for both large and small boats of adjacent land owners who can not maintain their boat at a private dock. Future development of marinas and club sites are guided by approved master plans that allow for a maximum number of boats to be stored.</p>
	284	<p>•The proposed shoreline management plan states that no camping will be allowed on islands but does not address the mainland. If camping or overnight moorage is allowed along the mainland shoreline in non designated areas, such will infringe upon the privacy of adjacent landowners and encourage controversy and possible violence. The same issues applying to islands, apply to the mainland with the addition of the adjacent landowner element. Additionally, if a fire gets out on an island, it will be naturally contained. Not so on the mainland. It would make more sense to restrict mainland camping and moorage and allow such on the islands, or ideally, only in designated areas.</p>	<p>Camping is only allowed in areas designated for such use. The public's right to use and enjoy public property, including undeveloped areas, at Lake Lanier is a fundamental objective of the Corps of Engineers. Those living adjacent to one of the most popular lakes in the country must realize some loss of privacy is inevitable. Allowing natural vegetation to grow on public property will maintain your privacy. See Section 2 Objectives in the SMP.</p>
Janyce Earl	285	<p>I understand that in under the new regulations you are contemplating, lake residents will no longer be able to keep large houseboats on their docks. I have to wonder if this recommendation was made by the marina owners on the south end of the lake.</p> <p>I've enjoyed many days on the lake on our friend's beautiful houseboat. It is moored at their lake home here on the north side of the lake. Under your new regulation, they would be forced to moor their boat at a marina - at significant cost and inconvenience. I really don't understand the purpose of this recommendation.</p> <p>Their large houseboat, and others like it, are beautiful - and cost more than my home! Certainly they are not an eyesore. And if other boaters are really suppose to keep 100 feet away from docks, there should be no issue with their interference on navigation. I can't imagine the children swimming off the back of a houseboat moored in a marina - the chemicals in the water there are surely a hazard.</p> <p>I would ask you to reconsider this part of your regulations. To me the only winner is the marina owners.</p>	<p>Text in the SMP has been changed to read as follows:</p> <p>"In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities. Therefore, based on this language it is possible that boats larger than the dock could be moored. Each situation will be considered on a case-by-case basis. The prohibition of mooring boats at a dock of another is intended to eliminate permanent storage and commercial use of the facility. It is possible that a temporary arrangement can be permitted for safety reasons provided open discussion is initiated and maintained with the Lake Lanier Project Office."</p>

Commenter ID No.	Comment ID No.	Comments	Responses
Pat Ellis	286	<p>Community Boat docks are certainly the best type of shoreline management for Lake Lanier. We feel that areas that were once deemed Protected should now be reviewed for the possibility of a community boat dock. Some of these areas are now surrounded by upscale housing developments. Seemingly they are penalized while being surrounded by single docks that are very poorly built and very poorly maintained. In State and County zoning issues the people who live adjacent or in the area are always included in the decision making process. It would seem most appropriate if the people directly affected in any area, especially the Protected areas, could have a voice in the decision that greatly impacts them. These Protected areas should be individually reviewed at the request of the homeowners with the input of the homeowners and adjacent landowners. These homeowners could submit plans that address the environmental impact, the shoreline management and the construction and maintenance of a community boat dock to be reviewed by the US Army Corps of Engineers and local affected residents. Community Boat Docks should have a set of rules and regulations that include the upkeep and maintenance of the area leading to the dock. Environmental standards should be safeguarded at all times. It is a monumental task for all boat docks to be constantly reviewed by the Corp personnel. Community boat docks and the surrounding area should be completed to the required specifications of the US Army Corps of Engineers. Once approved, the Community Boat Dock group (homeowners) should annually submit a report on the condition of the boat dock, improvements and maintenance, along with photographs, to the US Army Corps of Engineers. This would assist the Rangers in their check of these facilities. Many of the single docks are very substandard and not well maintained. With the increasing number of docks, it is a major task for the rangers to inspect all the docks on a frequent basis. Annual self check forms for the Community Docks would assist the Rangers in their review. In conclusion, the Protected areas should be reviewed for the possibility of a Community Boat Dock.</p>	<p>The initial version of the SMP was completed in 1978. That plan delineated the original extent of the four allocation zones that identify the type of activities that are allowed to occur along the Lake Lanier shoreline. The adjoining property owners and the general public were provided the opportunity to express their views during the preparation of the original plan. Similarly, the public is again being afforded the opportunity to convey their suggestions and concerns on the SMP update contained in Appendix F of this EIS. A public scoping meeting to identify issues that should be addressed in the environmental analyses was held at the outset of work on the EIS and SMP. This was followed the formation of focus groups representing various interest groups using the lake to further identify issues that should be considered in the SMP. The Draft EIS and SMP were provided for public review and a public meeting was conducted. The comment to which this response is prepared is a direct product of that review effort. Next, the Final EIS and SMP will be subjected to a second public review before these documents are submitted to the Corps' South Atlantic Division Office in Atlanta for the decision as to whether the SMP will be approved for implementation. The Corps believes this process affords the landowners adjoining Lake Lanier and the general public an adequate forum through which they can make their views, concerns, and opinions known to the decision-maker.</p>
	287	<p>Secondly, any decisions made that directly affect or impact a group of landowners should include those landowners in the process as is required in state and local zoning. Thank you for the opportunity to express our opinions.</p>	<p>There have been significant efforts made to solicit input from the public prior to the preparation of the EIS and the updated SMP in the form of public meetings and individual focus group meetings. The DEIS has also been made available at many public libraries in the area. All procedures mandated by the National Environmental Policy Act (NEPA) have been strictly followed. The public comment period lasted 6 weeks. Copies were also mailed to all individuals that requested a copy.</p>
Dallas Gay	288	<p>I strongly object to the following proposals in the draft plan:1. The revocation of a dock permit for unauthorized removal of vegetation. This would amount to a major fine (loss in value of property) that would far exceed the actual damage done or what any reasonable fine would have been.</p>	<p>Revocation of a Shoreline Use Permit is only one of the suite of punitive actions that could be taken by the Corps to address violations involving the unauthorized removal of vegetation from public lands. A variety of other penalties are also available to the Corps. The decision on which of the penalties to apply is made on a case-by-case basis depending upon the magnitude and severity of the violation committed.</p>

Commenter ID No.	Comment ID No.	Comments	Responses
	289	Maintaining a forested buffer lacks a clear definition and serves no particular purpose.	There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than species of grass. See Section 19, <i>Buffer Zones</i> , of the SMP.
	290	What does the word "encourage" mean with respect to grand fathered mowing permits? Does this mean that the renewal of the dock permit is threatened? Delete this item so it won't be a matter of abuse by some Corp personnel. There is nothing wrong with mowing a yard between the house and the lake.	Upon transfer of ownership, existing mowing activities will be allowed, but minimization of mowing will be encouraged to help protect the lake's water quality. Adjacent landowners have the greatest impact and opportunity to protect and restore the lake's vegetative buffer. Through the years, grandfathered mowing privileges and permits have resulted in a general degradation of natural habitat along the Lake Lanier shoreline, and has created the appearance of private ownership of public property. Eliminating mowing on government lands will protect the natural resources, enhance wildlife habitat and the aesthetic value of the land surrounding the lake, and promote the use of public property by eliminating the appearance of private ownership. Therefore no new authorizations will be granted for grass mowing.
	291	There are many people that have a boat longer than their dock. You can't expect them to do away with the boats or move them to a marina. Delete this item.	Text in the SMP has been changed to read as follows: "In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities. Therefore, based on this language it is possible that boats larger than the dock could be moored. Each situation will be considered on a case-by-case basis."
	292	I have had both jet skis and a wave runner on my dock for over 25 years without any problem. What do you want to do with them now? On the dock is the safest way to store them. Delete this item.	All hoists and lifts must be constructed within the slip area with the exception of personal watercraft (PWC) floating hoist or lifts that allow the PWC to rest on the dock. A maximum of two hoists for PWC use outside of the slip may be authorized. See SMP sec 15.3.6 page 21.
	293	I am glad to see that the Corp is now in favor of riprap and dredging. In the 1970's the Corp gave me a very hard time for putting down riprap and in the 1980's when I asked about dredging you would have thought that I asked to commit a major sin.	Comment noted.
James Geist	294	Water quality has got to be the most important issue, if the water quality is degraded we won't have to worry about dock or fishing or water levels. We need to reduce the amount of treated waste water being put into the lake not allow more. If the water isn't safe to swim in, it should not be allowed to be discharged into the lake. I am member of the Lake Lanier Association, pay taxes and attend these functions, what else can I do to stop waste water being dumped into the lake?	Regulation of water quality falls under the authority of the Georgia Environmental Protection Division and the U.S. Environmental Protection Agency, Region 4. Concerned citizens should contact the regulatory agencies charged with the responsibility of permitting wastewater discharges.

Commenter ID No.	Comment ID No.	Comments	Responses
	295	The reduced number of docks is very much preferable to the current plan, can we limit it to 1500? Using the same arithmetic that was used to come up with the 2022, what if in stead of accepting the 86' that currently is being consumed per dock, what if you ran the numbers on 100 feet of impact per dock or even 110'? Less is more or at least better.	The Boat Dock Carrying Capacity Study utilized Geographical Information Systems (GIS) and on the ground sampling. The data used was not selected arbitrarily and can be supported.
	296	I am sure this should be discussed under a specified topic but I am also concerned with the water level. What can I do as an individual to help the corps minimize the amount that the lake goes down? Is it reasonable to limit the low level to 1065 or 1064?	<p>The storage capacity of Lake Lanier was designed to meet a variety of project purposes. Numerous factors influence lake levels. As long as Lake Lanier is managed as a multiple purpose project as authorized by Congress, it is not responsible to limit the level below which the lake can be maintained.</p> <p>The water management strategy for Lake Lanier will be evaluated in a separate NEPA process conducted after the Georgia, Alabama and Florida agree on a water allocation formula for the ACF basin. The public will be provided an opportunity to participate in that process.</p>
Joyce & Richard Hoge	297	We live on Lake Lanier and love it! We too, want it to be beautiful and inviting to all - those that live here and those that visit. We are very uncomfortable with the concept of letting weeds and vegetation grow uncontrolled along the shoreline. We feel that this will encourage people to toss out their debris into the lake and along the shoreline using the thought process that, "it's all weeds, no one cares about the shoreline property, property owners don't even mow anymore, we might as well just toss our trash overboard." We want our lake to remain clean, neat and beautiful and to make a statement that we care about how it looks!	This requirement in the SMP is intended to establish, enhance, and maintain acceptable fish and wildlife habitat, aesthetic quality, and sustain healthy natural conditions. The use of native vegetation along with limited underbrushing authorizations will accomplish this objective.
	298	We moved to lake Lanier from lake Burton. Up there we were encouraged to build retaining walls/sea walls. it worked very well to control run-off and silt and to protect the shoreline from further damage. Please give us the opportunity and tax relief/funding help to do the same here at Lake Lanier. We'll make you proud!	Fluctuating lake levels and the need to preserve public access to lands surrounding Lake Lanier from the shoreline make sea walls less desirable than riprap for shoreline protection. Additionally, sea walls will ultimately fail and often require removal at taxpayer expense.
Mark Kight	299	My wife and I live in the Limestone Pointe Subdivision, which backs to Limestone Creek above the bridge on Pine Valley Road. We would appreciate your allowance of a review that includes homeowners in our area in regard to an application for a community boat dock. We feel we should be heard in any review process. We are prepared to present design, landscape and maintenance plans for your consideration. Included in those documents will be proposals for how we would improve and maintain the shoreline and wildlife areas subject to Corps of Engineers approval. A well designed and properly maintained community boat dock will substantially minimize environmental impact (as opposed to "stand alone" docks), not only at the immediate shoreline, but at the natural areas approaching the shoreline and protected areas. Development of the shoreline is presently controlled by municipal zoning regulations in compliance with Corps regulations. Please allow us to present our proposal and to be heard in accordance with such procedures. We feel we can and will positively affect the lake in our immediate area.	Project personnel have reviewed your request numerous times, most recently in the update process of the proposed SMP. To obtain opinions from interested parties, the SMP focus group was allowed to review the Limestone request for rezoning. The opinion of the SMP focus group was that the permit should be denied. Focus group members were selected from a wide range of lake interests including numerous experienced developers of adjacent residential communities. These individuals represented the interests of property owners and the value issues associated with adjacent property.
Kenneth Kurtz	300	I'm not an engineer of any sort, but why can't we build more dams down further basin in GA, FL, AL to hold the waters more before it flows out to sea? It seems as though the TVA didn't go far enough south. What a great gov't plan to help spark employment, creating jobs by building more dams lower in the basin. Even if "Atlanta" has to, in some way, help fund the projects because it is of our greatest interest for water supply. We spend a lot of money to ensure our oil supplies, water is equally worthy.	Currently, there are 16 dams (including Buford Dam) between Lake Lanier and the Gulf of Mexico. The water allocation formula for the Apalachicola-Chattahoochee-Flint Rivers is currently being negotiated between Georgia, Alabama, and Florida. As an outcome, it is likely that the need for additional dams will be evaluated in the future.

Commenter ID No.	Comment ID No.	Comments	Responses
Alex Laidlaw	301	<p>Objection to Proposed Program Improvement – Outgrants, Table 2-13: “Allowing commercial marinas to continue operations with their current number of boat slips and dry storage capacity until expiration of their leases, at which time an equitable reduction in the number of authorized commercial marina boat slips and dry storage capacity might be imposed if boating safety is at risk because of a high density of boats using the lake at any one time.”</p> <p>Specifically an objection to “equitable reduction in the number of ... boat slips... might be imposed.”</p> <p>The factual basis used to draft the proposed improvement is inherently flawed. Neither physical nor social carrying capacity has been established by any current objective standard. The EIS utilizes a study that was conducted almost twenty years ago with a flawed statistical approach. In no way can that study be relied upon as a basis for any conclusion that carrying capacity has been exceeded. In addition the estimates used to develop a calculation of current “overuse” is completely arbitrary and without statistical foundation. The assumptions of numbers of boats launched and percentages of marina, community dock, and private dock boaters utilizing the lake at any one time are purely arbitrary with no current empirical data to support those assumptions and the conclusions that follow. A new study should be initiated before any proposal or conclusion is used in the EIS.</p> <p>In fact the EIS contradicts itself in two areas with respect to carrying capacity: (1) The 1984 study indicates that social carrying capacity was not exceeded by virtue of the high quality experience boaters indicated in interviews yet the study sites a 71% overuse. (2) The proposed requirement would be imposed if boating safety were at risk. The EIS sites that boating related fatalities decreased dramatically from 27 in 1983 to 4 in 2000. That indicates that boating safety is not at risk, but in fact has improved dramatically, therefore there is no need for the proposed improvement.</p> <p>In addition the Corps has encouraged commercial expansion that has benefited the Public and the Lake. The unintended consequence of the proposed improvement would very likely lead to two things: (1) a certain deterioration of existing marina facilities because of the uncertainty of a return on the investment. (2) A reduction in marina value because of the uncertainty of valuation based on income and slip numbers. This market has flourished because the Corps has allowed market factors to exist, if an arbitrary reduction in slips is imposed, the market for capital funding, acquisition, and development will abandon the marketplace. The encouragement and approval by the Corps of expansion and redevelopment within these concession areas is a legal course and conduct that has been established for many years. To create an open ended and vague regulation in the EIS that reverses the established course of conduct that the Corps established is fraught with great legal risk and almost assures a class action suit with the very partners that have made Lake Lanier one of the most successful in the Corps chain.</p>	<p>The statement has been removed from the EIS. All concessionaires have a Master Plan that defines their limits of development and the Corps works with the concessionaires to ensure that their development is consistent with the Master Plan.</p>

Commenter ID No.	Comment ID No.	Comments	Responses
John Lamb	302	A popular boat on Lake Lanier is a 24 foot pontoon. Many of the boat dock slips are 20 foot long. A requirement for boats to not extend beyond the slip would impact many current permittees. The idea is good, but the implementation must be done carefully and over an extended period of time.	Text in the SMP has been changed to read as follows: "In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities."
	303	When the Lake is low, as in the past couple of years silt moves further into the coves forming deltas as the lake recedes. An active sediment removal program would maintain the depth of these coves and extend the life of the lake significantly.	A large-scale silt removal program is cost prohibitive.
	304	There are many de facto silt traps created at stream entrances to the lake by road crossings. The culvert under the road slows the water and allows the silt load to settle. If these could be cleaned periodically, it would improve water quality and extend the life of the lake. After cleaning the area would once again begin collecting silt thereby keeping it out of the main body of the lake.	Unless blocked by large debris, culverts do not sufficiently slow flow or reduce sediment loadings. Sediment removal at all these structures would be cost-prohibitive. Sedimentation is most efficiently reduced through erosion control measures implemented at the source of the erosion to prevent or minimize sediment loadings.
	305	If the COE would permit private individuals to remove silt, under a strict set of guidelines and practices, the smaller coves could also be maintained in such a way to reduce the silt load reaching the main lake and also maintain water depth at the docks in the cove.	The Corps is currently pursuing alternative guidelines and policies to allow more dredging, where beneficial to the lake.
	306	War Hill Park is a beautiful recreation area that would be ruined by a marina. Particularly if it were turned over to Dawson County. Dawson County cannot even manage its own erosion and silt control program at construction sites and shows no inclination toward environmental protection and/or management. War Hill Park road is narrow and winding. Encouraging more traffic would be dangerous. Another marginal boat facility around the lake is not needed. If the market demands a marina, then find the location that serves the demand.	The proposed leasee is not interested in leasing the War Hill Park at this time. However, there is still a need for services on the Chestatee River and the Corps will continue to look for a way to provide a marina operation in the area.
	307	Do not permit sewage discharges from any entity or if it is necessary to do so, then only if the best known practices and treatments are strictly followed with assurances in place to avert spills and/or deterioration of effluent quality due to improper operating practices, accidents or overloading. Do not permit any discharge that will lessen the water quality in the lake.	Georgia EPD has wastewater discharge permitting authority. Georgia EPD and EPA are the agencies responsible for water quality criteria and standards, and associated enforcement authority.
	308	Many private dock owners paint or stain their decks by spraying with a pressure paint sprayer or a type of sprayer associated with lawns. This practice should be prohibited as much of the spray falls directly into the water. Only hand held rollers or brushes should be allowed for repainting or staining of docks.	Suggestion will be considered.

Commenter ID No.	Comment ID No.	Comments	Responses
	309	Do not permit sewage discharges from any entity or if it is necessary to do so, then only if the best known practices and treatments are strictly followed with ensurances in place to avert spills and/or deterioration of effluent quality due to improper operating practices, accidents or overloading. Do not permit any discharges that will lessen the water quality in the lake. Many private dock owners paint sprayer or a type of sprayer associated with lawns. This practice should be prohibited as much of the spray falls directly into the water. Only hand held rollers or brushes should be allowed for repainting or staining of docks.	The State of Georgia is responsible for permitting wastewater discharges. The NPDES permitting program requires a discharge of wastewater to be permitted. The permit process requires the applicant show that the proposed discharge does not cause a violation to the state water quality standards. Once the discharge is permitted there are additional protections in place to ensure the maintenance of water quality.
David Montrois	310	<p>I am concerned that the new, and lower, limit on docks may impact my situation in a manner that I had not planned on and feel the need to share my concerns with the hope that a solution is found that may be more agreeable to my future as a lakeside landowner.</p> <p>I own three lots on the lake, with a home and a dock on the middle lot. The adjacent lots are buildable and have enough shoreline to allow for a dock on each lot. I have purchased the adjacent lots for lifestyle reasons as well as investment purposes and would see quite a loss of land value if no docks were allowed on the adjacent lots.</p> <p>I would like to be able to "reserve", so to speak, two of the remaining dock permits for future use as the land is sold or developed as I wish. I am deeply protective of the natural beauty of the lake and applaud your decision to limit the number of docks. However, since I have already made a significant purchase under one set of rules, I believe that special consideration should be made if we are moving forward under another set of rules.</p> <p>I should not be forced to sell or develop the land before I am ready to realize the full potential of their worth. I have worked long and hard to put this land package together so that my family and I can enjoy a large expanse of natural beauty on the lake while living on, enjoying, and "sheparding" the lake. My daughters should also be able to realize the maximum value of the land in the far future if they wish. Please respond to my request to "reserve" dock permits while they are available.</p>	The Lake Sidney Lanier Shoreline Management Plan is based on Engineering Regulation 1130-2-406. This regulation requires that public shoreline be utilized for recreational interests as well as natural resource needs for present and future generations. The limit on future boat docks is based on an evaluation of the lake's Boat Dock Carrying Capacity. A determination was made in accordance with ER 113-2-406 and presented in the SMP identifying how many dock permits will be issued. Potential dock permittees are recommended to remain aware of the number of future dock permits that will be permitted. Permits will continue to be issued on a first come basis, with none being reserved. Speculative value of adjacent property was not a factor in the process, except for the fact that controlled growth will benefit the entire lake resource and adjacent property owners.
"Pete"	311	How can you mandate new policies with words like "encourage" as the action for enforcement. Either rip-rap is required or it is not. Either reforestation is required or it is not. Anyone who has had to deal with the Corp on this lake knows that Irwin Topper and Chris Lovelady will lie and deceive the public to "encourage". They will hold dock permits hostage to "encourage" the public to comply. This plan gives the Corp entirely to much power with no oversight or accountability or recourse to the public.	Words such as encourage express the Corps desire to improve shoreline protection measures and vegetative buffer benefits without mandating it. Budgets currently do not allow the project to construct or install such measures lake-wide. However, individuals sharing this desire can accomplish this benefit.
Randall Pinson	312	<p>As a recreational Lake Lanier land owner, I am in favor of the No Action Alternative for the following reasons:</p> <p>The theoretical study as presented has serious flaws.</p>	Comment noted.
	313	Boat docks do not generate any increase in bacterial contamination. Prohibiting boat docks will not prohibit shoreline development nor increased boat traffic both of which do significantly contribute to biological degradation of the lake.	Reducing the number of boat docks allowed on the lake will protect publicly owned lands bordering on the lake from being affected by the development of adjacent private property.
	314	In fact your Preferred Alternative of increasing marina size and increased access points will in fact actually serve to further increase lake degradation and pollution.	There is no assertion in the DEIS that marina size will be increased beyond what is allowed in their approved Master Plans. In addition, marinas are highly regulated and must comply with strict state and federal regulations.

Commenter ID No.	Comment ID No.	Comments	Responses
	315	As far as the visual aesthetics, boat docks are more attractive than a muddy, eroded shoreline. As a matter of fact, both Lake Burton and Lake Rabun continue to remain attractive and to retain their value despite numerous boat docks.	The beauty of boat docks is subjective, whereas the requirement for the Corps to protect the environmental integrity of the natural resources is not. Corps regulations limit boat docks to 50 percent of the limited development area shoreline. Lakes Burton and Rabun are owned and operated by Georgia Power.
	316	The issue of the navigation on the lake being inhibited by boat dock additions is overstated. Navigation in coves is already restricted as to speed and distance from docks.	The Corps agrees that navigation on the open lake is not inhibited; however, maneuverability in coves can become limited when choked with boat docks.
	317	The theory that wildlife will be adversely impacted by additional docks does not hold up to close scrutiny.	Loss of native vegetation has direct and indirect adverse impacts on wildlife.
	318	The timing for this request for public comment on the Lake's future seems to have been planned to correspond to the time of year when family issues over ride such important public issues. Due to this significant oversight, I am sure that your response will not appropriately reflect the public's true desire in this matter.	There have been significant efforts made to solicit input from the public prior to the preparation of the EIS and the updated SMP in the form of public meetings and individual focus group meetings. The DEIS has also been made available at many public libraries in the area. All procedures mandated by the National Environmental Policy Act (NEPA) have been strictly followed. The public comment period lasted 6 weeks. Copies were also mailed to all individuals that requested a copy.
Teresa Reynolds	319	But recently we have been looking @ property off Stancil Rd & a few other places on the lake where we could actually have a boat dock. We have owned a boat & jet ski's for years but have to drive to the marina to use them. My family & I walk down to our cove every few weeks to pick up the cans, worm containers, tangled fishing line, etc. that the fisherman seem to leave behind. We don't mind, we understand that the Lake is there for all of us to have & enjoy and we want it to be there for generations to come to enjoy as well. Recently me & some of the other neighbors were discussing how many people have moved out of our neighborhood & gone on to have lake homes with docks. If we were permitted to get a community dock that all the neighbors interested could purchase, we as a group could make sure to keep the shorelines cleaner, less trashy looking, which would enhance the appearance of our neighborhood. I know that verbal dock permits are still being issued first hand as we made an offer on land off Clarks Bridge Rd in September this year. There are at least 4 boat docks within a rocks throwing distance of where we would like to have a community dock placed if we were allowed. I know we have numerous ducks & geese in our cove because we already take bread scraps to them. But we could hang bird feeders, corn cobs for the squirrels, even food for the beautiful hummingbirds that appear through fall. There are already docks in the same cove we are interested in placing ours.	The Corps will encourage existing private dock permittees in previously developed areas who are desiring to replace facilities to use community docks when appropriate. The use of a community boat ramp with a courtesy dock may be substituted for multi-slip docks to provide lake access to more of the residents. However, the location of parking facilities and boat storage would be restricted to adjacent private property. See SMP section 15.1 Eligibility Requirements Page 15.
John Rhodes	320	I really hate seeing old, delapidated, sinking and falling apart docks on the lake. I applaud your efforts to clean up the docks on the lake. I would like to see you ban non-encased styrofoam immediately.	Comment Noted.
	321	I would like to see another restaurant or two on the lake. The couple of good ones are very packed during the summer months.	The public has indicated the need for services such as fuel service, boat storage, restaurants, etc.

Commenter ID No.	Comment ID No.	Comments	Responses
Donald Ruf	322	<p>I have read with great interest your plan for new regulations concerning homeowners whose property is on the Lake Lanier shoreline. This plan certainly has some benefit but is also fraught with liabilities. Living in the south, we will always have local pests such as fire ants, fleas, ticks and snakes. Each of the last 3 years I have killed a poisonous snake on the property abutment line between corp property and my own. Sooner or later someone will bring a lawsuit against the corp for failure to control pests. If a 6 year old gets bit by a rattlesnake, coppermouth or cottonmouth and has serious complications it would be very reasonable to sue the corp. and I can't imagine many juries would side with the corp. if this occurs. Corp property is also a haven for fire ants. Every year I go around my property once a month and destroy their mounds. This however is temporary at best since on the corp property there are dozens of mounds and the ants come right back onto my property. Ticks are a severe health problem and transmit very serious diseases. The risk of contacting a tick borne disease is hugely reduced by keeping grassy areas mowed. Will the Corp agree to check the entire lakeshore once a month and destroy these pests? Theft is also a problem. In the last year I have had a bolted down gas tank stolen from my pontoon boat and a carburetor stolen from a wave runner. This results from a limited view of my dock. How many rangers are patrolling the lake? Are the rangers out there all night long? Is the Corp really policing the lake enough to provide any reasonable security? Do you really think that many property owners are going to buy trees at their own expense and plant them only to have them block the view of the lake and their docks? The Corp is already extremely unpopular among homeowners. Instead of these proposed new rules which will immediately setup confrontations with huge groups of well organized homeowners why not set up a set of regulations that both protect the lake and the homeowners from these types of problems. It is easily shown that a thick mowed carpet of grass protects against runoff and erosion better than natural weeds and low vegetation. I know of no one who is willing to plant trees. Just look at the grass at the numerous golf courses in this area and compare that to the open weeded areas that abuts those golf courses. Your plan will create an army of subversive homeowners who do not agree with this plan. Even if you revoke dock permits, it is only a matter of time until someone sues over this issue saying that you revoked their permit without reason. Other homeowners in similar situations will do the same. How much time can the corp. spend fighting 100 lawsuits or 1000. Consider lawsuits from groups like the ACLU or even any homeowners association who doesn't like a development plan in their county. They cost those that they sue millions of dollars every year defending the lawsuits. This is America. We are a litigious society. Under your current proposal it will occur. I would propose that you modify the mowing plan as follows: 1) Require anyone who wishes to mow an area that abuts their property to obtain a mowing permit. Designate existing trees and shrubs that may not be disturbed. 2) Require an approved runoff plan from the homeowners property. 3) Specify the approved types of ground covers or grasses that must be planted or mowed. 4) Specify that any bare areas (soil without vegetation), be planted in an approved manner. This would not only protect the lake but decrease confrontation between the corps and the homeowners who are battling these pests yearly. The government regularly requires property owners who have land in urban areas to keep their land free of pests. Your own proposal states that Lake Lanier is in an urban area. The corps property is the breeding ground for pests. Can you supply crews for the entire shoreline to control this? A compromise plan with homeowners is in everyone's best interest.</p>	<p>One of the Corps primary objectives at Lake Lanier is to protect the natural resources within its jurisdiction. The agency cannot create or modify public land to be free of pests or hazards. Many lake visitors enjoy the natural environment and do not want to see their interests in a healthy environment ignored.</p> <p>In regards to grass mowing, the SMP text states: "Because grass is not a high quality vegetative buffer, it is project policy to restore grassy areas to a more natural state. When such areas are not maintained and woody vegetation has reestablished itself this portion of the permit will not be renewed. During changes of ownerships minimization of permitted mowed areas will be encouraged to help protect the lakes water quality."</p> <p>Broad uses of Chemical agents such as pesticides are not authorized. Chemical products such as pre-emergence, weed killers, fertilizers, growth retardant, etc., may not be used on public lands, however, some topical application to control noxious or nonnative species may be allowed under rigid control via a Specified Acts Permit. The use of such products on private property must not affect public lands or waters.</p> <p>In regards to potential liability of the government from the issuance of permit privileges see condition #2 of the permit application which reads; The permittee agrees to and does hereby release and agree to save and hold the Government harmless from any and all causes of action, suits at law or equity, or claims or demands or from any liability of any nature whatsoever for or on account of any damages to persons or property, including a permitted facility, growing out of the ownership, construction, operation or maintenance by the permittee of the permitted facilities and/or activities.</p>

Commenter ID No.	Comment ID No.	Comments	Responses
Michael Russell	323	I am concerned about the new regulation which states that "no vessels may be moored at a private boat dock that exceeds the length of the dock, excluding the access walkway." I currently have a permitted platform dock which is 12x16. A larger dock has not been permitted because of crowded cove conditions. This new regulation would appear to preclude me from mooring my 19 foot fishing boat.	Text in the SMP has been changed to read as follows: "In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities."
	324	The last paragraph of, 15.3.1 Floating Facility Types, has been amended to state that existing platform Docks will be Grandfathered. Paragraph 15.7, Grandfathered Facilities, indicates that permits will no longer be issued for their replacement. I am currently permitted for a 12x16 platform because of crowded cove conditions. If it is the intent to no longer grant permits for new Docks of this nature, then the regulation should be re-worded stating that existing docks may be replaced when necessary. Putting these docks in the category of "grandfathered" facilities is unfair to a property owner such as myself who currently holds a permit on a platform dock that is older and will eventually need replacement. The regulation as it is now proposed will eventually cause my property to be without any dock privileges.	Text has been changed to read as follows: "Additionally, no permits for private use will be issued for new platform/T-Docks due to crowded cove conditions. Existing docks of this configuration that are currently authorized under permit will not be affected by this change in policy."
	325	<p>In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, no vessels may be moored at a private boat dock that exceeds the length of the dock, excluding the access walkway.</p> <p>This rule would preclude me from mooring my 19 foot boat at my 16 foot dock. From my conversations with COL Robert B. Keyser and other representatives at the Oakwood meeting, it appears that this rule is aimed at boats in excess of 32'. I am proposing that reasonable alternative language be one and one half times the length of the dock subject to a maximum of 32 feet.</p>	See response to comment no. 323 above.
	326	<p>Platform/T-dock: A floating facility without a moorage slip, roof or enclosures of any configuration (always remaining completely open) that may be utilized for the docking or mooring of a vessel or other activity such as sunbathing or lounging. Swimming in the vicinity of mooring or floating facilities is not encouraged due to potential hazards between swimmers and boaters. The maximum dimensions will not exceed 192 square feet. Additionally, no permits for private use will be issued for new platform/Tdocks due to crowded cove conditions. Existing docks of this configuration that are currently authorized under permit will be grandfathered.</p> <p>The proposed characterization of T-Docks or platform docks as a "Grandfathered Item" has the potential of creating problems in the future. The definition in the Plan of "Grandfathered Items" is poorly worded and ambiguous and creates the possibility that a permit may not be issued for the replacement of the dock should it be damaged beyond repair. Boathouses, which are grandfathered, can be replaced with an open dock. Applying the same rules to my platform dock may lead to a complete loss of dock privileges.</p> <p>I respectfully suggest that the language in paragraph 15.3.1 be amended to state that Existing docks of this configuration that are currently authorized under permit will be grandfathered, but such facilities will be eligible for permits for replacement and are eligible to be permitted to new property owners.</p>	See response to comment no. 324 above.

Commenter ID No.	Comment ID No.	Comments	Responses
	327	<p>A separate regulation states that a dock of this nature will be "grandfathered". A reasonable exception needs to be made in the new boat length regulation which will allow for the continued utility of these smaller "grandfathered docks" so that a reasonable size vessel can be moored. I believe that a reasonable compromise would be as follows: If a dock is permitted at less than the maximum allowable size, due to crowded cove conditions, then the maximum allowable size of a boat that may be permanently moored may not be larger than 1 and 1/2 the length of the dock, excluding the access walkway, subject to a maximum length equal to the largest dock length allowable in absence of the restriction imposed by crowded cove conditions.</p>	<p>See response to comment no. 323 above.</p>
Tom Russo	328	<p>I would like to submit comments on the Lake Lanier Shoreline Management Plan that is under consideration and evaluation. My key area of interest is in the proposed management plan restriction on the size of a boat that can reside on a dock (page 17).</p> <p>I disagree with the management policy clause restricting the size of the boat on the dock to be smaller than the dock. If there is sufficient space between docks to allow for the presence of a large boat, then I feel it should be acceptable. Friends of ours have a houseboat that although large, does not create excessive waves or travel at high speeds. Larger powerboats have more of an impact on the lake. Can the power and speed of a large boat be a consideration?</p> <p>The aesthetics of a large well-maintained and operational vessel are often superior as compared to many existing boat docks. Given the very subjective nature of aesthetics, how was it determined that a boat has less aesthetic appeal than a dock? The aesthetics of the lake are negatively impacted by boats in docks that are left in the dock on the ground, boats that are not maintained properly and do not even operate etc.</p>	<p>Text in the SMP has been changed to read as follows:</p> <p>"In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities."</p> <p>The presence of a large boat at a dock facility does not necessarily improve the aesthetics.</p>
Alan Shedd	329	<p>Ref. Table ES-1: Boat dock usage limits boat size to length of dock. This precludes keeping a boat over 32' in length at a private dock and seems too restrictive.</p> <p>Requires mooring of boats in slips. This would prevent the owner of a sailboat with a covered dock from keeping is sailboat at the private dock. Sailboats must be able to moor beside the dock not in a slip.</p>	<p>Text in the SMP has been changed to read as follows:</p> <p>"In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities."</p> <p>There are no prohibitions to mooring a boat along the side of a private dock, as long the above stated conditions are not adversely affected.</p>

Committer ID No.	Comment ID No.	Comments	Responses
	330	Creating requirement to prevent boats with loud (unmuffled) exhaust from using private docks seems like an ineffective way to enforce a boat noise ordinance and does nothing to restrict boats stored in marinas, in dry stacks, or launched at ramps. The wording should also be revised. The issue is not whether the muffler is below the water but whether the exhaust outlet is below the water.	State law requires that boat mufflers be located below water level and the Corps requires all Shoreline Use permit holders to abide by State laws. The Corps agrees that all users need to be treated equally. The SMP specifically addresses this issue in the SMP to assure that no violations of law occur in connection with activities permitted on project lands. In addition, the Corps will enforce any violations to this law detected on all watercraft using Lake Lanier, whether they enter the lake via private boat docks, marinas, off-site dry storage locations, or are launched at any of the numerous boat ramps surrounding the lake.
	331	Ref. Table ES-1: An Adopt-an-Island program is a great idea but most participants of these types of programs are civic groups, scouting organizations, or private citizens who are concerned about lake and environmental quality but typically do not have large financial resources. An adopt-an-island program should not be viewed as a revenue stream to fund other programs but as a way to encourage more local participation in conservation efforts.	Text has been revised to read as follows: “Establishing and Adopt-An-Island program, or something similar, as a source of volunteer labor and/or funding for shoreline protection and stabilization activities on the islands.”
	332	Table ES-1: Requiring owners of private docks to plant vegetation and install riprap to reduce shoreline erosion is a good idea but this will have a minor impact on shoreline erosion. A far more effective control would be to control boat wakes. They create much more damage than use by private dock owners.	Text indicated in comment and located in Tables ES-1 and 2-13, and pg 2-9, lines 10 –15 was changed to read as follows: “Shoreline stabilization measures (riprap) may be required with the issuance of new permits that require fixed steps or are located on sites already affected by erosion.” The installation of riprap will not be required for all permits. See Section 15.2, <i>Site Requirements</i> , of the SMP. State-approved ‘No wake’ zones have been established where needed, and State law limits speeds to 5 mph within 100 feet of the shoreline.
	333	Ref. Table ES-1, Water Quality: Location of private septic tanks on public property should not be permitted. How many are there? Linking the control of septic tank encroachment to private dock permitting seems inadequate. The issue is the septic tank and its effluent regardless of whether there is a dock. What requirements are placed on other facilities such as marinas and parks?	It is unknown how many septic systems are located on public lands surrounding Lake Lanier. Septic systems are being linked to Shoreline Use permits because it takes advantage of an existing inspection system to address a number of land management issues, such as encroachments. All lessees (which include marinas and leased parks) at Lake Lanier are required by lease to comply with all applicable Federal laws, ordinances, and regulations wherein the premises are located, including sanitation, and the abatement or prevention of pollution. In addition, GA EPD routinely inspects and monitors the sewage pump-outs, and permitted sewer discharge sites. In addition, annual lease site inspections are conducted by the Corps Regional Environmental Compliance Inspector.

Committer ID No.	Comment ID No.	Comments	Responses
	334	Ref Table ES-1: Before a permit is issued for dredging, an environmental impact assessment should be completed. Removal of sedimentation may aid navigation and allow access to the lake from the upper reaches of coves, but dredging is not without its impact on water quality and the distribution of disturbed sediment further down the embayment.	The Savannah District U.S. Army Corps of Engineers, has issued Regional Permits pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act for minor work and structures in or affecting waters of the United States within the limits of Lake Lanier. The scope of a Regional Permit includes only those activities that are considered to be minor in nature and would cause only minimal individual environmental impacts. Cumulative impacts should also be minor. All proposals would have to be in accordance with the guidelines and limitations set forth in the conditions of the Regional Permits and approved by the Resource Managers at each lake. An environmental assessment is not required for regional permits since the determination has been made that small-scale actions (i.e. limited dredging) would not result in significant adverse impacts.
	335	<p>Ref. Table ES-1: No specifics were provided for which ramp facilities in the south lake would be closed.</p> <ul style="list-style-type: none"> • Most existing launch ramp facilities are inadequate for launching sailboats - especially sailboats with deep draft. Even where the ramps are long enough, there is seldom adequate deep water dock space to temporarily tie the boat while parking the trailer. A dock immediately adjacent and parallel to the ramp would be much more effective. • Small, shallow-draft sailboats, boats with retractable keels, and rowing shells need a soft landing site for launching and retrieving. Much of the shore adjacent to ramps is rocky or protected by riprap. This is incompatible with many types of boats that must be launched from a vehicle then beached while prepared for use or while the vehicle and trailer are parked. 	<p>There are no plans to close ramp facilities in the southern portion of the lake.</p> <p>The depth of Corps-operated boat ramps are generally determined by lake bottom conditions (i.e., deep drop offs or other obstacles beyond the end of existing ramps) which may make ramp extensions unfeasible. Deep water ramps below the 1,060 msl elevation (11 feet below full pool) exist at 24 locations around the lake.</p>
	336	Ref. Table 2-1, pg 2-3: There is no improvement indicated for recycling (or other trash collection efforts). While the Corps of Engineers has conducted some lake clean-up efforts, the on-going, daily efforts are lacking. At Balus Creek Ramp, there is one trash can. It is frequently filled to overflowing. Trash left beside the can will blow into the lake. It also discourages people from properly discarding their trash. We should make it easier to recycle and to keep the lake clean.	<p>Previous attempts have been made to conduct a recycling program. The cooperation from the public was very limited resulting in the failure and discontinuation of the recycling program.</p> <p>A Corps a contractor empties trash receptacles approximately 3 times per week during the summer, 2 times per week during the spring and fall, and 1 time per week or on an as-needed basis during the winter. The Corps will investigate the problem described at Balus Creek.</p>
	337	Shoreline Management Plan, pg 9: While the carrying capacity of private boat docks was evaluated, I see no reference to the growth and impact of commercial docks. According to the plan there are approximately 8600 existing private docks and the preferred alternative that includes the addition of 2000 additional docks. The Marina Development Facility Chart, dated 12/1/02 and supplied at the public comment meeting in November states that there are 8800 existing wet and dry slips in 17 marinas and clubs. The master plan calls for an additional 3,900 to be built. It seems that the concentration of this large number of slips on the lake has a much more significant impact. I saw no analysis of this impact including shoreline effects, water quality, sewage treatment, fueling, trash, etc. Any environmental impact statement must address these effects.	The purpose of the private boat dock carrying capacity study was to examine data related to the current number and density of boat docks on Lake Lanier, determine the effect of current Corps dock permitting practices on LDAs, determine potential future lake conditions based on different dock permitting scenarios, and suggest changes to the SMP guidelines to ensure a healthy future lake.

Commenter ID No.	Comment ID No.	Comments	Responses
	338	It appears that the proposed shoreline management plan only addresses private docks because there is some leverage over private individuals as they seek new or renewal permits. There is apparently less interest in controlling the impact of the operation and growth of commercial facilities although they can have a much more significant impact and due to their centralized nature, should be more easily controlled. Perhaps the Corps does not want to negatively impact the income generated from these commercial ventures through additional regulation.	Marina developments provide public access for recreational opportunities to the general public as opposed to private docks managed by the SMP. Marinas are subject to restrictions on their development based on what the Corps determines to be in the best interest of the lake and the public. A master plan specifies the level of development allowed at each marina.
	339	Pg 13: Section 14.1 refers to fees for special event permits. Where will the fee schedule be posted? Will fees be determined based on the number of participants regardless of the type of event? Certain events can have a much larger impact on the lake than others. e.g. a poker run for speedboats vs. a sailing regatta.	The regulation regarding the Corps special event permit policy may be viewed at http://www.usace.army.mil/inet/usace-docs/eng-regs/er1130-2-550/toc.htm . Applications including multiple events will be evaluated and the permit fee determined by the nature of the event, whether an entry fee is charged to participants and the impact the event has on the lake and its users. Further, application information is posted on our Lake's homepage at http://lanier.sam.usace.army.mil .
	340	Pg 19: Section 15.3.1 Does the exclusion of mooring buoys also apply to marinas?	No
	341	Shoreline Management Plan, Pg 24: Section 15.3.12. Specifically excludes the use of waterlines that remove and return water from the lake for use in a heat pump. I would like to know more about this specific exclusion. Would the use of a closed-loop system that does not utilize lake water directly but transfers heat through a heat exchanger be permitted? There would be no effluent or removal of lake water.	The referenced system is not appropriate for application at Lake Lanier because of the fluctuating lake levels. During extreme low lake levels pipes could be exposed and not function as designed and obstruct dock relocation. Further pipes can create an underwater navigation hazard.
	342	Pg 25: Section 15.4: Who will establish and regulate the fee schedule for inspection? With this inspection be in addition to the fees paid to electricians for wiring inspection? The cost of electrical inspection is already high especially considering how little they do during inspection on a dock that is already in compliance and has had no modifications since its last inspection.	Inspectors will compete for business and establish their own fee structure. Electrical inspection requirements have not been changed. A licensed electrician must certify all electric services to permitted facilities.
	343	Draft EIS, Section 7.0, Persons Consulted: This list appears to be in error judging from the large number of people consulted in Arkansas. I presume that several entries of this list were taken from an earlier study completed for another facility. While this is common practice, it raises some doubt about the study's originality and applicability to Lake Lanier. It would be unfortunate if the draft EIS is an edited version of a previous report for another area.	Text has been edited to clearly identify the individuals that contributed to the development of this EIS.

Commenter ID No.	Comment ID No.	Comments	Responses
HD Shumate	344	<p>I have reviewed the proposed Shoreline Management Plan for Lake Lanier. As an owner of lake side property I am extremely concerned with the proposed plan. I doubt that I am the first to express such concerns and I am equally sure that others have spelled out chapter and verse exactly what is totalitarian in the proposal and specified what is abusive to existing land owners. Therefore, I will not enumerate them again here.</p> <p>Suffice to say, I applaud the ambition to improve the management of the lake and to reduce the risks (debatable though they may be) of damaging such a huge asset. However, this must be accomplished without compromising the rights and investments of those of us who are already here.</p> <p>Having lived on the lake for a number of years, and having many friends who live on the lake (many for generations), I know that most property owners abide by the rules. If the government now decides that the rules that are in place are wrong or need to be changed then so be it. But, the government cannot change the rules, under which they have already entered agreement, without the permission of the INDIVIDUAL with whom they have the agreement.</p> <p>Any land which has a dock permit, and abides by the existing rules, should retain that permit. Any transfer of title of such land should include the opportunity to have a dock permit under the rules which the permit was originally issued. Obviously, a dock permit has a tremendous impact on the value of the land.</p> <p>Similarly, any land which has a mowing permit, and abides by the exiting rules, should retain that permit without any argument from a new administration. And, of course, any transfer of title of such land should retain the mowing permit. Again, such a permit has a tremendous impact on the value of the land.</p> <p>Any debate about the impact of docks and mowing permits is fine. If it is determined that such permits are bad then change the rule for land that does not already have such permits. It would be inherently wrong for the government to decide now that their past decisions were wrong and then to punish others for their errors.</p>	<p>Permits may be issued in "Limited Development" areas only. The permit will be issued for a maximum of a five-year period. The permit may be reissued when the current term expires if the permitted facilities and uses of public land are in compliance with the conditions of the permit. Permits are non-transferable. They become null and void upon sale or transfer of the property associated with the permitted facilities or the death of the permittee. New owners must notify the Operations Managers office of their purchase and make application for a new permit. Assuming compliance with all Shoreline Management Plan policies and site requirements remain suitable, new property owners can be reasonably assured of being granted a permit.</p> <p>Upon transfer of ownership, existing mowing activities will be allowed, but minimization of mowing will be encouraged to help protect the lake's water quality. Adjacent landowners have the greatest impact and opportunity to protect and restore the lake's vegetative buffer. Through the years, grandfathered mowing privileges and permits have resulted in a general degradation of natural habitat along the Lake Lanier shoreline, and has created the appearance of private ownership of public property. Eliminating mowing on government lands will protect the natural resources, enhance wildlife habitat and the aesthetic value of the land surrounding the lake, and promote the use of public property by eliminating the appearance of private ownership. Therefore no new authorizations will be granted for grass mowing.</p>
Torre Smitherman	345	<p>I am fully in agreement with the Preferred Alternative limiting the number of new boat docks on Lanier. It seems like there should be a few less than the proposed allocation of 900+ more permits North of the Highway 53 Bridge though, since these are narrow channel areas which don't handle large volumes of boats very well.</p>	<p>The apportionment of the 2,022 new boat docks identified in the SMP between four distinct regions of Lake Lanier has been eliminated from the SMP. Instead, the location of the new boat docks will be determined on a first-come basis as requests are received and approved by the Corps.</p>
	346	<p>I am very pleased with the Preferred Alternative for the Shoreline Management Plan. In particular, I am in full agreement that people should not be able to plant grass on Corps property, and that more will hopefully be done to enforce a ban on cutting of natural vegetation. I hope that funds will be available to hire the necessary people to monitor the shoreline for infractions.</p>	<p>Comment noted</p>
	347	<p>I was somewhat disappointed to see that the EIS did not seem to directly address discharges into the Lake from water treatment plants. I believe that no more treatment plant discharges should be allowed into the Lake, and the existing ones need to be monitored more closely. However, I was pleased to see more attention being given to monitoring individual septic systems.</p>	<p>The DEIS addresses the discharge of effluent from wastewater treatment plants using a water quality model to determine short- and long-term effects to the lake from both point and non-point sources of pollution. The Georgia EPD is responsible for determining whether a proposed wastewater treatment plant is permitted to discharge into the lake.</p>

Commenter ID No.	Comment ID No.	Comments	Responses
	348	I fully support the Preferred Alternative over the No Action Alternative. However I would have liked to see some sort of action taken to discourage the use of large cruisers, especially on the North end of the Lake where the waterways are narrow, resulting in severe erosion of the shoreline.	The Corps does not have the authority to limit the size of boats on the lake. However, they can limit the size of boats that can dock at private boat docks. Text in the SMP has been changed to read as follows: "In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities. All vessels moored at private docks must belong to the permittee and in no case shall a vessel be moored to another vessel."
	349	The Preferred Alternative concerning a limit on the number of new boat docks will go a long way towards preventing a further decline in the qualities of Lake Lanier. However, I believe that dock permit holders should be required to replace styrofoam with encapsulated flotation when their dock permits come up for renewal.	Comment noted
Steve Stuart	350	I live in the Lakestone Point area. The entire area of the cove is in the green area except the side of the cove I live on. Our area is yellow zoned. I feel the number of boat docks on the lake should be limited to the number now on the lake. I feel the inspection criteria should be tightened and enforced. If the dock fails the inspection, the permit should be revoked and awarded to someone else, providing the new area does not violate one of the criteria such as, wetlands, shallow, interferes with navigation, etc. I also feel future permits should prefer community docks because they are smaller, more apt to proper maintenance, the design is more controllable, and visually more pleasing to the shoreline. I feel these changes would make the decision of who get a permit more equitable, provide improved shoreline and better maintenance.	Comment Noted
Carl Swigart	351	Grass mowing with a mowing permit in the past has been an acceptable method of erosion control. Why is this now unacceptable? It says that those with grandfathered authorization to mow to cease mowing. Yet, it states that areas where grass mowing is not authorized under the existing shoreline use permits to be revegetated by the permittee or at the Corps's discretion. Discretion to what, stop the mowing, revegetate the area?	<p>Because grass is not a high quality vegetative buffer, it is project policy to restore grassy areas to a more natural state. When such areas are not maintained and woody vegetation has reestablished itself this portion of the permit will not be renewed. During changes of ownerships minimization of permitted mowed areas will be encouraged to help protect the lakes water quality.</p> <p>Revegetation as used in the SMP refers to requiring the replanting of native vegetation on public property to replace what has been removed without a permit. Replacement may be in the form of required planting or natural restoration from the seed bed.</p>
	352	What are the funding alternatives for requiring owners to plant natural vegetation or install riprap or other shoreline or bank stabilization measures when applying for a new shoreline use permit, renewal of a shoreline use permit for a private dock or community boat dock?	Funding of erosion control measures is the responsibility of the shoreline use permittee.

Commenter ID No.	Comment ID No.	Comments	Responses
	353	With regard to septic systems that maybe on public property above the 1085' MSL, I believe the Corps should be responsible to verify whether or not these systems are on Corps property.	During the renewal process for shoreline use permits or when there is a change of ownership of an adjacent property for which there is a shoreline use permit, permittees will be required to have their septic facilities inspected. At that time, the inspector will determine if the septic system is on public property. If it is, the property owner will have to determine if the system is below the 1,085 contour. All septic systems that are currently located on public land below elevation 1085 MSL must be removed. For further details, please refer to the SMP, Section 23, <i>Water Quality</i> .
	354	I do not agree that permits for private or community boat docks be ineligible for renewal for a period of 1 year in the event corrective actions are not taken effectively or in a timely manner. They should be ineligible for renewal up and until corrective actions have been taken and then should be eligible for renewal again.	The permit renewal system allows six months for an owner to take corrective action to renew their permit. If the corrective actions are not completed within the time allowed, court action might become necessary. If the Corps cannot ultimately gain voluntary compliance then the permit cannot be renewed and all facilities must be removed from public property. Reapplication for a new permit will not be accepted for a one-year period.
	355	Under boat dock usage and setting the maximum size limit of boats to the length of the boat dock, I believe there should be some allowable limit to extend out of the dock or allow everyone that has a larger boat to have the maximum size dock (32').	Text in the SMP has been changed to read as follows: "In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the owner's ability to safely moor and protect from storm damage must be stored in marina facilities. All vessels moored at private docks must belong to the permittee and in no case shall a vessel be moored to another vessel."
	356	How will the USACE determine if public interest is protected and what guidelines will be used to approve dredging?	Permits are issued pursuant to the authority granted under Section 404 of the Federal Water Pollution Control Act (Clean Water Act) and Section 10 of the Rivers and Harbors Appropriation Act of 1899, as amended. To protect the public interest and the environment, all requests are subject to evaluations performed in accordance with the Endangered Species Act, the National Environmental Policy Act, and the Fish and Wildlife Coordination Act, and other appropriate statements. See SMP Sections 14.3 <i>Section 404</i> and/or <i>Section 10 Permits</i> and 15.8.12, <i>Silt Removal</i> for the guidelines used by the Corps to approve dredging.
	357	Enforcement/Standards: Across the board this has been described only in the vaguest of terms, particularly with regard to the withholding of dock permits. This needs to be much clearer for something as drastic as withholding dock permits.	Please refer to the Shoreline Management Plan in Appendix F for more detail. See SMP Section 15, <i>Shoreline Use/Permit License</i> , and Exhibits 10 and 11.

Commenter ID No.	Comment ID No.	Comments	Responses
	358	I do not agree with the proposal requiring the mooring of boats in boat slips only. I think a compromise could be to allow one additional boat to be moored to the side of a dock or in the case of a platform dock one boat can be moored to it.	Wording in the Executive Summary has been changed to agree with the completed SMP, which does not have this requirement.
	359	Under sections 10/404 permitting (regional permits for shoreline protection) I believe sea walls or bulkheads should be retained as an alternative for shoreline protection. With many new products coming on the market everyday that are cost effective, longer lasting and require minimal maintenance.	Fluctuating lake levels and the need to preserve public access to lands surrounding Lake Lanier from the shoreline make sea walls less desirable than riprap for shoreline protection. Additionally, sea walls will ultimately fail and often require removal at taxpayer expense.
	360	Question: If the Corps is going to require riprap for new applications or at the renewal of dock permits, will the Corp be required to riprap all of the protected areas and if not, why not)?	<p>Shoreline stabilization measures (rip-rap) may be required with the issuance of new permits that require fixed steps or are located on sites already significantly affected by erosion. One reason the Corps purchases a buffer around the lake is to prevent erosion from reaching private property. Adjacent property owners and in particularly dock owners benefit more than others from erosion control and must bear the cost.</p> <p>This preferred alternative is intended to prevent further erosion problems associated with positioning a boat docks or protect specialized structures requested by the permittee.</p> <p>There is no need for the Corps to riprap protected areas because disruptive activities (such as building a trail to a boat dock or ramp, steps, etc.) that would cause erosion are not allowed to occur in protected areas.</p>
	361	I believe that all hunting on Lake Lanier should be banned.	Hunting is an appropriate wildlife management tool. Hunting on Lake Lanier is limited because of the lake's high density of shoreline development and the potential for conflict between hunters and other lake users. The only hunting permitted lakewide is for waterfowl. Small game, turkey, and archery deer hunting is permitted in Don Carter State Park along the Chattahoochee River.

Commenter ID No.	Comment ID No.	Comments	Responses
Bobby Thomas	362	Regarding the proposed changes in the subject plan, I think it is the universal feeling that the proposal to revoke boat dock permits for violations of vegetation removal is totally absurd and hugely out of proportion to the offense. You are probably well aware that a large portion of the value of a lake front lot is based on a boat dock permit. To revoke the same for some minor infraction of Corps rules, is not equitable and possibly unconstitutional. It represents taking of one's property without due process and without compensation.	As directed by a Congressional mandate, it is the responsibility of the Corps to protect the valuable natural resources at Lake Lanier to promote environmental sustainability through a healthy ecosystem for current and future generations to enjoy. These goals and objectives are pointed out in both the SMP and EIS. Maintenance and preservation of the forest buffer at Lake Lanier contributes to these objectives. To protect the lake's vegetative buffer and water quality, the Corps utilizes many criminal, civil, and administrative penalties. Of these penalties, permit revocation is just one method to deter the unauthorized clearing of public property. The Congressionally-authorized management of public property does not constitute a taking. Obtaining a shoreline use permit is a privilege, not a right.
	363	Encourage cessation of grandfathered mowing and require planting of new vegetation is abusive and cannot be shown to be in the public's best interest. Encouraging cessation of grandfathered mowing has the potential for abuse by those with enforcement powers, which will most assuredly happen. To require property owners to revegetate currently open areas at their expense is also abusive and not equitable. Lake view is a major component of the value of lake lots and to require additional planting that would lessen this value is a taking of private property and cannot be tolerated. These provisions are not in the public's best interest and should not be allowed to stand.	The majority of the lake users do not own a house on Lake Lanier. The shoreline management program, as directed by Congress, includes environmental stewardship and protection of the natural resources under the control of the Corps. There is an overwhelming amount of scientific literature indicating that native trees and shrubs with their deep root systems are much better at holding soil and preventing erosion than species of grass. See Section 19, <i>Buffer Zones</i> , of the SMP.
ANONYMOUS			
LL.10	364	Grass is the no. 1 "Best Management Practice" for preventing erosion and runoff control. Now you want to require grass to be reforested. Who is going to pay for that? How much shoreline erosion will take place before you realize how stupid that is.	Because grass is not a high quality vegetative buffer, it is project policy to restore grassy areas to a more natural state. When such areas are not maintained and woody vegetation has reestablished itself this portion of the permit will not be renewed. During changes of ownerships minimization of permitted mowed areas will be encouraged to help protect the lakes water quality.

Committer ID No.	Comment ID No.	Comments	Responses
LL.11	365	<p>How typical of the Corps to hold public meetings and never mention requiring residents to rip-rap the shoreline, reforest grass areas, yearly dock inspections by a certified dock inspector ?????, and septic system validations. Then it is made public with only 30 days to respond at CHRISTMAS TIME! This plan will give the Corps all the power they have ever wanted to hold residents' dock permits hostage while the Corp "encourages" residents to pay exhorborant prices to rip rap the PUBLIC shoreline.</p>	<p>The National Environmental Policy Act (NEPA) requires public involvement in the development of an EIS. Per NEPA, the Corps held a public scoping meeting to inform the public of the intent to evaluate the environmental impacts of the operations and maintenance of Lake Lanier and to update the Shoreline Management Plan. In addition, a public meeting was held and a comment period provided when the Draft EIS was completed. In fact, the comment period was extended beyond the time required by NEPA to provide more time to respond due to the Christmas holiday season.</p> <p>Receiving a Shoreline Use Permit to place a private structure on public land is a privilege, not a right. Congress has provided the Corps with the authority to maintain and protect the environmental resources of public land in a high quality condition and to provide public access. The majority of lake users do not live adjacent to the lake and do not hold Shoreline Use Permits. No resident is forced to riprap the public shoreline unless they could potentially adversely affect the public shoreline.</p>
LL.12	366	<p>I commend the Corps on this endeavor to further protect Lake Lanier. My biggest concern has to do with the cost of proposed future shoreline management. I understand that riprap is very expensive, and as much as I might like to contribute by installing riprap or new vegetation along the shoreline, I am doubtful that I will be able to afford the financial cost. Is my dock permit going to be in jeopardy and possibly withheld if I cannot financially afford to do so?</p> <p>If so, I will realize significant diminishment of my property value and quality of life on the lake. I would submit that the size of wakes and violations of the 100 foot rule combined with large variances in water level are somewhat responsible for much of the deterioration and that those users should also contribute to reestablishing the shoreline, as opposed to the full burden being placed on the homeowner.</p>	<p>Shoreline stabilization measures (rip-rap) may be required with the issuance of new permits that require fixed steps or are located on sites already significantly affected by erosion. On existing structures rip-rap may be required should erosion threaten the stability of the structure, in which case some expenditure is unavoidable. Your permit could be in jeopardy if the dock became unsafe as explained in the permit conditions.</p> <p>This preferred alternative is intended to prevent further erosion problems associated with positioning a boat docks and protect specialized structures requested by the permittee. One reason the Corps purchases a buffer around the lake is to prevent erosion from reaching private property. Adjacent property owners and in particularly dock owners benefit more than others from erosion control and must bear the cost.</p>

APPENDIX D

GEORGIA DEPARTMENT

OF NATURAL RESOURCES

PROTECTED SPECIES CORRESPONDENCE



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

247 South Milledge Avenue
Athens, Georgia 30605

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4270 Norwich Street
Brunswick, Georgia 31520

August 13, 2001

Eric Dohner
Tetra Tech, Inc.
1960 Eagle Valley Court
Lawrenceville, GA 30043

RE: FWS Log No. NG-01-340-GEN

Dear Mr. Dohner:

Thank you for your letter of July 24, 2001, formally requesting species lists for the preparation of a comprehensive Environmental Impact Statement (EIS). The EIS will address the full range of management activities performed by the Corps of Engineers to operate and maintain Lake Sidney Lanier, Georgia. The U.S. Fish and Wildlife Service (Service) is providing the following comments in accordance with Section 7(a)(2) of the Endangered Species Act of 1973 (ESA), as amended, (16 U.S.C. 1531 et seq.), and the Fish and Wildlife Coordination Act (48 Stat 401, as amended, 16 U.S.C. 661 et seq.).

Enclosed are species lists for Dawson, Forsyth, Gwinnett, Hall, and Lumpkin Counties in Georgia. This information may also be viewed via the Internet at <http://www.fws.gov/r4gaf0/>. If the project area provides habitat that could be used by any of these species, we recommend that qualified personnel conduct surveys. We recommend that the results of any on-site inspection be forwarded to our office.

Our county list contains federal and state-listed species. However, we recommend that you contact the Department of Natural Resources' Heritage Program for the most current information regarding state-listed species. Also, please consider including in the draft EIS information on sensitive natural resource areas such as surrounding wetland areas, wildlife management areas (e.g., Dawson Forest Wildlife Management Area), national recreation areas (e.g., Chattahoochee River National Recreational Area) and the Buford State Fish Hatchery.

We appreciate your concern for the conservation of natural resources. If you have questions or need additional information, please contact Kim Jefferson at (706) 613-9493 ext. 22.

Sincerely,

Deborah Harris

for
Sandra S. Tucker
Field Supervisor



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

247 South Milledge Avenue
Athens, Georgia 30605

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4270 Norwich Street
Brunswick, Georgia 31520

LISTED SPECIES IN DAWSON COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES¹

Animals

Bald eagle (T,SE)
Bowfin darter (E,ST)

Halibacus leucoccephalus
Etheostoma etowahae

Inland waterways and estuarine areas in Georgia
Shallow riffle habitat, with large gravel, cobble, and small boulder substrates. Usually found in medium and large cool water creeks or small rivers (15-30 m wide) with moderate or high gradients and rocky bottoms.
Shallow water (0.1-0.5 m) in small to medium warm water creeks (1-15 m wide) with predominantly rocky bottoms. Usually found in sections with reduced current, typically runs above and below riffles and at corners of riffles and backwaters.

Cherokee darter (T,ST)

Etheostoma peroti

SPECIES OF MANAGEMENT CONCERN¹: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Southern Appalachian eastern woodrat
Blueshine shiner (ST)
Holiday darter (ST)

Neotoma floridana haematoreia
Cyprinella callitaeana
Etheostoma brevirostrum

Rockslides, cliffs, and caves
Brownwater streams
Rocky streams

Plants

Hairy blueberry

Vaccinium birtum

STATE ENDANGERED AND THREATENED SPECIES¹: The following species, as well as the Federally protected species indicated above (SE, ST, SR), are protected by the State of Georgia. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Animals

Peregrine falcon (SE)

Falco peregrinus

F. p. anatum nests on cliffs, high hills, or tall buildings; F. p. tundrus primarily seen in Georgia migrating along the coast

Frecklebelly madtom (SE)

Noturus munus

Rivers with moderate to swift current over substrates ranging from coarse gravel to boulders, submerged trees, and brush.

Plants

Golden seal (SE)
Piedmont barren strawberry (ST)

Hydrastis canadensis
Waldsteinia lobata

Rich woods and cove forests in the mountains
Rocky acidic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods.

Eastern turkeyhead (SR)

Xenophyllum angustifolium

Dry oak-hickory forests with a strong pine component due to past fire.

¹ Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

247 South Milledge Avenue
Athens, Georgia 30605

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4270 Norwich Street
Brunswick, Georgia 31520

LISTED SPECIES IN GWINNETT COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES¹

Animals

Bald eagle (T,SE)

Red-necked woodpecker (E,SE)

Haliaeetus leucocephalus

Picoides borealis

Inland waterways and estuarine areas in Georgia.
Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10' dbh.

Plants

Little amphianthus (T,ST)

Black-spored quillwort (E,SE)

Michaux's sunsc (E,SE)

Amphianthus pusillus

Isotria medeoloides

Rhus michauxii

Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.

Shallow pools on granite outcrops, where water collects after a rain. Pools are less than 1 foot deep and rock rimmed.

Sandy or rocky open woods, usually on ridges with a disturbance history (periodic fire, prior agricultural use, maintained right-of-ways); the known population of this species in Gwinnett County has been extirpated.

SPECIES OF MANAGEMENT CONCERN¹: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Bluestripe shiner (ST)

Northern pine snake

Cyprinella callitaealis

Pituophis m. melanoleucus

Brownwater streams

Plants

Alexander rock aster

Small-headed pipewort

Aster axillaris

Eriocaulon kornickianum

Granite outcrops and upland-sandhill-acid seeps

STATE ENDANGERED AND THREATENED SPECIES¹: The following species, as well as the Federally protected species indicated above (SE, ST, SR), are protected by the State of Georgia. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Plants

Golden seal (SE)

Bay star-vine (ST)

Granite rock stonecrop (ST)

Piedmont barren strawberry (ST)

Hydrastis canadensis

Schizandra glabra

Sedum pusillum

Waldsteinia lobata

Rich woods and cove forests in the mountains

Twining on subcanopy and understory trees/shrubs in rich alluvial woods

Granite outcrops among mosses in partial shade under red cedar trees

Rocky acidic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods

¹ Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated July 2001



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

247 South Milledge Avenue
Athens, Georgia 30605

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4270 Norwich Street
Brunswick, Georgia 31520

LISTED SPECIES IN HALL COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES¹

Animals

Bald eagle (T,SE)

Red-cockaded woodpecker (E,SE)

Haliaeetus leucocenturus

Picoides borealis

Inland waterways and nearshore areas in Georgia
Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh

SPECIES OF MANAGEMENT CONCERN¹: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Bluestripe shiner (ST)

Cyprinella callipatria

Brownwater streams

STATE ENDANGERED AND THREATENED SPECIES¹: The following species, as well as the Federally protected species indicated above (SE, ST, SR), are protected by the State of Georgia. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Plants

Golden seal (SE)

Indian olive (ST)

Hydrastis canadensis

Nestronia umbellata

Rich woods and cove forests in the mountains
Dry open upland forests of mixed hardwood and pine

¹ Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Updated July 2001



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

247 South Milledge Avenue
Athens, Georgia 30605

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4270 Norwich Street
Brunswick, Georgia 31520

LISTED SPECIES IN FORSYTH COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES¹

Animals

Bald eagle (T,SE)

Red-cockaded woodpecker (E,SE)

Halimastur lacrocecephalus

Prooides borealis

Inland waterways and estuarine areas in Georgia.
Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh

CANDIDATE SPECIES: Candidate species are under consideration for listing under the Endangered Species Act. Identification of candidate taxa can assist environmental planning efforts by providing advance notice of potential listings, allowing resource managers to alleviate threats and thereby possibly remove the need to list taxa as endangered or threatened.

Plants

White fringeless orchid (ST)

Plantanther integrilabia

Red maple-blackgum swamps; also on sandy damp stream margins; or on seepy, rocky, thinly vegetated slopes

STATE ENDANGERED AND THREATENED SPECIES¹: The following species, as well as the Federally protected species indicated above (SE, ST, SR), are protected by the State of Georgia. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-537-3032).

Animals

Bachman's sparrow (SR)

Bluestripe shiner (ST)

Frecklebelly mudminnow (SE)

Aimophila aestivalis

Cyprinella callitaeana

Nesurus maninus

Abandoned fields with scattered shrubs, pines, or oaks.
Brownwater streams.
Rivers with moderate to swift current over substrates ranging from coarse gravel to boulders, submerged trees, and brush.

Plants

Piedmont barren strawberry (ST)

Waldsteinia luteola

Rocky acidic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods

¹ Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

247 South Milledge Avenue
Athens, Georgia 30605

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4270 Norwich Street
Brunswick, Georgia 31520

LISTED SPECIES IN LUMPKIN COUNTY

FEDERAL ENDANGERED AND THREATENED SPECIES¹

Animals

Bald eagle (T,SE) Eowah darter (E,ST)	<u><i>Haliaeetus leucocephalus</i></u> <u><i>Etheostoma etowahae</i></u>	Inland waterways and estuarine areas in Georgia. Shallow riffle habitat, with large gravel, cobble, and small boulder substrates. Usually found in medium and large cool water creeks or small rivers (15-30 m wide) with moderate or high gradients and rocky bottoms.
Cherokee darter (T,ST)	<u><i>Etheostoma scottii</i></u>	Shallow water (0.1-0.5 m) in small to medium warm water creeks (1-15 m wide) with predominantly rocky bottoms. Usually found in sections with reduced current, typically runs above and below riffles and at ecotones of riffles and backwaters.

SPECIES OF MANAGEMENT CONCERN¹: The Fish and Wildlife Service is evaluating population trends and threats to the following Species of Management Concern. Please contact us at 247 S. Milledge Ave., Athens, GA, 706-613-9493, if you locate these species during site surveys or have other information on the species' distributions in Georgia.

Animals

Southern Appalachian eastern woodrat Appalachian Bewick's wren (SR)	<u><i>Neotoma floridana haematoresis</i></u> <u><i>Tyrannus bewickii alius</i></u>	Rockslides, cliffs, and caves Dense undergrowth, overgrown fields, thickets, and brush in open or semi-open habitat; feed primarily on insects
Bluetripe shiner (ST) Holiday darter (ST)	<u><i>Cyprinella callitronia</i></u> <u><i>Etheostoma brevistrum</i></u>	Brownwater streams Rocky streams

Plants

Manhart sedge (ST)	<u><i>Carex manhartii</i></u>	Middle elevation (2000-4000') in slightly acidic to circumneutral soils supporting cove hardwoods of hawthorn, yellow buckeye, and silverbell.
--------------------	-------------------------------	--

STATE ENDANGERED AND THREATENED SPECIES¹: The following species, as well as the Federally protected species indicated above (SE, ST, SR), are protected by the State of Georgia. For information on State listed species, contact the GA Department of Natural Resources, GA Natural Heritage Program, 2117 US HWY 278 SE, Social Circle, GA 30279 (706-557-3032).

Animals

Peregrine falcon (SE)	<u><i>Falco peregrinus</i></u>	<u><i>F. p. anatum</i></u> nests on cliffs, high hills, or tall buildings; <u><i>F. p. tundrius</i></u> primarily seen in Georgia migrating along the coast.
-----------------------	--------------------------------	--

Plants

Eastern turkeybeard (SR)	<u><i>Xerophyllum ashbeddoeoides</i></u>	Dry oak-hickory forests with a strong pine component due to past fire.
--------------------------	--	--

¹ Key to notations: E = endangered, T = threatened, and R = rare. The SE, ST, and SR indicate species also listed by the State of Georgia as endangered, threatened, and rare, respectively.

Georgia Department of Natural Resources
Wildlife Resources Division

LONICE C. BARRETT, COMMISSIONER
DAVID WALLER, DIVISION DIRECTOR

Georgia Natural Heritage Program
2117 U.S. Hwy. 278 S.E., Social Circle, Georgia 30025-4714
(770) 918-6411, (706) 557-3032

August 3, 2001

Eric T. Dohner
Principal Scientist
Tetra Tech, Inc.
1960 Eagle Valley Court
Lawrenceville, GA 30043

Subject: Known or Potential Occurrences of Special Concern Plant and Animal Species on or near Lake Sidney Lanier, Dawson, Forsyth, Gwinnett, and Hall Counties, Georgia

Dear Mr. Dohner:

Your request of July 24, 2001 was forwarded to our office. Enclosed are six maps showing the location of special concern species found within one mile of Lake Sidney Lanier and an index of the maps. Also provided are lists that should aid in assessing the potential for rare species occurrences within the area of concern. Although lists of plant and animal species potentially occurring in Forsyth and Hall counties have not been generated, provided are the lists of plant and animal species potentially occurring in Dawson and Gwinnett counties.

Please keep in mind the limitations of our database. The data collected by the Georgia Natural Heritage Program comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Georgia Natural Heritage Program can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know the location of populations of special concern species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (<http://www.dnr.state.ga.us/dnr/wild/natural.html>) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,



Greg Krakow
Data Manager

enclosures

W/0 0201

cc: David Waller, GDNR, Director, Wildlife Resources Division
Mike Harris, GDNR, Nongame Wildlife & Natural Heritage Section

**Buford Dam USGS 7.5 minute quadrangle:**

According to our records, within a one mile radius of Lake Sidney Lanier, there are occurrences of the following:

Aster georgianus (Georgia Aster) less than 0.1 mi. from lake (map 1)

Melanthium woodii (Ozark Bunchflower) less than 0.1 mi. from lake - historical record (map 2)

Flowery Branch USGS 7.5 minute quadrangle:

According to our records, within a one mile radius of Lake Sidney Lanier, there are occurrences of the following:

Nestronia umbellula (Indian Olive) extirpated by lake - historical record (map 3)

Melanthium woodii (Ozark Bunchflower) approx. 0.2 mi. from lake - historical record (map 4)

Gainesville USGS 7.5 minute quadrangle:

According to our records, within a one mile radius of Lake Sidney Lanier, there are occurrences of the following:

Nestronia umbellula (Indian Olive) approx. 0.3 mi. from lake - historical record (map 5)

Spiraea alba var. *latifolia* (Broadleaf White Spirea) approx. 0.1 mi. from lake - historical record (map 5)

Murrayville USGS 7.5 minute quadrangle:

According to our records, within a one mile radius of Lake Sidney Lanier, there are occurrences of the following:

Aster georgianus (Georgia Aster) less than 0.1 mi. from lake - historical record (map 6)

Aster georgianus (Georgia Aster) less than 0.1 mi. from lake - historical record (map 6)

Stachys latidens (Broad-toothed Hedge-nettle) less than 0.1 mi. from lake - historical record (map 6)

There are no special concern species records in our database within one mile of Lake Sidney Lanier on the following quadrangles: Coal Mountain, Chestatee, Clermont, and Lula.

GEORGIA NATURAL HERITAGE PROGRAM DATABASE

Georgia rare species and natural community occurrence information is now available on our web site at

www.dnr.state.ga.us/dnr/wild/natural.html

It is presented as both a web page (HTML) and a GIS file (ESRI Shape File). The HTML format can be used directly from your browser. The Shape File can be downloaded and used with any program that supports ESRI Shape Files. The database file associated with this Shape File can be brought into a spreadsheet, database, or word processor and queried by county, quad, and quarter quad.

Locations are at the precision of one quarter (1/4) of a USGS 7.5 minute quadrangle map (quarter quad). Quarter quads are named using the USGS map name with a suffix (NW, SW, NE, and SE).

This information is for known locations only. To obtain lists of rare species potentially occurring in a given county, please contact our office. Also, you will still need to contact our office for more precise locations of rare species in the vicinity of projects you are working with.

Please continue to keep in mind that many areas of the state have not been surveyed for rare species (see full disclaimer on our web page).

APPENDIX E
PRIVATE BOAT DOCK
CARRYING CAPACITY STUDY

**Private Boat Dock
Carrying Capacity Study**
for
Lake Sidney Lanier, Georgia

Prepared for

US Army Corps of Engineers
Mobile District
Mobile, Alabama

and

Lake Lanier Project Office
Buford, Georgia

by

Tetra Tech, Inc.
10306 Eaton Place, Suite 340
Fairfax, Virginia 22030
October 22, 2002

Contents

Introduction.....	1
Background Information.....	1
Lake Lanier.....	1
Lake Lanier Shoreline.....	3
Shoreline Zones.....	3
Shoreline Length.....	5
Physical Factors Related to Private Boat Dock Placement.....	5
Adjacent Landowner Property.....	6
Docks in the LDA.....	6
Dock Length and Width.....	7
Length of Floating Ramps and Walkways.....	7
Placement of Anchoring Cables.....	7
Lake Level.....	7
Cove Width.....	7
Slope and Water Depth.....	8
Approach for Background Data Analysis.....	8
Determining Shoreline Length.....	8
Determining LDA Locations and Lengths.....	9
Determining Existing Dock Locations.....	9
Determining the Number of Private Boat Docks in Each LDA.....	11
Determining Development Level in Each LDA.....	12
Results of the Background Data Analysis.....	13
Shoreline Length.....	13
LDA Locations and Lengths.....	13
The Dock-Permitting Scenarios.....	14
Scenario 1: Existing Conditions 50-foot Distance Required Between Docks.....	15
Scenario 2: Average Cable Anchor Spacing, 50 Percent Dock Installation Density, Excess Docks in Saturated LDAs Deducted.....	16
Scenario 3: 50-foot Distance Required Between Docks and 50 Percent Dock Installation Density.....	17
Scenario 4: Average Cable Anchor Spacing and 50 Percent Dock Installation Density.....	17
Scenario 5: 100-foot Distance Required Between Docks and 50 Percent Dock Installation Density.....	17
Scenario 6: 82 Feet of Frontage to Corps Property Required to Obtain a Permit.....	18
Scenario 7: 100-foot Distance Required Between Docks.....	19
Scenario 8: Dock Spacing as Prescribed in 1988 SMP, Average Cable Anchor Spacing, and 50 Percent Dock Installation Density.....	20
Scenario 9: SMP Maximum Spacing and 50 Percent Dock Installation Density.....	20
Results of the Dock-Permitting Scenarios.....	21
LDA Development Level.....	21
Additional and Total Docks Under the Dock-Permitting Scenarios.....	21
Other Factors That Could Affect Dock-permitting.....	21
Soils.....	23
Cove Width.....	24
Sensitive Shoreline Vegetation.....	26
Sensitive Habitats.....	27
Endangered and Threatened Species.....	27
Cultural and Historic Resources.....	28
Visual and Aesthetic Resources.....	28
Summary.....	32
Acronyms and Abbreviations.....	33
References.....	35

APPENDIX A: Excerpts from 1988 Shoreline Management Plan and Engineer Regulation 1130-2-406 37

APPENDIX B: LDA Data 38

TABLES

Table 1. Spatial and Linear Shoreline Allocation. 14

Table 2. Saturated and Unsaturated LDAs Under Dock-Permitting Scenarios. 21

Table 3. Summary of Private Boat Dock-permitting Scenarios..... 22

Table 4. Percent of LDA Shoreline Within Ranges of Slope. 24

Table 5. Scenic Attractiveness Class Definitions. 29

Table 6. Scenic Integrity Definitions. 31

Table 7. Visual Ratings of Photographs With Views of Boat Docks. 31

FIGURES

Figure 1. Project location. 2

Figure 2. Shoreline allocation. 4

Figure 3. Distribution of Lake Lanier shoreline by shoreline use..... 6

Figure 4. Sample LDA. 10

Figure 5. Slopes along LDA shoreline. 25

Figure 6. Relationship between slope of adjacent land and cove width to provide sufficient water depth for dock permitting. 26

Figure 7. Existing dock viewsheds. 30

Introduction

This *Boat Dock Carrying Capacity Study* was prepared by Tetra Tech, Inc. of Fairfax, Virginia under contract to the US Army Corps of Engineers, Mobile District (USACE, Corps). The study focuses on one aspect of the future management of Lake Sidney Lanier: The number of private boat docks that could be located along the lake's shoreline at some time in the future when all shoreline areas where boat docks may be permitted are at full capacity for boat dock development. This study, therefore, estimates the maximum number of private boat docks that could be on the lake. That maximum number is estimated under nine different scenarios, which differ primarily in how the private boat docks are spaced along the shoreline; wider spacing results in a smaller maximum number of docks.

This study was conducted to examine the relationship between potential private boat dock-permitting guidelines at the lake, and future shoreline dock density. The study was done in conjunction with updating the Lake Lanier Shoreline Management Plan (SMP). The SMP was last updated in 1988 and an environmental impact statement for the operation and maintenance of the lake, which included an analysis of potential changes to the SMP, was being prepared at the same time that this report was being written.

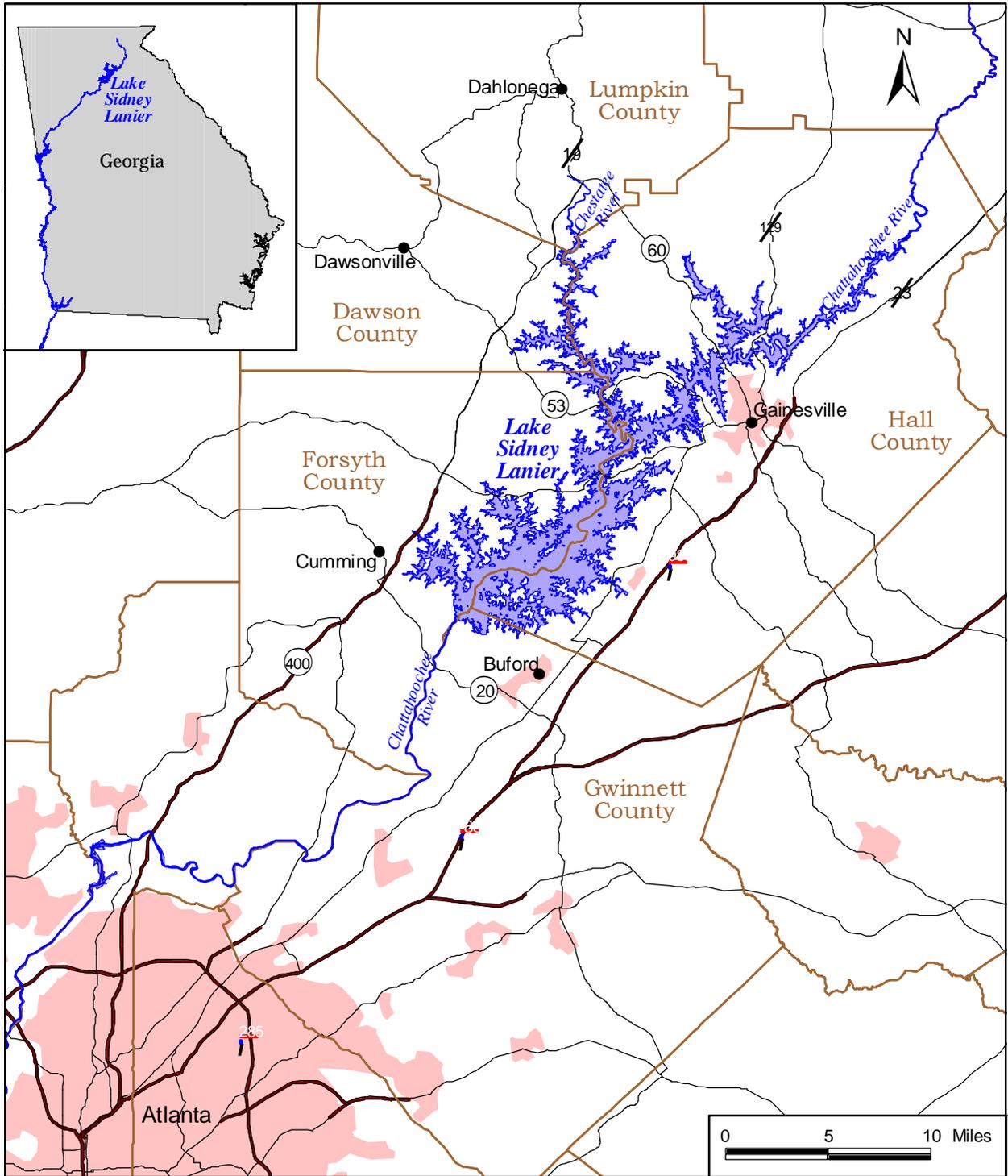
The study was conducted to:

- Examine data related to the number and location of boat docks on Lake Lanier.
- Determine potential future numbers of private docks based on different dock-permitting scenarios.
- Determine the effects of environmental factors at the lake on dock installation density.

Background Information

Lake Lanier

Lake Lanier is a USACE project in the Chattahoochee and Chestatee River Basins of northern Georgia (Figure 1). Buford Dam forms the multiple-purpose project. Impoundment of the lake was completed in 1957. The lake collects drainage from 1,045 square miles on the southern slopes of the Blue Ridge Mountains. Lake Lanier has 39,038 acres of surface water, 752 miles of total shoreline (mainland and islands), and 17,745 acres of land above the full power pool elevation of 1,071 feet above mean sea level (msl). Authorized purposes of the lake include hydroelectric power production, flood control, water quality protection, water supply, fish and wildlife preservation, navigation, and recreation.



Project Location

LEGEND

- Highway
- Primary Road
- County Boundary
- River/Water

Figure 1

Lake Lanier is north of Atlanta, Georgia, and has been greatly affected by the rapid growth of the Atlanta metropolitan area. The lake's aesthetic and recreational appeal make it one of the most highly used Corps lakes in the country. In addition, only a slim border of government-owned land surrounds the lake, so area residents can live very near the lake in quite attractive settings. Residential development continues in areas surrounding the lake. The development brings more and more landowners with private property adjacent to government property surrounding the lake, and who want to install private boat docks along the shoreline.

As of 2002, Lake Lanier had 8,348 private docks and 11 community docks on its shoreline. Forty-seven percent of Lake Lanier's shoreline is designated as *Limited Development Area*, or LDA, where private and community docks and other private floating facilities may be permitted. Using the current situation as a starting point, each of the permitting scenarios presented later in this report uses a different set of dock-spacing criteria to estimate the number of additional docks that could be accommodated on the lake.

Lake Lanier Shoreline

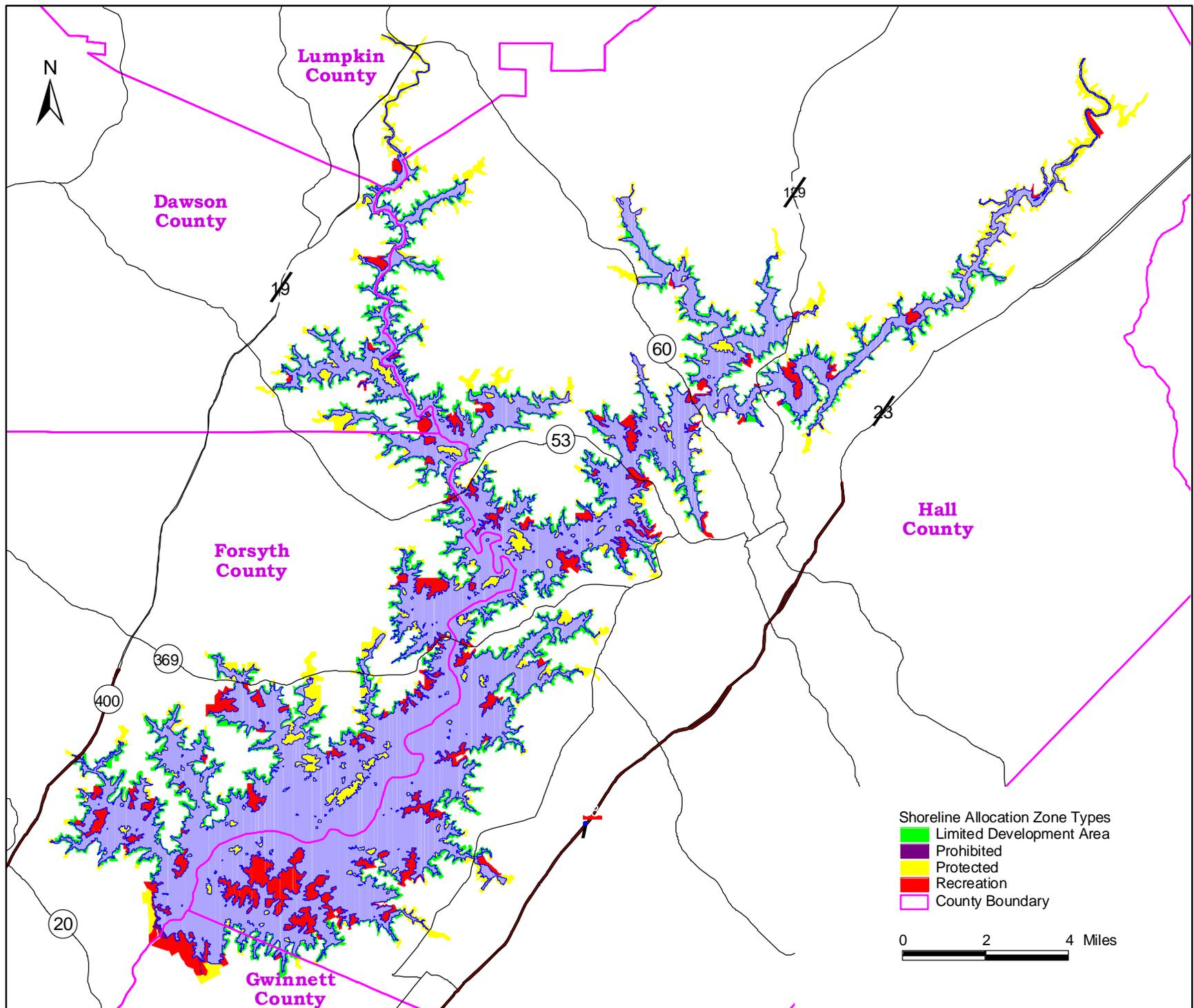
The number of private boat docks on Lake Lanier has been increasing in tandem with the growth of the metropolitan Atlanta region. By 1974 the Corps had issued permits for some 2,500 private docks. The number of dock permits had increased to approximately 6,500 by the time the SMP was last updated in 1988. The number of private docks had increased to 8,200 by 2000, and as of the date of this report the number stood at 8,348. An additional 11 community docks are also permitted on the lake. Based on the 9 years from 1992 and 2000, an average of 175 new Shoreline Use Permits for docks are issued each year.

Shoreline Zones

The Lake Lanier shoreline is divided into four classifications: Prohibited Access Areas, Protected Shoreline Areas, Public Recreation Areas, and Limited Development Areas (Figure 2).

Prohibited Access Areas are designated to protect project operation areas (Buford Dam, powerhouse intakes, saddle dikes, spillway, tailrace, and Corps marine yard), and the recreational visitor. Restricted access is allowed at most Prohibited Access Areas, and lakeshore use permits are not issued for the areas. Approximately 0.2 percent (1.74 miles) of the shoreline is classified as *Prohibited Access Area*, all of which is on the mainland shoreline.

Protected Shoreline Areas are designated to preserve the scenic appeal of the lake; to avoid conflict between private and public uses; to protect habitat for fish and wildlife; to protect cultural, historical, and



Shoreline Allocation

Figure 2

archaeological sites; to protect endangered species; to protect navigation channels; to restrict the placement of floating facilities in areas that are too shallow or too exposed to winds and currents; and to protect important natural formations and vistas. Of the 239.86 miles designated *Protected Shoreline Area*, 180.58 miles (75.3 percent) are along the mainland shoreline, constituting 24 percent of that shoreline. The other 59.28 miles (24.7 percent) are on lake islands.

Public Recreation Areas are set aside for intensive recreational development or use. Campgrounds; day use parks; primitive or natural areas; lands leased to public groups and other local, state, or federal agencies for recreational use or development; and marine services are located in Public Recreation Areas. The lake's marinas and Lake Lanier Islands complex, for example, are in these shoreline areas. *Public Recreation Areas* occur along the mainland shoreline only. Of the 156.61 miles designated *Public Recreation Area*, 137.08 miles (87.5 percent) are along the mainland shoreline and occupy 18.2 percent of that shoreline. The remaining 19.53 miles (12.5 percent) are on lake islands.

Limited Development Areas are areas where certain private facilities may be permitted on public lands. Private boat docks are the most conspicuous facility type permitted in LDAs. Other facilities that may be permitted include community boat docks, ski jumps, floats, duck blinds, and facilities associated with private boat docks including electrical lines, water lines, steps or walkways, telephone lines, and pumps. Facilities in LDAs are permitted for 5 years. All 353.83 *Limited Development Area* miles are along the mainland shoreline, occupying 47 percent of that shoreline.

Shoreline Length

The length of the Lake Lanier shoreline, including all islands on the lake, has historically been considered to be 540 miles long. This shoreline length was estimated before the widespread use of geographic information systems (GIS) for the data analysis. Using the best data currently available and GIS technology, the shoreline is now estimated to be 752 miles long.

The revised shoreline length (752 miles) and GIS technology were used to arrive at the revised total lengths of shoreline in each shoreline classification provided above. Figure 3 illustrates the relative abundance of each shoreline classification for both the mainland and islands.

Physical Factors Related to Private Boat Dock Placement

Many physical factors come into play when the Corps decides where a private boat dock may be located. These factors are discussed in this section.

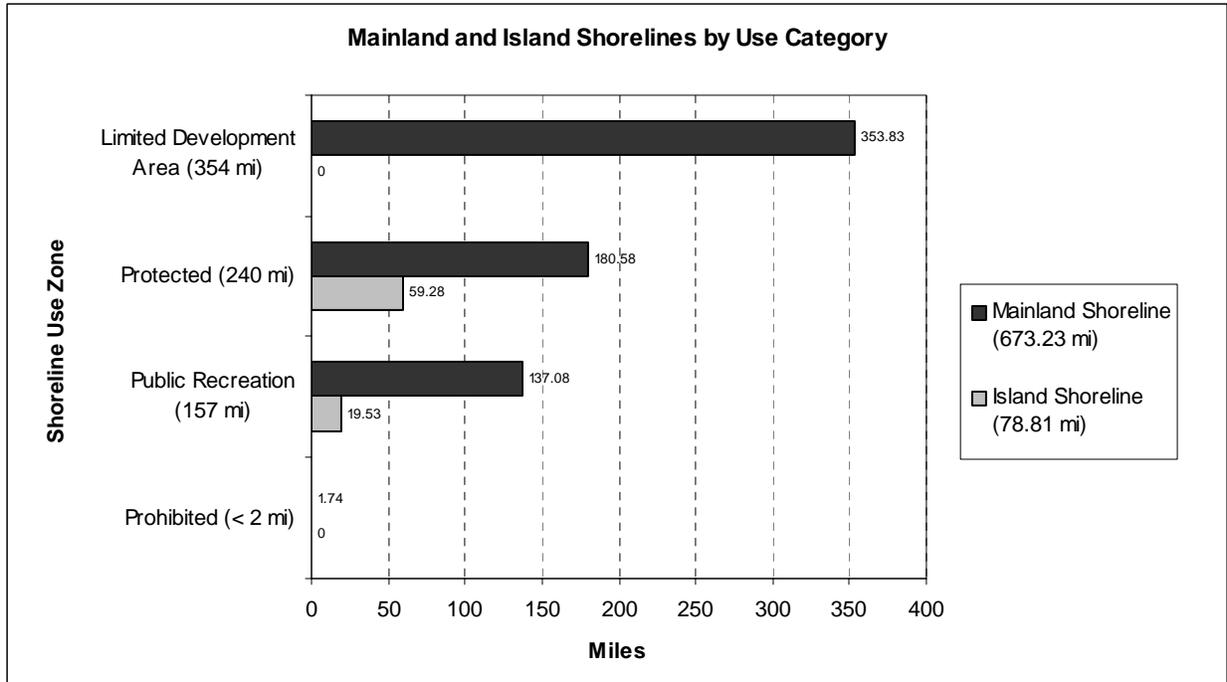


Figure 3. Distribution of Lake Lanier shoreline by shoreline use.

Adjacent Landowner Property

Only adjacent landowners (i.e., landowners who have unrestricted legal access through private property to public lands that are zoned *Limited Development*) are eligible for private boat dock permits. (See Section 12.5.1 of the 1988 SMP [Appendix A]). Docks must be located at the point of the shoreline nearest to the adjacent landowner’s property, though deviations of 100 feet to either side of this point are allowed if water depth or dock spacing is an issue. (See Section 12.5.2 of the 1988 SMP [Appendix A].)

Docks in the LDA

Dock location is configured at the full conservation pool level of the lake, which is 1,071 feet above msl. Under the 1988 SMP, docks must be no closer than 50 feet from each other at that level. Current docks in an LDA, therefore, restrict the placement of additional docks. (See Section 12.5.2 of the 1988 SMP [Appendix A].) For instance, an existing dock might be too close to the end of an LDA (i.e., closer than 74 feet¹) to allow another dock to be placed in the available space, or two existing docks might be too close together (i.e., less than 124 feet apart¹) to allow placement of a third dock between them.

¹ 74 feet, not 50 feet, is used because docks may be placed no closer than 50 feet from each other, dock edge-to-dock edge. 74 feet would be necessary to achieve this distance for a 24-foot wide dock. 124 feet is used for the minimum spacing of two existing docks to account for the 24-foot wide dock and 50 feet to each side of the dock.

Dock Length and Width

The maximum external dimensions of a dock are 32 feet by 32 feet (1,024 square feet), and the maximum size of an attached platform or deck may not exceed 192 square feet. (See Section 12.5.3.1 of the 1988 SMP [Appendix A].)

Length of Floating Ramps and Walkways

A floating ramp leading to a dock may not exceed 40 feet in length, and a land-based, fixed-section walkway or steps used in conjunction with the ramp may not exceed 10 feet in length. The land-based portion is considered part of the ramp, and therefore the 40-foot limit applies to the combined length of the land-based and floating portions of a ramp. (See Section 12.5.3.4 of the 1988 SMP [Appendix A].) Together, a walkway, ramp, and dock cannot exceed 72 feet in length, which is the combined maximum length of a walkway and ramp (40 feet), and a dock (32 feet).

Placement of Anchoring Cables

Cables used to anchor a dock to the shoreline must be secure, and they should be placed at a 45-degree angle to the dock itself. (See Section 12.5.3.9 of the 1988 SMP [Appendix A].) Anchor cables must not obstruct the public's use of the shoreline or water surface. In addition, the cables of neighboring docks should not cross each other. (See Section 12.5.3.9 of the 1988 SMP [Appendix A].)

Lake Level

As noted previously, dock location is configured at the full conservation pool level of the lake, 1,071 feet above msl. At lake levels marginally below or above this level, the placement of a dock at 1,071 feet above msl is approximated. Dock-permitting may be suspended when the lake falls to a level where accurate judgments of site requirements cannot be made. The lake level at which dock-permitting is suspended is 1,063 feet above msl. Permitting remains suspended until the lake rises to or exceeds 1,063 feet above msl.

Cove Width

Docks are not to be placed in the water such that they extend into the center third of a cove because that area must remain open for navigation. (See Section 12.5.2 of the 1988 SMP [Appendix A].) This restriction is especially important for dock placement in shallow or narrow coves. See the discussion below under *Slope and Water Depth*.

Slope and Water Depth

The slope of the surrounding land is not in itself a factor that often limits dock placement because the shoreline surrounding Lake Lanier is mostly gentle (less than a 50 percent slope; for example, a 10-foot vertical rise over a 20-foot horizontal length of land). However, the slope of the lake bottom can limit dock placement because the 1988 SMP requires that there be at least 5 feet of water below the edge of the dock farthest from the shoreline. (See Section 12.5.2 of the 1988 SMP [Appendix A].) Very gently sloped areas might not provide sufficient depth of water (5 feet) within 72 feet of the shoreline (the maximum combined length of a dock and approach ramp/walkway) (see *Length of Floating Ramps and Walkways* above), or within the third of the cove (see *Cove Width* above) adjacent to the shoreline.

Approach for Background Data Analysis

Determining Shoreline Length

The length of boundary frontage between Corps property and private property (i.e., the property line between government and private property around the lake) and the length of the shoreline within LDAs were used as the primary factors to determine how many additional private docks could ultimately be permitted on the lake. The boundary frontage length is important because a private property owner must have unrestricted access to government property in order to receive a dock permit (ER 1130-2-406, Section 4(f)). The length of the lake's shoreline within LDAs is important because a minimum distance of 50 feet between private docks is required by the 1988 SMP, though a different distance might be specified if the SMP is revised. ER 1130-2-406 also specifies that floating facilities occupy at most 50 percent of the LDA in which they are located, based on the linear feet of shoreline in the LDA. (See ER 1130-2-406, Section 10 [Appendix A]). The location and length of the Corps property boundary line, the lake's total shoreline length, and the shoreline length within LDAs were determined using GIS information obtained from the Corps.

A high-resolution digital image of the frontage boundary line of Corps property surrounding Lake Lanier and a high-resolution digital image of the lake's shoreline at 1,071 feet above msl were used to determine the shoreline length. The two images were combined to create a digital image of the Corps property surrounding the lake, and on islands at the full conservation pool level (i.e., 1,071 feet above msl). The Corps property then was subdivided by shoreline allocation zone using the *Lake Sidney Lanier Shoreline Use Allocations Atlas* as a guide. The result of this effort was a GIS data layer that provides information on shoreline-use classification for each shoreline zone area.

Determining LDA Locations and Lengths

The geographic limits of each LDA were required to determine the lengths of the individual LDAs. The LDA lengths, in turn, were necessary to determine the potential number of boat docks that could be permitted in each LDA. Current shoreline allocation maps in combination with the information developed on the total length of the lake's shoreline were used to determine the limits and lengths of all individual LDAs. Using GIS, the outlines of the LDAs were overlaid on an outline of Corps property around the lake to determine the length of each LDA as accurately as possible.

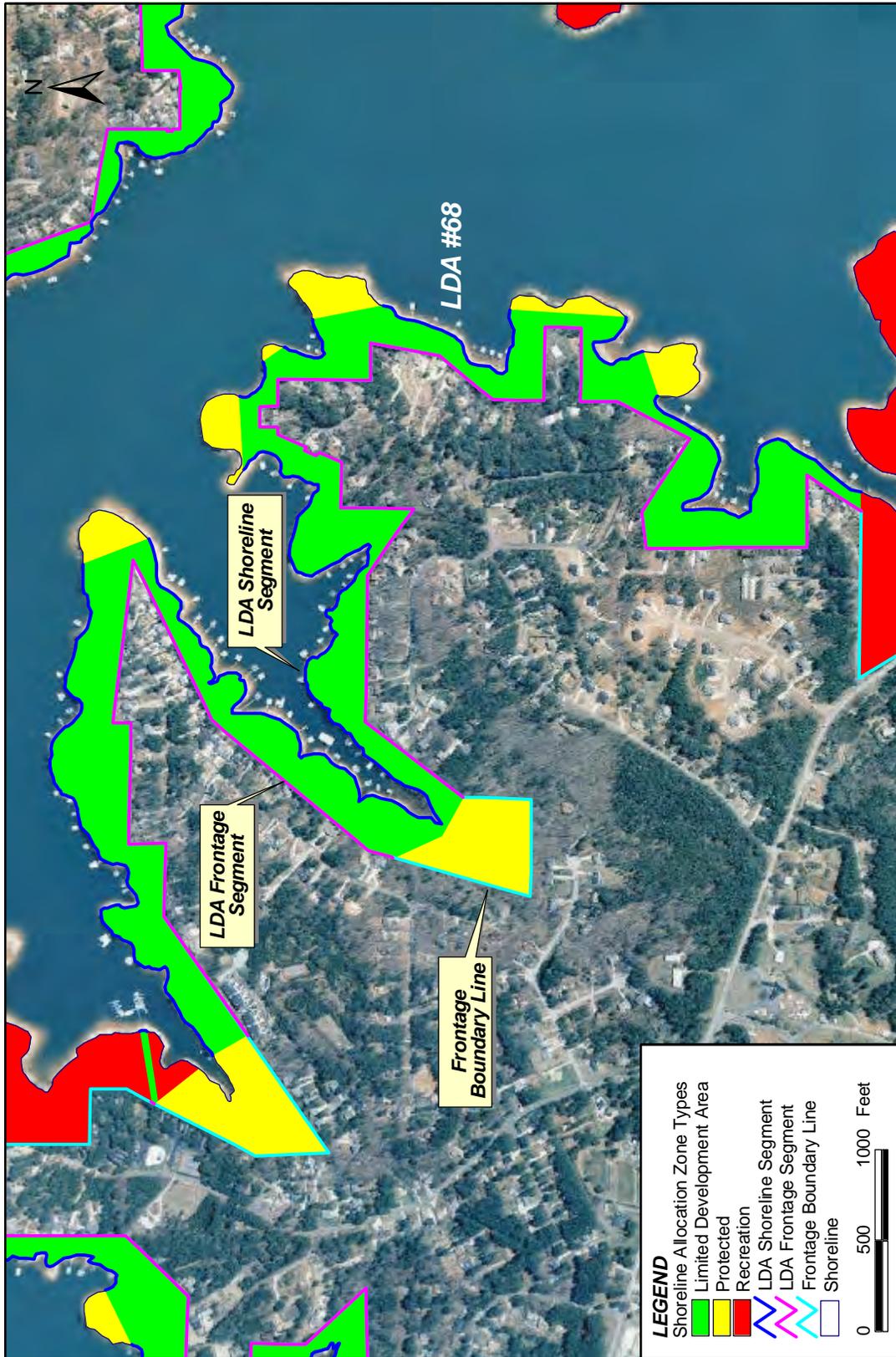
Two sets of limits for each LDA were necessary for the analysis. First, the boundary frontage limits of each one were necessary (Figure 4). The boundary limits are the start and end points of the government property line of an LDA, and the locations of points where the property line changes direction. With these points the total boundary frontage length of each LDA was determined. Second, the length of each LDA along the shoreline at 1,071 feet above msl was needed. Determining this length was slightly more complicated because many LDAs are dissected along their shorelines by segments of shoreline designated as *Protected Shoreline Area* (Figure 4). The total shoreline length of an LDA was determined by summing the lengths of the individual LDA shoreline segments associated with the entire boundary frontage LDA. There are 435 LDAs as determined by boundary frontage (Appendix B), and within those LDAs there are 619 LDA shoreline segments.²

Because of variations in the configurations of the boundary frontages of LDAs and the associated shorelines, the shoreline length of an LDA might be longer or shorter than the same LDA's boundary frontage length.

Determining Existing Dock Locations

Knowledge of the locations and number of boat docks in each LDA at the time of this report (2002) was necessary to determine the potential level of development for each LDA. The Corps identifies the location of private boat docks by giving each dock a shoreline location code. The location codes are assigned to docks according to their distance along the shoreline from Buford Dam moving in a clockwise direction from the dam around the lake (i.e., moving north from the dam and continuing around the lake through Forsyth, Dawson, Lumpkin, Hall, and Gwinnett counties, in that order) (Figure 2). The dock location codes, however, are not accurate enough to determine the precise location of each dock, or the distances

² Unless otherwise noted, use of the acronym "LDA" throughout the rest of this report refers to LDAs as determined by boundary frontage.



Sample LDA

Figure 4

between docks, because the measurements used to assign the location codes were based on an erroneous shoreline length. The codes, however, proved valuable for identifying the LDA in which each dock is located.

Aerial photography imagery from 1999 was used in conjunction with the Lake Lanier dock permit database, which contains the location codes referred to above, to develop a GIS coverage of the locations of the 8,348 private boat docks, and 11 community docks on Lake Lanier. Once a dock on the aerial image was matched to the dock's shoreline location code in the Corps permit database, the dock was digitized. The actual point for the dock was digitized as the center of the boathouse on the edge of the dock closest to the shoreline. In many cases, docks were so close together, forming "clusters," that it was impossible to identify precisely which dock on the image matched each record in the permit database. This was solved by observing the dock clusters and the gaps (the dockless areas that separated the clusters) in the database and finding corresponding clusters and gaps on the aerial photos. This approach minimized the error of points digitized from the image not matching the information in the database.

The Corps dock permit database contains 254 docks that were installed after March 1999 (the date of the aerial photographs), so the photographs do not show these docks. The locations of these 254 docks were estimated using their shoreline location codes in the database in conjunction with the codes of the docks in the database nearest to them (determined based on the location codes).

Community docks and the number of overnight slips they contain were also incorporated into the GIS database. A final GIS database of the 8,348 private dock locations and 11 community dock locations—the same number as that in the permit database—was realized.

Determining the Number of Private Boat Docks in Each LDA

The number of boat docks in each LDA was determined by projecting the digitized dock locations in the GIS to the nearest location on the shoreline and coordinating this information with the previously determined boundaries of each LDA shoreline segment. Some projected locations of docks fell outside shorelines designated LDA. In these instances, the LDA shoreline segment nearest to the dock in question was determined and the dock was assigned to the corresponding LDA. The number of digitized points assigned to an LDA was used as the number of private docks along the LDA.

For the purposes of this analysis, it was desirable somehow to equate the community docks to private docks, and the method chosen was based on slips. The 11 community docks on the lake have a total of 488 slips. Assuming that two slips in a community dock equate to one private boat dock, and taking into

account the distribution of the slips on the lake, the number of slips in community docks equates to 245 private boat docks. Thus, for the analyses in this study of the number of total and additional docks that the lake could accommodate, a total of 8,593 (8,348 + 245) private boat docks was used as the current number of private docks on the lake.

Determining Development Level in Each LDA

Knowing the number of private boat docks along an LDA allowed a determination of whether an LDA is saturated with boat docks. A “saturated” LDA is one that would accommodate no additional docks under a particular scenario. An “unsaturated” LDA would, of course, accommodate additional docks. All but one of the dock-permitting scenarios considered (the scenarios described below) used LDA shoreline length rather than LDA boundary frontage length to determine whether additional docks could be placed in an LDA. Because the shoreline lengths and boundary frontage lengths of LDAs are not equal and the scenarios differ in how docks are spaced, whether a LDA is saturated or unsaturated can differ from scenario to scenario.³

Few LDAs are saturated with docks under the current dock-permitting policy. That is, when the minimum 50-foot buffer distance between docks (per Section 12.5.2 of the SMP [Appendix A]) is applied to existing docks, and a 24-foot wide dock is assumed, few LDAs are shorter than the number of existing docks multiplied by 74 feet—the sum of the width of a dock and its associated dock-to-dock buffer. Thus, when calculating the amount of LDA shoreline currently occupied by docks, the result was rarely larger than the LDA shoreline length. To illustrate this, consider an LDA that has 400 feet of shoreline and six docks. Under the current dock-permitting policy (Scenario 1, see below), the six docks were calculated to occupy 444 feet (6 docks x 74 feet per dock), or an amount of shoreline greater than the length of the LDA shoreline. This LDA would be considered saturated with docks under Scenario 1. Under other dock-permitting scenarios, up to 100 or more LDAs would be considered saturated with docks.

An excess number of docks in LDAs was dealt with in one of two ways under a scenario: (1) The LDAs were considered saturated but the excess docks in saturated LDAs were ignored in all further calculations, or (2) the LDAs were considered saturated and the number of excess docks in saturated LDAs was subtracted from the number of additional docks the lake could accommodate. This approach followed from the requirement of Section 10 of ER 1130-2-406 that in LDAs where the 50 percent density of

³ Example: An LDA 500 feet long with 5 docks would have an occupied shoreline length of 370 feet with a dock-permitting scenario of 50 feet between docks, and assuming that docks are 24 feet wide ($5 \times [50 + 24] = 370$). Under this scenario the LDA would be unsaturated and would be able to accommodate an additional dock. Under a dock permitting scenario of 100 feet between docks and still assuming 24-foot wide docks, the existing 5 docks would occupy a total LDA shoreline length of 620 feet ($5 \times [100 + 24] = 620$), or more than the total length of the LDA. Under this scenario the same LDA would be saturated.

development criterion is exceeded, docks should be removed by attrition until the 50 percent density is attained (Appendix A). Scenario 2 is the only one in which excess docks were dealt with in the second manner.

Results of the Background Data Analysis

Shoreline Length

Using the best data currently available, and GIS technology, the estimate of the lake's shoreline length was updated to 752 miles. This is significantly longer than the currently quoted length, 540 miles.

The 1988 Lake Lanier SMP states that approximately 46 percent of the lake's mainland shoreline, or 248 miles, is designated LDA. The estimate was based on a shoreline length of 540 miles and a lake surface area of 38,024 acres at 1,071 feet above msl. That estimate of the lake's shoreline length was found to be erroneous, however, and this affected the percent and miles of shoreline allocated to each shoreline-use classification. Table 1 presents the updated estimate of Lake Lanier's shoreline length, and the division of its shoreline among the four shoreline-use classifications.

The distribution of shoreline-use classifications was calculated linearly (shoreline miles), and spatially (acreage). According to the calculations, there is a relatively even spatial (acreage) distribution of shoreline classifications, with the exception of *Prohibited Access Areas* (Table 1). LDAs, however, occupy relatively more shoreline miles per acre than other shoreline allocations. LDAs occupy 47 percent of the total shoreline and 35 percent of Corps property (0.057 mile/acre). *Public Recreation Areas*, such as day-use parks, campgrounds, and public boat ramp areas, occupy 20.8 percent of the shoreline and 30 percent of the property (0.029 mile/acre), and *Protected Areas* occupy 31.9 percent of the shoreline and 34.7 percent of the property (0.039 mile/acre). In general, then, LDAs are narrower than either *Public Recreation Areas* or *Protected Areas*, and private property lies closer to the lake along LDAs than along shoreline with other use classifications.

LDA Locations and Lengths

LDA identification numbers, the length of LDAs, and the number of existing docks in the LDAs are provided in Appendix B.

Table 1. Spatial and Linear Shoreline Allocation.

Shoreline Allocation	Length (mi)	Percentage of Total Shoreline	Acres	Percentage of Corps Property
LDA (main shoreline)	344.70	45.8%		
LDA in water ¹	9.13	1.2%		
TOTAL LDA	353.83	47.0%	6,186.6	34.9 %
Protected, islands	59.28	7.9%		
Protected, main shoreline	177.44	23.6%		
Protected in water	3.14	0.4%		
TOTAL Protected	239.86	31.9%	6,163.6	34.7 %
Recreation (main shoreline)	156.34	20.8%		
Recreation in water	0.28	0.04%		
TOTAL Recreation	156.61	20.8%	5,329.5	30.0 %
TOTAL Prohibited	1.74	0.2%	64.9	0.4 %
TOTAL	752.05	100.0%	17,744.6	100.0 %

¹“in water” refers to areas where the Corps boundary runs into the water. It is assumed that the shoreline paralleling these segments is of the same classification as the adjacent shoreline segments.

The Dock-Permitting Scenarios

The maximum number of docks on Lake Lanier was evaluated under nine different dock-permitting scenarios. Scenario 1 reflects existing conditions by using the currently implemented dock-permitting and locating guidelines to determine the number of docks that an LDA could accommodate in the future. Scenario 2 fully complies with the provisions of ER 1130-2-406. Other scenarios base the number of additional docks that the lake could accommodate on variations in the length of shoreline considered to be occupied by a boat dock, whether the 50 percent density of development criterion of ER 1130-2-406 was applied to existing or additional docks, and whether dock attrition (per ER 1130-2-406) was accounted for by deducting the number of excess docks in LDAs from the total number of docks that could be accommodated on the lake under the scenario. Unless otherwise noted, a dock width of 24 feet—the average width of docks on Lake Lanier—was used in the scenarios. Explanations of the nine scenarios are provided below.

*Scenario 1:
Existing Conditions
50-foot Distance Required Between Docks*

Scenario Key Points	<ul style="list-style-type: none"> • Current shoreline-use permitting policy. • 74 feet of LDA shoreline length deducted for each existing dock (24-ft-wide dock + 50-ft buffer = 74 ft). • Number of additional docks calculated as <i>unoccupied LDA shoreline length</i> ÷ 74. • Excess number of existing docks was ignored. The number of existing docks in excess of the number of docks LDAs should have (based on 74 feet per dock) was not deducted from the total number of additional docks the lake could accommodate in the future. • Does not comply with ER 1130-2-406.
--------------------------------	---

Under this dock-permitting scenario, which is the permitting policy currently in place at Lake Lanier, the number of docks that a LDA could accommodate was determined based on a spacing of 50 feet between docks, from the nearest edge of one dock to the nearest edge of a neighboring dock. This spacing is required by Section 12.5.2 of the 1988 SMP. The length of shoreline considered to be occupied by a dock itself was 24 feet, because most docks on the lake are 24 feet wide. The amount of shoreline occupied by each existing dock in an LDA, therefore, was 74 feet (i.e., 50 feet between docks plus 24 feet for the width of a dock). The total length of the LDA shoreline minus the total length of shoreline occupied by existing docks in the LDA gave the length of LDA shoreline available for additional docks. Because 74 feet is attributed to each future dock as well, the available shoreline length was divided by 74 to arrive at the number of additional docks, if any, that the LDA could accommodate in the future. If the length of LDA shoreline occupied by existing docks was greater than the actual length of the LDA shoreline, the excess was ignored. That is, the number of existing docks in LDAs in excess of the maximum number of docks LDAs should have under this scenario was not subtracted from the number of additional docks that the lake could accommodate in the future.

The total shoreline length of an LDA, not the length of an LDA along the boundary frontage, was used to determine the number of future docks that could be located in an LDA. (See Figure 4 for an illustration of an LDA shoreline.) This was necessary because the scenario uses the distance between docks to determine the number of additional docks that an LDA could accommodate, and this distance must be measured along the shoreline, not along the private property boundary frontage of an LDA. (All scenarios except Scenario 6 use the length of LDA shoreline to determine the number of additional docks that could be accommodated.)

Scenario 1 does not comply with Section 10 of ER 1130-2-406 (Appendix A) because it does not incorporate the 50 percent density of development criterion nor does it account for dock attrition in saturated LDAs, as required by the regulation.

*Scenario 2:
Average Cable Anchor Spacing, 50 Percent Dock Installation Density,
Excess Docks in Saturated LDAs Deducted*

Scenario Key Points	<ul style="list-style-type: none"> • Uses average cable anchor-to-cable anchor distance of 88 feet. • 176 feet (88 ft. for moorage length + 88 ft. of unused shoreline) of LDA shoreline length deducted for each existing dock. • Number of additional docks calculated as <i>unoccupied LDA shoreline length ÷ 176</i>. • Excess number of existing docks was deducted from the total number of additional docks that would be allowed in the future. • Fully complies with ER 1130-2-406.
--------------------------------	---

Under Scenario 2, as in Scenario 1, LDA shoreline length was used to determine the number of docks an LDA could accommodate. Each existing dock was considered to occupy 88 feet of LDA shoreline, or the average cable anchor spacing—the distance between the two cable anchors that hold a dock in place (see explanation below). This distance was doubled to 176 feet to account for a 50 percent dock installation density along LDAs, as required by Section 10 of ER 1130-2-406 (see Appendix A). The number of existing docks in LDAs in excess of the maximum number of docks LDAs should have under this scenario was subtracted from the number of additional docks that the lake could accommodate in the future.

Average cable anchor spacing means that 88 feet was used as the average length of LDA shoreline occupied by a dock. The 88-foot average space between cable anchors is based on a series of measurements taken by Lake Lanier Project personnel. In autumn 2001, project personnel measured the distance between the two points at which individual docks are anchored for 345 docks on Lake Lanier. The average of the 345 measurements was 88 feet between cable anchors.

Scenario 2 complies with Section 10 of ER 1130-2-406 (see Appendix A), because it incorporates the 50 percent density of development criterion and it accounts for dock attrition, as required by the regulation, by reducing the number of additional docks that the lake could accommodate in the future by the number of excess docks in saturated LDAs.

*Scenario 3:
50-foot Distance Required Between Docks and 50 Percent Dock Installation Density*

Scenario Key Points	<ul style="list-style-type: none"> • 148 feet (24-ft wide dock + 50-ft buffer [dock-to-dock] + 74 ft [to account for 50% LDA utilization]) of LDA shoreline length deducted for each existing dock. • Number of additional docks calculated as <i>occupied LDA shoreline length ÷ 148</i>. • Excess number of existing docks was ignored. • Does not fully comply with ER 1130-2-406.
----------------------------	---

This scenario duplicates Scenario 1, except that docks are installed at a density of 50 percent in LDAs, as required by ER 1130-2-406. A 24-foot wide dock with its 50-foot buffer was considered to occupy 74 feet of LDA shoreline. The 50 percent dock installation density was accounted for by doubling this distance, or attributing 148 feet to each existing and additional dock. Excess docks in saturated LDAs were ignored, as in Scenario 1.

Scenario 3 does not comply with Section 10 of ER 1130-2-406 (see Appendix A) because it does not account for dock attrition in saturated LDAs, as required by the regulation.

*Scenario 4:
Average Cable Anchor Spacing and 50 Percent Dock Installation Density*

Scenario Key Points	<ul style="list-style-type: none"> • Uses average cable anchor-to-cable anchor distance of 88 feet. • 176 feet (88 ft. for moorage length + 88 ft. of unused shoreline) of LDA shoreline length deducted for each existing dock. • Number of additional docks calculated as <i>unoccupied LDA shoreline length ÷ 176</i>. • Excess number of existing docks was ignored. • Does not fully comply with ER 1130-2-406.
----------------------------	---

This scenario duplicates Scenario 2 except that, as in Scenario 1, excess docks in saturated LDAs were ignored. Because it does not account for dock attrition in saturated LDAs, as required by ER 1130-2-406, the scenario does not comply with the regulation.

*Scenario 5:
100-foot Distance Required Between Docks and 50 Percent Dock Installation Density*

Scenario Key Points	<ul style="list-style-type: none"> • 248 feet (24-ft wide dock + 100-ft buffer [dock-to-dock] + 124 ft [to account for 50% LDA utilization]) of LDA shoreline length deducted for each existing dock. • Number of additional docks calculated as <i>unoccupied LDA shoreline length ÷ 248</i>. • Excess number of existing docks was ignored. • Does not fully comply with ER 1130-2-406.
----------------------------	---

This scenario duplicates Scenario 3, except that the buffer distance required between docks was increased from 50 feet to 100 feet. The combined width of a dock (24 feet) and the 100-foot buffer was 124 feet, and application of the 50 percent density of development criterion meant that each existing and additional dock was considered to occupy 248 feet of LDA shoreline. Excess docks in saturated LDAs were ignored, as in Scenario 1. Because Scenario 5 does not account for dock attrition in saturated LDAs, as required by ER 1130-2-406, the scenario does not comply with the regulation.

Scenario 6:

82 Feet of Frontage to Corps Property Required to Obtain a Permit

Scenario Key Points	<ul style="list-style-type: none"> • LDA boundary frontage length used rather than LDA shoreline length. • 74 feet of boundary frontage deducted for each existing dock (24-ft wide dock width + 50-ft buffer distance). • 82 feet of boundary frontage (50-ft buffer + 32-ft wide dock [the maximum allowable dock width]) required to receive a dock permit. • Number of additional docks calculated as <i>unoccupied LDA boundary frontage length ÷ 82</i>. • Excess number of existing docks was ignored. • Does not fully comply with ER 1130-2-406.
--------------------------------	---

Under this future dock-permitting scenario, only landowners who have 82 feet (50-foot buffer between docks + the maximum allowable dock width of 32 feet) or more of private property frontage with Corps property designated as LDA would be eligible to apply for a dock permit. (See Figure 4 for an illustration of a LDA frontage segment.) The purpose of the scenario would be to discourage the existing practice of developers of creating property boundaries that give adjacent landowners narrow slices of land abutting LDAs, sometimes as narrow as 8 feet, to satisfy the 1988 SMP requirement that a landowner have legal access to the lake shoreline to apply for a dock permit. It would also discourage existing landowners with property frontage along LDAs from selling narrow strips of their property to other property owners to give these other landowners legal access to the shoreline. These types of boundary layouts create situations in which far more property owners have land with frontage along an LDA than the number of docks the LDA can accommodate.

A LDA's development level under this scenario was determined by subtracting 74 feet for each dock in the LDA from the total length of the LDA boundary frontage. The distance of 74 feet was chosen for existing docks because it is the length of LDA shoreline attributed to docks under the dock-permitting policy currently employed. After subtracting 74 feet for each existing dock from the LDA boundary frontage length, the LDA boundary frontage length remaining, if any, was divided by 82 feet to arrive at the number of additional docks the LDA could accommodate in the future. Excess docks in saturated LDAs were ignored in this scenario.

Scenario 6 does not comply with Section 10 of ER 1130-2-406 (see Appendix A) because it is not based on dock spacing along LDA shoreline. Because of this, it also cannot account for the dock attrition policy in saturated LDAs, as stated in the regulation.

This scenario would be most applicable to currently undeveloped land next to LDAs, and not to landowners who currently have land abutting LDAs because it would be unfair to deny the latter group the right to apply for a dock permit when they had that right when they purchased their land. Under this scenario, therefore, landowners who currently own private property that has less than 82 feet of frontage abutting a LDA would not be denied the right to apply for a permit for a boat dock.

Note that this dock-permitting policy, if adopted, would not prevent developers from creating land parcels with less than 82 feet of frontage to a LDA. Once the policy was in place, however, persons purchasing such parcels would do so with the knowledge that they would not be eligible to apply for a boat dock permit. The policy could also encourage developers to create common property access to LDAs for the installation and use of community docks.

*Scenario 7:
100-foot Distance Required Between Docks*

Scenario Key Points	<ul style="list-style-type: none"> • 74 feet (24-ft wide dock + 50-ft buffer) of LDA shoreline length deducted for each existing dock. • Number of additional docks calculated as <i>unoccupied LDA shoreline length ÷ 124</i>. • Excess number of existing docks was ignored. • Does not fully comply with ER 1130-2-406.
--------------------------------	--

This dock-permitting scenario duplicates Scenario 1 except that the buffer distance required between additional docks was increased from 50 feet to 100 feet. A dock width of 24 feet was used. An LDA shoreline length of 74 feet was deducted for each existing dock, and a length of 124 feet was deducted for each additional dock. Excess docks in saturated LDAs were ignored, as in Scenario 1.

Scenario 7 does not comply with Section 10 of ER 1130-2-406 (see Appendix A) because it does not incorporate the 50 percent density of development criterion nor does it account for dock attrition in saturated LDAs, as required by the regulation.

*Scenario 8:
Dock Spacing as Prescribed in 1988 SMP, Average Cable Anchor Spacing, and 50 Percent Dock Installation Density*

Scenario Key Points	<ul style="list-style-type: none"> • Uses average cable anchor-to-cable anchor distance of 88 feet. • 74 feet (24-ft dock + 50-ft buffer) of LDA shoreline length deducted for each existing dock. • Number of additional docks calculated as <i>unoccupied LDA shoreline length ÷ 176</i>. • Excess number of existing docks was ignored. • Does not fully comply with ER 1130-2-406.
----------------------------	---

This dock-permitting scenario has characteristics of Scenarios 1 and 4. Existing docks were ascribed a length of 74 feet, or the most common dock width (24 feet) plus the 1988 SMP dock-to-dock buffer distance of 50 feet, as in Scenario 1. This reflects the conditions under which docks have been permitted to date. Additional docks, however, were considered to occupy 176 feet of LDA shoreline, or twice the average cable anchor-to-cable anchor distance of 88 feet, as in Scenario 4.

Excess docks in saturated LDAs were ignored, as in both Scenarios 1 and 4.

Scenario 8 does not comply with Section 10 of ER 1130-2-406 (see Appendix A) because it does not incorporate the 50 percent density of development criterion for existing docks, nor does it account for dock attrition in saturated LDAs, as required by the regulation.

*Scenario 9:
SMP Maximum Spacing and 50 Percent Dock Installation Density*

Scenario Key Points	<ul style="list-style-type: none"> • Assumed cable anchor-to-cable anchor distance of 112 feet. • 224 feet of LDA shoreline length deducted for each existing dock. • Number of additional docks calculated as <i>unoccupied LDA shoreline length ÷ 224</i>. • Excess number of existing docks was ignored. • Does not fully comply with ER 1130-2-406.
----------------------------	--

This scenario was based on maximum specifications for dock installation as stated in Section 12.5.3 of the 1988 SMP. The SMP states that the maximum permissible dock width is 32 feet, the maximum permissible walkway length for a dock is 40 feet, and cable anchors must be extended from a dock at 45-degree angles. This equates to a cable anchor-to-cable anchor distance of 112 feet (32-foot wide dock + 40 feet to either side). According to ER 1130-2-406, all shoreline between cable anchor points is “occupied” by a dock and no more than 50 percent of LDA shoreline can be occupied by docks. Thus, under this scenario the 112 feet occupied by each dock was doubled to attribute 224 feet of LDA shoreline to each existing and additional dock.

Excess docks in saturated LDAs were ignored, as in Scenario 1.

Scenario 9 does not comply with Section 10 of ER 1130-2-406 (see Appendix A) because it does not account for dock attrition in saturated LDAs, as required by the regulation. In addition, although docks may be installed using the maximum measurements stated in the 1988 SMP, empirical evidence has shown that these dimensions are not representative of how most boat docks are installed on Lake Lanier. As previously mentioned, measurements from 345 docks resulted in an average cable anchor-to-cable anchor distance of 88 feet, not 112 feet.

Results of the Dock-Permitting Scenarios

LDA Development Level

As would be expected, the various scenarios resulted in different numbers of saturated and unsaturated LDAs depending on how much shoreline length was attributed to existing docks. LDA development levels under the scenarios are summarized in Table 2.

Table 2. Saturated and Unsaturated LDAs Under Dock-Permitting Scenarios.

	Saturated LDAs	Unsaturated LDAs
Scenarios 1, 6, 7, and 8	4	431
Scenarios 2 and 4	157	278
Scenario 3	103	332
Scenario 5	259	176
Scenario 9	229	206

Note: Scenarios 1, 6, 7, and 8 are based on existing docks occupying 74 feet; Scenarios 2 and 4 are based on existing docks occupying 176 feet; Scenario 3 is based on existing docks occupying 148 feet; Scenario 5 is based on existing docks occupying 248 feet; and Scenario 9 is based on existing docks occupying 224 feet.

Additional and Total Docks Under the Dock-Permitting Scenarios

The results of the nine dock-permitting scenarios are summarized in Table 3.

Other Factors That Could Affect Dock-permitting

Several other factors could affect the maximum number of private boat docks that could be accommodated on Lake Lanier.

Table 3. Summary of Private Boat Dock-permitting Scenarios.

Scenario	Fully in Compliance with ER 1130-2-406	Dock Attrition Considered	Length of Shoreline Consumed by Boat Docks	Buffer Required (distance between docks)	Uses Average Cable Anchor Spacing of 88 ft	Potential Additional Docks	Potential Total Docks	Percent Change in Number of Docks
Scenario 1 (Existing Conditions)	No	No	74 ft for existing docks 74 ft for additional docks	50 ft	No	16,734	25,327	195
Scenario 2	Yes	Yes	176 ft for existing docks 176 ft for additional docks	50 ft	Yes	2,022	10,615	24
Scenario 3	No	No	148 ft for existing docks 148 ft for additional docks	50 ft	No	4,525	13,118	53
Scenario 4	No	No	176 ft for existing docks 176 ft for additional docks	50 ft	Yes	3,053	11,646	35
Scenario 5	No	No	248 ft for existing docks 248 ft for additional docks	100 ft	No	1,291	9,884	15
Scenario 6	No	No	74 ft of boundary frontage for existing docks 82 ft boundary frontage for additional docks	50 ft	No	16,677	25,270	194
Scenario 7	No	No	74 ft for existing docks 124 ft for additional docks	50 ft existing docks 100 ft additional docks	No	9,987	18,580	116
Scenario 8	No	No	74 ft for existing docks 176 ft for additional docks	50 ft	No	7,036	15,629	82
Scenario 9	No	No	224 ft for existing docks 224 ft for additional docks	50 ft	No	1,716	10,309	20

Soils

Soil type is considered a potential limiting factor for dock-permitting because in many cases dock owners need to create some sort of access path to the shoreline where their dock is anchored. Soil characteristics, such as high erodibility and excessive slope, might be unsuitable for access paths and would be considered in dock-permitting. Shoreline soils of Lake Lanier were evaluated by examining U.S. Geological Survey (USGS) soil surveys for Dawson, Lumpkin, Hall, and Gwinnett counties. A soil survey for Forsyth County was also available, but it was published prior before Lake Lanier was created and, therefore, it does not show the shoreline.

Descriptions of all soil types found along the Lake Lanier shoreline in each of the four county soil surveys investigated were read to determine whether any soil characteristics might be limiting for access path use. USGS soil surveys categorize soils by their suitability for different types of uses and for particular applications within those use categories. *Recreational Development* is one use category, and *Paths and Trails* (Gwinnett and Hall Counties) and *Campsites* (Dawson and Lumpkin Counties) are applications within that category. All soil types are rated as having *slight*, *moderate*, or *severe* limitations for all applications within the use categories. A slight limitation means that little to no adjustment (surface treatment or other engineering modification) is necessary for the intended application. A moderate limitation means that some adjustment might be necessary, but the adjustment could be accomplished easily and at little cost. A severe limitation means that the soil type could be used for the application, but doing so would require extensive adjustment(s) at considerable cost. Because the ratings in the soil surveys were based on using soils for intensive recreational use, not the light use that would be expected for a dock access path, only soil types rated to have severe limitations for *Paths and Trails* or *Campsites* were considered to be potentially limiting for dock access paths. Limiting soil types were further narrowed to those soils with slopes of 50 percent (equivalent to 27 degrees) or more.

No soils along the Lake Lanier shoreline in Gwinnett or Hall Counties were rated severely limiting due to slope. Two soil types that occur along the shoreline in Dawson and Lumpkin Counties were rated severely limiting due to slopes of 25 to 70 percent. Because generally only soils with a slope of 50 percent or more are considered limiting for access paths on Corps property, only a subset of the soils would be considered limiting due to slope for the purposes of this study. That is, those soils within the slope range of 50 to 70 percent. By relating the soil survey information to slope information available from the GIS, it was found that areas with slopes of 50 percent or more are very uncommon along the lake's shoreline, representing only 0.09 percent of the total lake shoreline and 0.2 percent of the shoreline within LDAs. Therefore, soil type, including the soil type characteristics of slope and erodibility, was not considered a

critical factor in future dock-permitting. The distribution of slopes along LDA shoreline on Lake Lanier is presented in Table 4 and in Figure 5.

Table 4. Percent of LDA Shoreline Within Ranges of Slope.

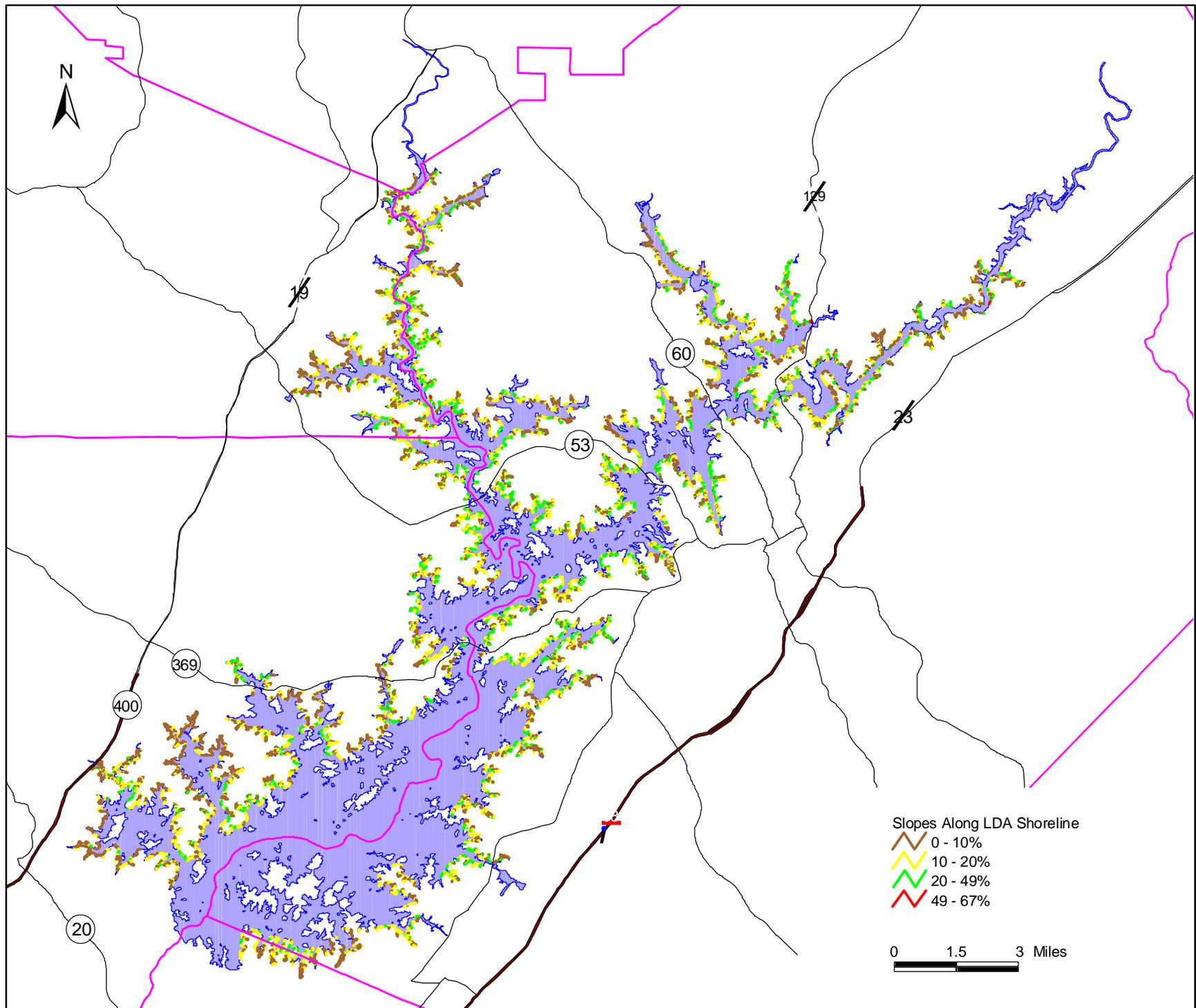
Slope (percent)	Percent of LDA Shoreline
0 – 10	39
10 – 15	25
15 – 20	17
20 – 49	19
> 49	0

Another soil characteristic that could be limiting for access path placement is perpetual or seasonal wetness, which would indicate the presence of wetlands. The 1987 LMP indicates that because of the scarcity of wetlands in northern Georgia, Lake Lanier’s wetlands should be preserved to promote the region’s ecological integrity. Also contained in the LMP is the policy that to maintain wetlands, no permit that involves general or specific use or alteration of wetlands will be issued unless concurrence is gained from the Corps of Engineers, the U.S. Fish and Wildlife Service, and the Georgia Department of Natural Resources.

Wetlands are scarce along the Lake Lanier shoreline, and soils listed in the soil surveys as limiting for *Paths and Trails* or *Campsites* due to seasonal or periodic flooding occur mostly at the ends of coves where tributaries or creeks enter the lake. The limited occurrences of wetlands along the lake’s shoreline and the small extent of wetlands along the shoreline where they do occur were factors considered unlikely to create a situation in which an adjacent landowner would not be able to find a suitable location for an access path. Wetlands, therefore, were not considered to be a critical factor in future dock-permitting.

Cove Width

The 1988 Lake Lanier SMP (Section 12.5.2) and ER 1130-2-406 (Section 10) require that the center third of a cove remain open to permit unobstructed navigation. When docks are permitted, the Corps sites them to ensure that they do not extend into the center third of a cove at a lake level of 1,071 feet above msl. When the lake level is lower than 1,071 feet above msl, however, landowners may move their docks out from the shoreline to achieve sufficient depth for their boats, but a dock is not to be moved out into the center third of a cove. The combination of the factors of the slope of the adjacent land and the width of a cove determines whether the guideline that the center third of a cove should remain open for navigation is a limiting condition for dock-permitting. The relationship between slope and cove width is shown in Figure 6. The figure shows the minimum cove width necessary to provide the minimum 5 feet of water depth (per SMP guidelines) below a private boat dock at a specified slope of land below the water



Slopes Along LDA Shoreline

Figure 5

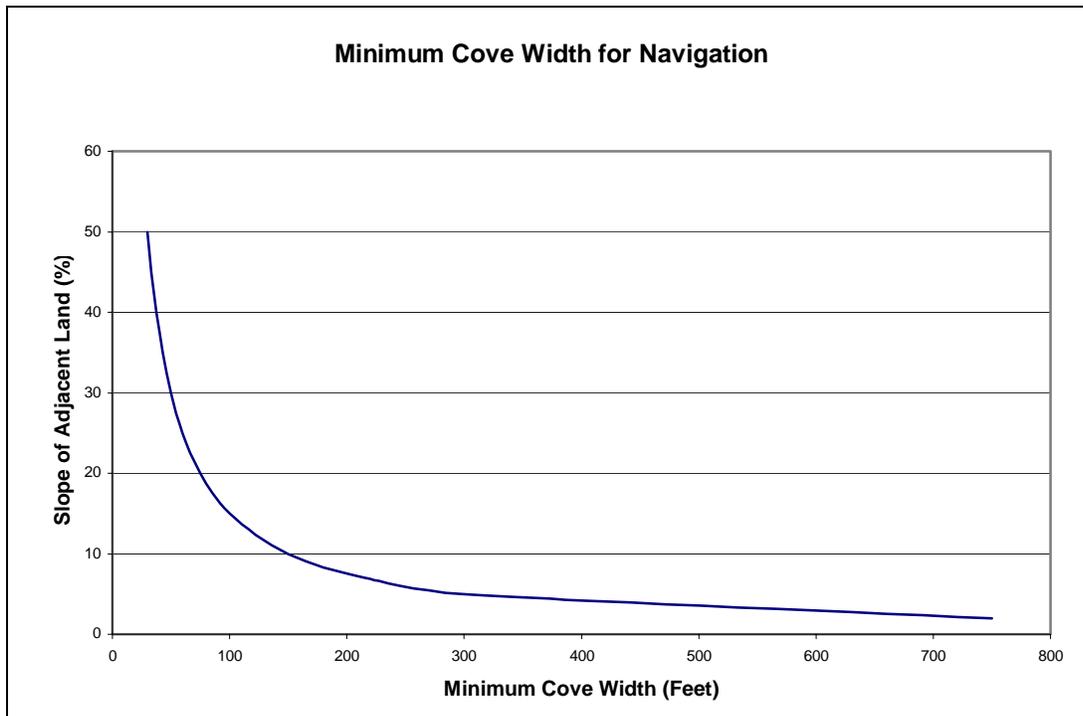


Figure 6. Relationship between slope of adjacent land and cove width to provide sufficient water depth for dock permitting.

surface. For instance, a cove must be at least 150 feet wide at 1,071 feet above msl to accommodate docks if the slope below the water surface is 10 percent. This follows because the water depth would be 5 feet at 50 feet from the shoreline, which is the limit of dock placement to keep the center third of the cove open for navigation. Seventy-two feet is the farthest distance from the lake shoreline at 1,071 feet above msl that a dock may be positioned, given the limit of 32 feet for dock length and 40 feet for walkway length.

Sensitive Shoreline Vegetation

Information about protected and sensitive species of vegetation surrounding the lake was gathered from counties in which the lake lies, The Nature Conservancy, the Georgia Natural Heritage Program, the Lake Lanier Project Office, photographs, and other sources. Several sensitive plant species are known to occur in the Piedmont Physiographic Province of the southeastern United States, which is the physiographic province in which Lake Lanier lies. These species include the black-spored quillwort (*Isoetes melanospora*), little amphianthus (*Amphianthus pusillus*), Michaux's sumac (*Rhus michauxii*), Georgia aster (*Aster georgianus*), and white fringeless orchid (*Platanthera integrilabia*) (Natureserve, 2001a,b; USFWS, 1993a,b).

Only one of these plant species, the Georgia aster, might occur near the lake. Georgia Natural Heritage Program (2001) data indicate there is one population of Georgia aster on Corps property along the Lake Lanier shoreline, directly north of Buford Dam and the powerplant. It is not known whether the population is still extant. No other areas along the lake shoreline appear to support protected or sensitive plant species recommended for protection from disturbance (see below). The lack (or apparent lack) of special vegetative associations, however, does not reduce the importance of protecting natural shoreline vegetation to achieve shoreline and bank stabilization and a visually appealing lake environment.

Sensitive Habitats

The Piedmont region in which Lake Lanier is located is noteworthy for its biological diversity, but the plant communities in this region of the southeastern United States have been extensively altered since European settlement nearly 300 years ago (GDNR, 1997). Cotton and tobacco farming since colonial times has depleted and eroded Piedmont soils. Timber harvest and clearing for agriculture peaked in the early 20th century. Most forest communities in the Piedmont today are second-growth forests that have grown on abandoned agricultural lands (GDNR, 1997). The vegetative communities surrounding Lake Lanier consist of a mixture of pine forest, mixed hardwood–pine forest, and nonforested land. Sensitive habitats, which are habitats that support sensitive species or that are easily harmed by and do not recover easily from disturbance, are not known to occur along the Lake Lanier shoreline. However, sensitive habitats might occur along the shoreline and the impact of dock-permitting on such habitats, if they do occur, would be determined best by surveying specific areas of shoreline as they are proposed for development (including dock-permitting).

Endangered and Threatened Species

The effect of the presence of endangered and threatened species on the installation of boat docks is likely to be small. A few endangered and threatened species are reported from the counties in which Lake Lanier is located, but none appear to use habitat offered by the lake. Bald eagles (*Haliaeetus leucocephalus*) have been reported in Dawson, Forsyth, Gwinnett, Hall, and Lumpkin counties, and red-cockaded woodpeckers (*Picoides borealis*) are reported from Forsyth, Gwinnett, and Hall counties (Tucker, 2001). However, Georgia Natural Heritage Program (2001) data does not report any bald eagle nests or red-cockaded woodpecker nesting areas within 1 mile of the lake. Populations of bluestripe shiner (*Cyprinella callitaenia*)—a rare minnow endemic to the Appalachian River drainage in Florida, Alabama, and Georgia—have been observed in the upper Appalachian River, the upper and middle Chattahoochee River, and the middle Flint River (Natureserve, 2001e). The impoundment of 15 reservoirs (including Lake Lanier), however, has eliminated bluestripe shiner habitat because the species cannot

tolerate lentic (nonflowing) conditions. Endangered and threatened species, therefore, are not expected to play a significant role in limiting dock development at the lake.

Cultural and Historic Resources

Consultations with the Georgia State Historic Preservation Officer (SHPO) determined that all project lands with a high potential for historic properties have been surveyed, with the exception of isolated tracts of the upper Chattahoochee and Chestatee rivers. Six prehistoric and historic period archaeological sites exist within the project area that are eligible or potentially eligible for the National Register of Historic Places (NRHP) (Gibbens, 2002, USACE, Mobile District, personal communication; USACE, Mobile District, 1997). Three historic cemeteries, the Little Hall Cemetery, the Shockley Cemetery, and one unnamed cemetery, are also located within the fee-owned lands. No standing structures are located within the government-owned lands.

Historic sites along the shoreline of Lake Lanier could be affected by dock placement. To protect the resources, their locations are shown in this report. The presence of these resources could limit dock placement in some areas, and archaeological surveys specific to proposed shoreline developments (including dock-permitting) would be necessary to determine the significance of these resources to dock-permitting decisions. If sites identified as significant (eligible for the NRHP) would be adversely affected by the presence of a dock or soil disturbance, impacts would have to be mitigated through data recovery excavations or other mitigation measures, in consultation with the Georgia SHPO and the USACE, Mobile District.

Visual and Aesthetic Resources

Visual and aesthetic resources are natural resources, landforms, vegetation, and manmade structures in the environment, that generate one or more sensory reactions and evaluations by the observer, particularly with respect to pleasurable responses (Table 5). Sensory reactions are traditionally categorized as visual, auditory, and olfactory responses—sight, sound, and smell. The visual sense is so predominant in the observer's reaction and evaluation that visual resources are the focus of this section.

The visual appearance of the shoreline can affect the quality of a person's recreational experience, but the experience of the visual appearance of the shoreline is personal. Some people might seek a wilderness type of recreational experience, in which case the sight of boat docks might be offensive. Other people might prefer a developed look and appreciate or not be bothered by boat docks along the shoreline.

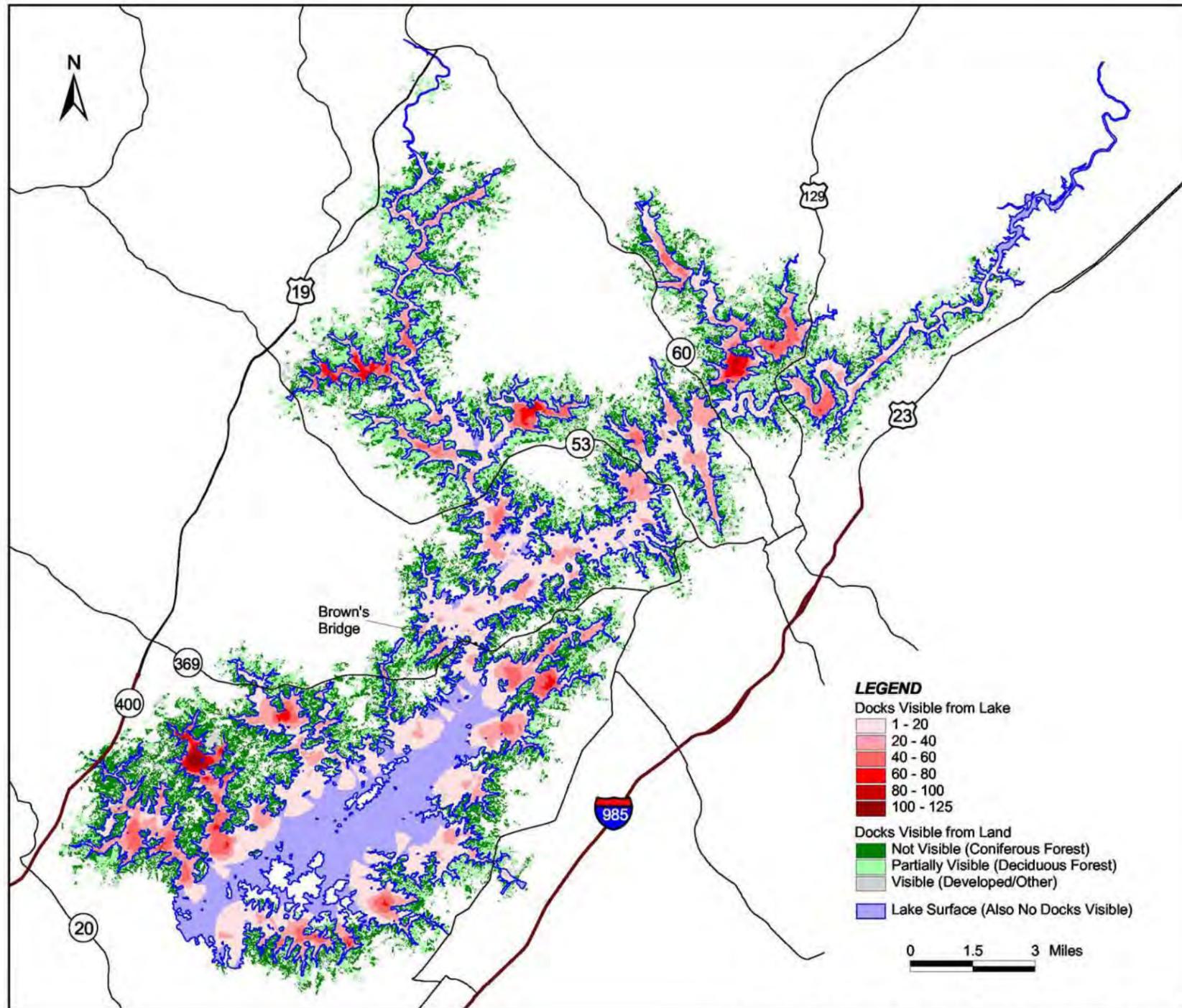
Table 5. Scenic Attractiveness Class Definitions.

Class A Distinctive: Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.
Class B Typical: Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide ordinary or common scenic quality. These landscapes have generally positive, yet common, attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance. Normally they would form the basic matrix within the ecological unit.
Class C Indistinctive: Areas where landform, vegetation patterns, water characteristics, and cultural land use have low scenic quality. Often water and rockform features of any consequence are missing in Class C landscapes. These landscapes have weak or missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Source: USFS, 1995.

During scoping meetings held in autumn 2001 for the environmental impact statement being prepared to address operation and maintenance activities at Lake Lanier, several residents expressed the opinion that the distance allowed between boat docks should be increased to create safer boating conditions and a more pleasing visual appearance of shorelines with docks (USACE, 2001). Others were concerned about old, deteriorating docks that cause trash and aesthetic problems. A map of the lake showing areas from which docks are visible, and the number of docks visible from those areas, visually verifies that except for the central area of the southern portion of the lake (i.e., south of Browns Bridge), docks are visible from nearly all areas on the lake (Figure 7). Docks are most likely visible from many locations in this southern-central area as well, but “visibility” on the map is limited to a ¾-mile distance.

A visual assessment survey of Lake Lanier was conducted from July 10 through 13, 2001. Eighty-five locations were surveyed, 45 of which were assessed from randomly assigned locations on a boat on the lake and 40 of which were assessed from representative park, campground, road, or other vantage points on land surrounding the lake. Photographs of the lake were taken from each location and rated according to scenic attractiveness (Table 5) and scenic integrity (Table 6). As a rough indication of the impact of private boat docks on visual attractiveness and integrity, the ratings of those photographs that showed docks were compared to the ratings of all of the photographs (Table 7). Compared to the ratings for all photographs taken, the highest percentage of photographs showing boat docks rates lower on the scales for scenic attractiveness and scenic integrity. Only a small percentage of photographs showing boat docks rates higher on these scales. This pattern would be expected with respect to scenic integrity because the rating depends heavily on how altered a landscape appears, and docks would be expected to give a scene an altered look. But the pattern also holds for scenic attractiveness as well.



Existing Dock Viewsheds

Figure 7

Table 6. Scenic Integrity Definitions.

Very High (Unaltered): Landscapes where the valued landscape character <i>is</i> intact with only minute, if any, deviations. The existing landscape character and sense of place is expressed at the highest possible level.
High (Appears Unaltered): Landscapes where the valued landscape <i>appears</i> intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident.
Moderate (Slightly Altered): Landscapes where the valued landscape <i>appears slightly altered</i> . Noticeable deviations must remain visually subordinate to the landscape character being viewed.
Low (Moderately Altered): Landscapes where the valued landscape character <i>appears moderately altered</i> . Deviations begin to dominate the valued landscape character being viewed but they borrow valued attributes such as size, shape, edge effect, and pattern of natural openings; vegetative type changes; or architectural styles outside the landscape being viewed. They should only appear as valued character outside the landscape being viewed but compatible or complimentary to the character within.
Very Low (Heavily Altered): Landscapes where the valued landscape character <i>appears heavily altered</i> . Deviations may strongly dominate the valued landscape character. They may not borrow from valued attributes such as size, shape, edge effect, and pattern of natural openings; vegetative type changes; or architectural styles within or outside the landscape being viewed.
Unacceptably Low: Landscapes where the valued landscape character being viewed <i>appears extremely altered</i> . Deviations are extremely dominant and borrow little, if any form, line, color, texture, pattern, or scale from the landscape character.

Source: USFS, 1995.

Table 7. Visual Ratings of Photographs With Views of Boat Docks.

Scenic Integrity:	Percent of Photos (↓):	Scenic Attractiveness								
		Distinctive			Typical			Indistinctive		
		Fore	Middle	Back	Fore	Middle	Back	Fore	Middle	Back
Very High	0 (10)									
High	2.6 (14.5)				1					
Moderate	7.7 (13)	1						2		
Low	56.4 (34)				11	3		8		
Very Low	33.3 (28.5)				7			6		
	Percent of Photos (→):	2.6 (12.5)			61.5 (62)			35.9 (25.5)		

How to read this table: The columns at the right rate the scenic attractiveness of the photographs as distinctive, typical, or indistinctive. Additionally, a row below these three ratings indicates from what viewing distance the photograph was taken, foreground (fore), middle ground (middle), or background (back). The leftmost column indicates the scenic integrity of the photograph. Thus, a bold face number in the table indicates the scenic integrity rating, scenic attractiveness rating, and distance from which the photograph was taken. The number indicates how many photographs with views of boat docks had that rating.

In the second column and bottom row, the percent of photographs that showed boat docks in the scenic integrity and scenic attractiveness categories (the first number) is compared to the percent of all photographs in the categories (the number in parentheses). For instance, 2.6% of photographs showing boat docks were rated to have high scenic integrity, while 14.5% of all photographs were rated this way; 61.5% of photographs showing boat docks were rated to have typical scenic attractiveness, while 62% of all photographs were rated this way.

The ratings of scenic attractiveness depend more on the quality of an overall scene to create a sense of order, harmony, or balance. Conceivably, docks well integrated into a landscape could improve scenic attractiveness. At Lake Lanier, however, they seem to decrease scenic attractiveness.

Protecting the visual appearance of the lake is one of the duties of project staff, and controlling the placement of private boat docks around the lake is one way to accomplish that goal. Project staff want to ensure that a variety of visual experiences are available to visitors at Lake Lanier. Thus, they want to

manage the issuance of boat dock permits such that docks are not equally visible from all portions of the lake and a variety of visual experiences are available in similar types of lake settings (e.g., coves).

Summary

There are currently 8,348 private boat docks and 11 community docks on Lake Lanier. The number of additional docks that the lake could accommodate was determined under nine potential future dock-permitting scenarios. The number of boat docks that would be permitted on the lake under each scenario is presented in Table 3. Application of a 50 percent dock installation density policy per ER 1130-2-406 would reduce the number of docks on the lake compared with scenarios that do not incorporate such a policy. Other factors, such as buffer distance between docks and assumed width of dock, also affect the maximum number of docks that the lake could accommodate.

The influence of soil type, cove width, shoreline vegetation, sensitive habitats, endangered and threatened species, and cultural and historic resources on dock-permitting were also examined. Cove width was found to have the greatest potential to limit dock placement, and potentially the number of docks that could be placed in shallow coves. The other factors were not found to be limiting with respect to dock placement or the number of docks that an LDA could accommodate. In addition, the visual and aesthetic influence of docks on the lake was examined. The presence of docks was found to decrease both the scenic integrity and scenic attractiveness of an area.

Acronyms and Abbreviations

CFR	Code of Federal Regulations
Corps	US Army Corps of Engineers; US Army Corps of Engineers, Mobile District
EIS	environmental impact statement
ER	Engineer Regulation
ESRI	Environmental Systems Research Institute
ft	feet, foot
GIS	geographic information system
LDA	Limited Development Area
LMP	Lakeshore Management Plan
mi	mile
msl	mean sea level
NRCS	Natural Resources Conservation Service
SHPO	State Historic Preservation Officer
SMP	Shoreline Management Plan
US, U.S.	United States
USACE	see “Corps”
USGS	United States Geological Survey

References

- Georgia Department of Natural Resources Environmental Protection Division (GDNR). 1997. *Chattahoochee River Basin Management Plan 1997*. Web address: <http://www.dnr.state.ga.us/dnr/environ>. Accessed June 26, 2001.
- Georgia Natural Heritage Program (GNHP). 2001. *Special Concern Species Known from within One Mile of Lake Sidney Lanier (listed by quadrangle), Dawson, Forsyth, Gwinnett, and Hall Counties, Georgia*. Georgia Department of Natural Resources, Wildlife Resources Division, Social Circle, Georgia. Report generated August 2, 2001.
- Gibbens, D. 2002. Personal communication. US Army Corps of Engineers, Mobile District. January 31, 2002.
- Natureserve: An online encyclopedia of life. 2001a. Species Report: *Aster georgianus*. Version 1.5. Arlington, Virginia: Association for Biodiversity Information. Web address: <http://www.natureserve.org>. Accessed November 29, 2001.
- Natureserve: An online encyclopedia of life. 2001b. Species Report: *Platanthera integrilabia*. Version 1.5. Arlington, Virginia: Association for Biodiversity Information. Web address: <http://www.natureserve.org>. Accessed November 29, 2001.
- Rehner, R. 1988. *An Update for the Soil Survey of Gwinnett County, Georgia*. U.S. Department of Agriculture, Soil Conservation Service, Athens, Georgia.
- Tucker, S.S. 2001. Letter from Sandra S. Tucker, Field Supervisor, U.S. Fish and Wildlife Service, Athens, Georgia, to Eric Dohner, Tetra Tech, Inc., Lawrenceville, Georgia. August 13, 2001.
- US Army Corps of Engineers (USACE). 1985. *Study of Recreational Boating and Lakeshore Management Needs at Lake Sidney Lanier Georgia*. US Army Corps of Engineers, Mobile District.
- US Army Corps of Engineers (USACE). 1987. *Updating of the Master Plan Lake Sidney Lanier, Chattahoochee River, Georgia*. Volume 1. US Army Corps of Engineers, Mobile District Office, Mobile, Alabama. June.
- US Army Corps of Engineers (USACE). 1997. *Historic Properties Management Plan*. US Army Corps of Engineers, Mobile District Office, Mobile, Alabama.
- U.S. Department of Agriculture – Soil Conservation Service (USDA-SCS). 1972. *Soil Survey of Dawson, Lumpkin, and White Counties, Georgia*. U.S. Department of Agriculture, Soil Conservation Service and Forest Service, Washington, DC. April.
- U.S. Department of Agriculture – Soil Conservation Service (USDA-SCS). 1977. *Soil Survey of Barrow, Hall and Jackson Counties, Georgia*. U.S. Department of Agriculture, Soil Conservation Service, Washington, DC. May.
- U.S. Department of Agriculture – Soil Conservation Service (USDA-SCS). 1966. *Soil Survey of Gwinnett County, Georgia*. U.S. Department of Agriculture, Soil Conservation Service, Washington, DC.

U.S. Fish and Wildlife Service (USFWS). 1993a. Recovery Plan for Three Granite Outcrop Plant Species. U.S. Fish and Wildlife Service, Region , Jackson, Mississippi.

U.S. Fish and Wildlife Service (USFWS). 1993b. *Michaux's Sumac Recovery Plan*. U.S. Fish and Wildlife Service, Region 5, Atlanta, Georgia.

U.S. Forest Service (USFS). 1995. *Landscape Aesthetics: A Handbook for Scenery Management*. Agriculture Handbook No. 701. U.S. Department of Agriculture and U.S. Forest Service, Washington, DC. December.

**Lake Sidney Lanier
Boat Dock Carrying Capacity Study**

APPENDIX A:

Excerpts from 1988 Shoreline Management Plan

and

Engineer Regulation 1130-2-406

Appendix A

Excerpts from the 1988 Shoreline Management Plan and the USACE Engineer Regulation 1130-2-406

Sections of the 1988 Lake Lanier Shoreline Management Plan Pertinent to Private Boat Docks

Many sections of the 1988 Lake Lanier Shoreline Management Plan (SMP) are referenced in the body of this report. The referenced sections and others that are relevant to dock permitting are presented below verbatim. The full text of the SMP can be read on the Lake Lanier website (<http://lanier.sam.usace.army.mil/Lakeshore.htm>).

Section 12.5. Permit/License for Lakeshore Use

This is a permit used to authorize certain specific private use of public shoreline designated as "Limited Development." Authority to issue these permits has been delegated to the Project Manager and are issued for the purpose of recreational use only. New as well as "grandfathered" (see Section 12.5.5) facilities authorized are identified in Exhibit XIII [of the SMP].

Section 12.5.1. Eligibility Requirements

Lakeshore Use Permits may be issued in 'Limited Development' zoned areas only. The permit will be issued for a five year period. The permit may be reissued when the current term expires if the permitted facilities and uses of public land are in compliance with the conditions of the permit and CFR [Code of Federal Regulations] Title 36, part 327. Permits are not transferable.

To be eligible for a permit an applicant must have unrestricted legal access through private property to public lands that are zoned "Limited Development."

Proof of unrestricted legal access through private land adjacent to public property may be satisfied by submitting either a copy of a recorded deed or closing statement. Failure to provide proof of access will result in denial of a permit.

Property owners may establish an association for a jointly owned facility on public land where private lands provide common access to public property. Such facilities are for all residents of a specific subdivision. Floating facilities authorized through associations are for courtesy use only, not for overnight storage or mooring purposes. Courtesy docks may not exceed 192 square feet.

Only one permit will be issued per adjacent landowner. Multiple persons listed on a deed will be considered as one adjacent landowner. Only one permit will be issued per adjacent household/family membership. Permits will be issued on a first applicant basis. Permits are not issued for speculative purposes or for enhancement of private property. Permits are not

issued to persons renting private property. The permittee must be the primary user and owner of facilities permitted. Permits are not issued to minors.

Permits are temporary in nature with termination dates. The issuance of a permit does not infer private ownership or rights to public lands. Structures placed on public lands via a Lakeshore Use Permit are private property on public lands authorized only for the term of the permit.

Section 12.5.2. Site Requirements

Locations selected for placement of facilities via permit must conform with the Lakeshore Management Allocation Map (Exhibit I [of the SMP]) and be located along "Limited Development" shoreline. The location and proposed facilities must not cause a safety hazard to the applicant/user or general public.

The selected site for any floating facility must be at the nearest point of shoreline to the adjacent owner's private property. Distance to the nearest point on water has no bearing on the issuance or denial of a permit. Deviations of not more than one hundred (100) feet left or right of this point may be considered if water depth or spacing is a problem. However, placement should not be made that would produce a crossing or cross-over situation; meaning that an applicant's facilities should not go beyond existing neighboring facilities. Cross-over situations cause community discord and therefore, should be avoided. Only under the most unusual situations may crossovers be approved by the Project Manager. Private property lines do not extend onto public lands and do not indicate rights or privileges to or on government property not afforded any other member of the general public; nor does adjacent land ownership guarantee privacy or imply exclusive use of public shoreline.

The proposed location for any new floating facility must provide at least a fifty (50) foot buffer area between the proposed structure and any existing facilities at 1071 MSL [MSL: feet above mean sea level]. This buffer is from the nearest point of one facility to the nearest point of a second facility.

All intended boat mooring sites will allow for five (5) feet of water under the dock at the dock's lakeside or slip end to prevent damage to boating equipment and to allow for slight water fluctuation. Sites or coves with slightly less than five (5) feet, but not less than four (4) feet of water are only suitable for platform/t-docks that do not normally accommodate vessels.

At locations selected for any floating facility the center one-third of the cove or channel must be left open for navigation. At no time may the length of any dock including any moored vessel extend into this center one-third channel at 1071 MSL. Corps policy is to regain this navigable space when considering new permits for old facilities. All new structures will be placed in such a way as to have the least impact on navigation. During periods of low water navigation channels will not be obstructed.

Permits may not be issued in "Limited Development" zoned locations where endangered species exist, at archeological sites, within historical sites, or in areas determined to be wetlands in accordance with CFR Title 33. Such locations will be rezoned to 'Protected' shoreline.'

Section 12.5.3. Floating and Landbased Facilities

The Lake Lanier Project Manager is authorized to issue Lakeshore Use Permits for floating facilities, utility rights-of-way, improved shoreline access, etc. For a complete list of the items currently authorized as well as those "grandfathered" see Exhibit XIII [of the SMP].

Section 12.5.3.1. Floating Facility Types

In accordance with ER [Engineer Regulation] 1130-2-406 [*Shoreline Management at Civil Works Projects*] floating facilities will be permitted for the purpose of docking or mooring a vessel for private, not commercial use. It is important to note that the permit calls for a floating facility, not fixed or suspended and the permit is issued for the purpose of boat storage and related boating apparatus only.

Private floating facilities eligible for permitting are as follows: Boatdock: A structure with or without roof, with or without sides/walls (completely enclosed) with a storage slip(s) for docking or mooring a vessel. Such structures will not exceed the maximum external dimensions of 32' X 32' (see Exhibit II [of the SMP]). The aggregate slip size will not exceed 20'(feet wide) by 28' (feet long). The maximum dimension will include any platform/deck added or constructed to the docking facility. The maximum dimension of any attached platform/deck will not exceed 192 square feet. For the purposes of determining width from length on any type of floating facility, width will always be that portion parallel to the shoreline; length will always be that portion perpendicular to the shoreline...

Section 12.5.3.4. Dock Ramps and Walkways (excerpts)

Unless otherwise approved dock walkways shall be at least four (4) feet, but not more than six (6) feet wide. Walkways less than four feet wide are not allowed due to safety considerations. ... For the purpose of determining the dimensions of an affixed or attached platform/sundeck, the four to six feet of approved walkway adjacent to the slip are not considered a portion of the affixed or attached platform/sundeck.

Floating ramps leading to docks will not be less than four (4) nor more than six (6) feet in width nor exceed forty (40) feet in length. If a land-based fixed section of walkway is approved, in conjunction with a floating approach ramp, it shall not exceed six (6) feet in width by ten (10) feet in length. Any combination of fixed and floating approach walkway shall not cumulatively exceed a total of forty (40) feet. ... All approach ramps must be floating unless otherwise approved by the Project Manager. All floating facilities must have an approach ramp. The minimum approach ramp dimension is eight (8) feet long by four (4) feet wide.

Section 12.5.3.9. Dock Anchoring

An anchorage system shall be provided which will insure secure anchoring of the floating facility taking into consideration the water depth, exposure to wave action, and wind. Shoreline trees or other natural features will not be used as anchors. To prevent stress floating facilities should be anchored perpendicular to the shoreline with anchor cables placed at 45 degree angles to the shoreline. Anchor posts with sleeves set into the lake bottom are

optional but may only be placed on two corners of the structure. A combination of cable and anchor posts with sleeves is acceptable. Anchor cables may be secured to the shoreline with metal or wooden posts, or screw augers placed so not to endanger visitors or damage vegetation. Metal anchor posts are preferred since additional grounding is afforded in case of electrical failure. ... The floating facility must be either floating or resting on the ground at all times; the structure may not be suspended on pilings.

Anchor cables may not obstruct the public's use of the shoreline or water surface. Excessive cabling is not allowed if it blocks off an area for private use. Cables exceeding 45 degree angles may require reinstallation upon inspection. Cables shall be maintained in a taut condition. Cables shall not cross those of an adjacent facility. No cable or anchoring device other than poles with sleeves will be permitted on the lake's bottom. Cables may not be lined with styrofoam or plastic jugs, etc. due to aesthetics. Floating facilities should not share the same anchor post.

Section 20. Wetlands

... To maintain wetlands, no permit will be issued that involves general or specific use or alteration of wetlands unless concurrence is gained from the Corps of Engineers, the U.S. Fish and Wildlife Service, and the State of Georgia Department of Natural Resources. ...

Section 22. Endangered Species

... Permits will not be issued that conflict with the preservation of endangered species. Any permit issued in violation of the Endangered Species Act either past or present will be rescinded. ...

Section 23. Cultural, Historical, and Archeological

... Permits will not be issued that involve general or specific use or alteration of historic sites unless culturally cleared by appropriate agencies. ...

Corps Regulations Pertinent to Private Boat Docks on Lake Lanier Excerpts from Engineer Regulation 1130-2-406

Engineer Regulation (ER) 1130-2-406, revised and adopted in May 1999, authorizes Lake Lanier Project Operations Manager to issue Shoreline Use Permits, which allow certain private, recreational uses of those segments of the public shoreline that have been designated *Limited Development Area*. Shoreline Use Permits are issued for 5 years. They may be reissued at the end of the permit term if the permitted facilities and uses of public land are in compliance with the conditions of the permit and the 36 CFR Title 36, part 327. Permits are not transferable. Relevant sections from ER 1130-2-406 are provided below verbatim.

Section 4. Policy

(c). A Shoreline Management Plan ... will be prepared for each Corps project where private shoreline use is allowed. This plan will honor past written commitments. The plan will be reviewed at least once every five years and revised as necessary...

(d). Where commercial or other public launching and/or moorage facilities are not available within a reasonable distance, group owned mooring facilities may be allowed in Limited Development Areas to limit the proliferation of individual facilities...

(e). The issuance of a private shoreline use permit does not convey any real estate or personal property rights or exclusive use rights to the permit holder. The public's right of access and use of the permit area must be maintained and preserved. Owners of permitted facilities may take necessary precautions to protect their property from theft, vandalism or trespass, but may in no way preclude the public right of pedestrian or vessel access to the water surface or public land adjacent to the facility.

(f). Shoreline Use Permits will only be issued to individuals or groups with legal right of access to public lands.

Section 10. Density of Development

The density of private floating recreation facilities will be established in the Shoreline Management Plan for all portions of Limited Development Areas consistent with ecological and aesthetic characteristics and prior written commitments. The facility density in Limited Development Areas should, if feasible, be determined prior to the development of adjacent private property. The density of facilities will not be more than 50 per cent of the Limited Development Area in which they are located. Density will be measured by determining the linear feet of shoreline as compared to the width of facilities plus associated moorage arrangements which restrict the full unobstructed use of that portion of the shoreline. When a Limited Development Area or a portion of a Limited Development Area reaches maximum density, notice should be given to the public and facility owners in that area that no additional facilities will be allowed. In all cases, sufficient open area will be maintained for safe maneuvering of watercraft. Docks should not extend out from the shore more than one-third of the width of a cove at normal recreation or multipurpose pool. In those cases where current density of development exceeds the density level established in the Shoreline Management Plan, the density will be reduced to the prescribed level through attrition.

Lake Sidney Lanier
Boat Dock Carrying Capacity Study

APPENDIX B:

LDA Data

Lake Lanier Boat Dock Carrying Capacity Study
Appendix B: LDA Data

LDA_ID	Boundary Frontage LDA Length (ft)	Boundary Frontage LDA Total Shoreline Length (ft)	Number of Docks (in 2002)*
Total	1,997,654.8	1,868,227.4	8,593
1	702.4	967.1	1
2	724.9	779.8	2
3	13,052.5	11,749.5	62
4	635.0	674.8	6
5	6,337.0	6,027.5	21
6	4,215.7	3,372.9	24
7	9,345.3	6,564.3	39
8	584.6	561.2	7
9	414.9	244.4	2
10	16,068.8	13,476.8	102
11	1,175.9	1,581.7	7
12	8,148.8	8,417.5	52
13	3,464.0	3,912.6	25
14	8,451.4	8,188.0	56
15	2,764.6	3,116.0	19
16	6,476.0	6,260.6	52
17	14,334.0	15,816.6	95
18	1,854.3	1,544.4	6
19	3,812.0	4,224.1	18
20	2,376.7	2,428.8	17
21	6,175.4	6,556.1	27
22	277.1	475.9	2
23	10,490.9	9,148.5	26
24	20,306.9	18,152.4	100
25	1,559.0	1,970.4	4
26	6,247.0	5,060.4	38
27	7,913.6	7,318.0	55
28	3,188.5	3,202.8	14
29	3,446.8	3,399.7	17
30	7,796.6	7,503.5	53
31	115.6	240.3	0
32	5,944.7	4,609.5	6
33	11,489.6	10,546.5	14
34	18,405.8	16,614.1	3
35	14,784.6	14,892.5	73
36	6,435.4	6,399.1	21
37	1,637.2	1,287.5	12
38	2,084.0	1,623.3	10
39	674.6	480.7	3
40	1,068.7	975.8	5
41	348.4	205.9	1
42	4,168.3	3,727.5	7

Lake Lanier Boat Dock Carrying Capacity Study
Appendix B: LDA Data

LDA_ID	Boundary Frontage LDA Length (ft)	Boundary Frontage LDA Total Shoreline Length (ft)	Number of Docks (in 2002)*
43	1,962.5	1,963.4	0
44	1,443.4	1,365.5	1
45	1,154.8	1,100.5	1
46	2,641.7	2,059.3	8
47	872.0	1,065.8	1
48	9,837.1	8,735.2	20
49	3,001.9	3,080.2	0
50	1,987.0	1,996.0	0
51	31,347.0	30,956.0	72
52	352.8	295.6	1
53	25,085.0	26,166.6	95
54	9,476.9	7,732.5	47
55	499.0	476.3	1
56	1,498.0	1,452.5	13
57	2,381.6	2,333.8	14
58	10,642.4	10,931.4	64
59	2,435.1	1,824.1	8
60	897.6	830.9	7
61	3,275.8	3,490.2	12
62	6,058.1	6,070.5	20
63	528.4	378.5	0
64	606.2	832.4	0
65	4,056.8	4,538.6	16
66	8,973.9	8,975.4	32
67	672.5	694.4	5
68	14,478.8	15,080.6	108
70	9,003.5	7,421.0	59
72	22,445.3	21,017.6	110
73	6,822.9	6,543.1	25
75	31,089.2	29,539.9	122
76	1,757.2	2,799.2	2
78	20,657.0	21,794.5	89
79	3,427.8	3,793.3	14
80	998.2	1,721.3	1
82	7,559.2	6,909.0	35
84	2,130.5	2,104.0	6
86	5,361.9	4,729.1	17
88	2,728.6	3,212.7	0
89	997.9	1,059.5	0
90	7,966.9	7,236.0	33
92	745.5	719.6	7
94	4,013.6	3,987.7	22
96	677.0	584.5	4
98	1,266.2	1,192.5	2
100	226.1	226.1	2
101	2,244.6	1,354.5	12

Lake Lanier Boat Dock Carrying Capacity Study
Appendix B: LDA Data

LDA_ID	Boundary Frontage LDA Length (ft)	Boundary Frontage LDA Total Shoreline Length (ft)	Number of Docks (in 2002)*
102	967.2	899.0	0
103	527.5	527.5	1
104	22,047.2	18,550.1	103
105	2,188.3	1,826.0	4
106	3,632.6	3,238.5	3
107	1,082.3	1,325.8	0
108	5,378.7	3,695.2	21
109	1,244.0	1,053.1	0
110	1,103.2	1,101.9	1
111	5,527.0	5,365.2	25
112	2,482.2	3,278.6	15
113	10,992.9	9,926.6	29
114	6,656.5	4,962.2	34
115	1,697.5	1,559.4	9
116	2,540.1	1,936.8	8
117	1,859.9	1,777.6	0
118	150.3	186.4	2
119	428.0	717.0	4
120	760.0	751.7	6
121	2,813.6	2,962.2	6
122	2,154.0	1,700.3	5
123	2,100.3	3,288.5	2
124	70.9	658.1	4
125	786.0	1,031.1	7
126	3,670.6	3,135.9	6
127	3,694.4	3,844.4	15
128	2,695.7	2,441.9	14
129	4,686.6	4,611.1	25
130	900.8	1,248.1	1
131	22.8	22.8	0
132	5,943.0	6,009.9	49
133	4,701.4	4,794.2	23
134	5,913.5	5,676.1	39
135	16,024.9	14,864.5	76
136	5,713.7	6,502.7	18
137	876.3	950.9	4
138	3,367.2	4,955.2	17
139	10,258.0	11,650.0	44
140	7,192.0	5,294.6	23
141	3,682.1	3,832.3	8
142	2,009.2	1,599.0	9
143	1,995.2	1,976.6	15
144	2,418.4	1,414.4	0
145	470.6	467.3	0
146	7,591.2	6,288.6	42
147	5,445.1	5,309.0	28

Lake Lanier Boat Dock Carrying Capacity Study
Appendix B: LDA Data

LDA_ID	Boundary Frontage LDA Length (ft)	Boundary Frontage LDA Total Shoreline Length (ft)	Number of Docks (in 2002)*
148	4,048.6	4,224.0	26
149	7,007.5	5,671.6	24
150	2,096.9	1,888.8	8
151	1,646.3	619.2	4
152	4,972.3	4,281.4	41
153	2,209.0	1,828.8	15
154	406.0	596.6	4
155	4,644.1	4,564.0	31
156	2,369.6	2,400.0	21
157	1,655.7	1,412.0	3
158	7,665.6	5,915.8	42
159	4,049.9	4,109.0	21
160	8,036.3	7,105.9	57
161	4,724.3	4,517.6	38
162	1,433.6	999.8	14
163	6,190.2	5,994.3	47
164	5,555.5	4,817.2	4
165	2,025.7	2,600.6	17
166	1,492.3	2,156.9	14
167	6,365.4	6,770.2	37
168	1,574.3	1,639.3	9
169	17,836.8	18,562.3	84
170	14,169.1	15,111.3	86
171	9,030.6	9,742.1	41
172	18,479.9	17,919.2	53
173	11,167.6	12,400.9	45
174	753.5	1,006.0	7
175	5,350.5	6,086.0	25
176	3,844.6	4,051.2	18
177	1,050.4	695.9	3
178	4,130.0	3,968.8	28
179	922.6	844.8	9
180	5,009.7	4,722.8	23
181	1,775.2	1,426.9	15
182	3,574.4	3,951.8	22
183	1,868.8	1,666.8	12
184	9,125.4	7,482.8	44
185	7,190.4	7,523.0	42
186	11,394.5	10,296.6	79
187	4,124.3	3,787.6	24
188	4,654.0	4,639.8	29
189	2,099.6	1,799.4	9
190	1,706.7	4,547.6	7
191	1,784.4	1,880.0	3
192	1,579.6	1,586.1	12
193	2,736.8	2,180.7	18

Lake Lanier Boat Dock Carrying Capacity Study
Appendix B: LDA Data

LDA_ID	Boundary Frontage LDA Length (ft)	Boundary Frontage LDA Total Shoreline Length (ft)	Number of Docks (in 2002)*
194	4,915.0	4,872.0	36
195	3,455.7	2,695.0	19
196	1,038.7	1,076.6	7
197	4,109.2	3,457.8	24
198	3,360.9	2,968.8	26
199	1,433.1	2,174.9	16
200	2,863.1	3,037.6	22
201	2,408.7	1,848.4	3
202	1,138.8	703.2	1
203	462.0	679.3	6
204	4,855.8	4,142.4	22
205	1,983.8	1,296.9	12
206	1,089.6	917.6	8
207	11,904.7	11,776.6	78
208	2,726.9	2,252.3	0
209	12,717.7	11,577.7	55
210	8,248.6	6,663.4	29
211	1,034.2	1,619.5	1
212	5,716.5	6,350.9	35
213	4,780.7	3,729.5	25
214	1,384.5	1,086.2	7
215	3,168.3	3,426.5	21
216	2,029.5	1,337.1	13
217	3,373.5	3,054.0	32
218	8,277.4	7,027.9	40
219	5,834.8	4,671.7	26
220	4,745.1	4,779.8	41
221	1,790.2	1,681.5	13
222	4,315.3	3,302.4	29
223	7,085.9	6,791.9	13
224	6,371.8	6,481.0	30
225	1,352.4	1,830.7	7
226	6,515.4	5,926.4	36
227	4,298.1	3,607.0	23
228	4,691.8	4,272.7	12
229	3,849.2	4,291.3	21
230	12,779.9	12,685.4	101
231	9,073.1	8,367.4	57
232	5,408.1	5,575.5	27
233	580.5	618.6	0
234	5,925.2	7,284.3	32
235	2,542.6	2,848.2	17
236	10,063.5	8,767.0	63
237	2,758.9	2,366.6	21
238	10,554.2	9,627.2	60
239	9,977.4	8,510.6	72

Lake Lanier Boat Dock Carrying Capacity Study
Appendix B: LDA Data

LDA_ID	Boundary Frontage LDA Length (ft)	Boundary Frontage LDA Total Shoreline Length (ft)	Number of Docks (in 2002)*
240	453.8	456.7	0
241	2,113.8	2,350.7	18
242	10,566.9	9,594.4	47
243	6,014.2	5,367.1	33
244	9,246.0	9,113.5	46
245	718.2	570.2	6
246	5,375.4	4,773.7	27
247	10,184.9	8,041.1	82
248	3,370.7	2,732.9	9
249	1,417.0	1,537.3	10
250	1,938.5	1,666.5	11
251	5,859.7	6,226.1	38
252	608.0	727.6	3
253	2,398.4	2,376.1	5
254	763.3	848.5	6
255	246.5	338.3	2
256	241.6	342.1	1
257	1,399.6	1,303.2	7
258	2,768.0	2,000.7	18
259	4,606.7	3,771.0	20
260	4,344.4	2,582.8	16
261	18,161.1	15,107.9	78
262	1,299.0	1,709.0	17
263	2,372.1	2,636.8	23
264	1,190.8	1,702.5	0
265	3,647.9	3,684.2	19
266	2,558.6	2,423.2	8
267	2,984.5	2,576.1	15
268	5,484.3	5,583.6	18
269	19,258.8	15,681.5	63
270	1,413.3	1,140.5	4
271	8,409.2	7,254.9	18
272	2,810.0	2,988.9	12
273	16,609.7	15,676.1	58
274	4,916.2	4,876.4	22
275	1,750.8	2,075.0	3
276	1,262.5	513.7	2
277	3,304.2	1,952.2	1
278	2,122.2	1,975.8	4
279	4,110.5	2,266.8	8
280	10,444.5	7,982.8	13
281	3,153.1	1,949.4	14
282	4,456.3	5,020.4	19
283	11,310.6	10,414.3	46
284	2,255.7	2,249.9	3
285	1,676.2	1,238.4	9

Lake Lanier Boat Dock Carrying Capacity Study
Appendix B: LDA Data

LDA_ID	Boundary Frontage LDA Length (ft)	Boundary Frontage LDA Total Shoreline Length (ft)	Number of Docks (in 2002)*
286	830.7	877.6	8
287	920.6	1,245.2	8
288	202.7	260.8	0
289	1,717.1	1,475.8	14
290	3,682.8	3,214.2	115
291	494.9	318.5	0
292	1,435.9	2,515.1	9
293	822.1	1,109.8	2
294	2,650.6	1,882.5	7
295	3,904.6	3,902.1	14
296	8,579.3	7,678.7	52
297	942.8	535.8	4
298	24,080.0	21,235.1	65
299	4,938.6	4,169.3	30
300	6,377.1	7,211.5	5
301	3,995.9	3,829.6	24
302	1,636.9	2,266.8	0
303	4,601.6	3,942.6	22
304	1,417.5	1,425.7	3
305	14,113.8	13,157.3	59
306	8,611.3	8,508.6	40
307	7,479.4	7,079.7	22
308	2,131.9	1,242.2	2
309	4,375.1	3,044.8	7
310	6,358.8	5,326.2	22
311	1,674.4	1,746.2	5
312	4,442.1	4,573.0	17
313	9,918.1	8,482.1	45
314	2,893.5	2,367.3	6
315	2,783.3	2,525.9	15
316	4,605.4	3,656.6	17
317	1,419.5	1,261.8	9
318	686.7	495.7	4
319	2,043.6	1,522.2	0
320	8,656.2	6,346.8	28
321	2,580.1	2,753.4	17
322	4,463.1	4,478.3	18
323	3,952.8	3,774.0	19
324	1,516.8	2,564.3	5
325	1,045.0	1,561.5	5
326	12,446.8	10,296.0	34
327	1,452.0	1,316.6	1
328	899.2	788.5	2
329	14,085.7	13,173.9	12
330	3,075.5	3,389.1	4
331	1,944.4	1,841.3	11

Lake Lanier Boat Dock Carrying Capacity Study
Appendix B: LDA Data

LDA_ID	Boundary Frontage LDA Length (ft)	Boundary Frontage LDA Total Shoreline Length (ft)	Number of Docks (in 2002)*
332	4,547.8	3,423.2	23
333	923.0	914.6	5
334	10,906.1	9,888.0	37
335	5,123.0	4,524.9	23
336	3,858.0	4,159.5	13
337	4,855.0	4,708.3	12
338	5,372.7	5,184.1	10
339	15,792.7	13,859.1	60
340	1,814.2	2,133.3	11
341	2,340.2	2,093.6	7
342	3,010.8	2,068.3	8
343	586.2	255.6	2
344	1,260.7	1,180.6	6
345	1,224.6	677.7	7
346	1,180.0	1,097.4	8
347	772.6	398.7	3
348	11,646.8	9,102.3	42
349	2,298.8	1,724.1	11
350	2,842.4	1,750.2	4
351	1,453.0	1,372.0	6
352	809.5	831.5	7
353	972.0	900.0	7
354	4,783.3	4,361.6	26
355	5,153.7	5,677.6	15
356	1,110.3	1,497.8	1
357	1,834.0	1,753.6	1
358	2,220.2	1,960.8	9
359	3,690.5	3,660.2	21
360	1,754.2	1,875.5	0
361	983.7	1,007.5	0
362	2,795.4	2,457.6	3
363	5,779.2	3,334.0	0
364	5,758.8	4,860.3	0
365	1,604.9	1,155.8	0
366	6,995.7	7,111.7	0
367	1,829.6	816.3	0
368	7,090.5	5,687.9	1
369	1,706.6	1,317.0	1
370	859.6	1,376.2	3
371	1,831.9	2,326.7	7
372	904.9	274.4	2
373	2,212.8	1,733.3	13
374	1,006.3	1,043.8	10
375	3,836.1	2,632.7	18
376	3,045.8	2,441.3	16
377	3,517.6	2,805.7	0

Lake Lanier Boat Dock Carrying Capacity Study
Appendix B: LDA Data

LDA_ID	Boundary Frontage LDA Length (ft)	Boundary Frontage LDA Total Shoreline Length (ft)	Number of Docks (in 2002)*
378	1,027.1	1,000.7	1
379	1,872.7	2,098.7	0
380	2,560.8	2,449.4	1
381	3,248.3	2,810.1	3
382	937.4	709.0	8
383	4,311.7	3,433.3	16
384	1,128.1	651.6	3
385	384.4	255.4	2
386	6,142.7	6,860.4	14
387	12,469.3	9,617.6	43
388	804.7	573.7	2
389	208.3	239.2	0
390	245.7	331.3	0
391	2,457.7	1,716.5	4
392	1,974.9	1,407.2	8
393	113.5	120.4	6
394	96.3	107.4	6
395	2,990.4	2,533.4	11
396	683.3	948.6	1
397	1,551.8	1,243.3	3
398	5,561.8	5,882.8	23
399	2,011.6	3,155.6	11
400	1,266.3	2,030.4	5
401	3,863.7	3,489.2	17
402	4,144.1	5,131.0	2
403	4,560.4	4,666.0	10
404	2,296.8	1,910.7	1
405	3,775.5	4,360.0	8
406	5,107.6	4,788.6	18
407	597.1	551.8	1
408	3,053.3	3,269.2	7
409	671.5	786.5	6
410	3,880.7	2,955.3	12
411	557.4	532.0	3
412	1,743.4	1,675.8	6
413	6,688.2	5,596.5	16
414	1,400.1	1,662.8	10
415	3,427.0	3,470.3	15
416	4,409.4	4,005.1	5
417	21,590.5	22,901.9	76
418	6,298.9	6,871.2	33
419	392.6	731.8	4
420	523.2	1,219.9	6
421	8,069.7	8,592.6	28
422	23,486.8	19,671.3	83
423	2,865.6	2,878.4	5

Lake Lanier Boat Dock Carrying Capacity Study
Appendix B: LDA Data

LDA_ID	Boundary Frontage LDA Length (ft)	Boundary Frontage LDA Total Shoreline Length (ft)	Number of Docks (in 2002)*
424	4,593.8	4,583.9	11
425	1,120.7	642.3	6
426	3,155.2	2,523.0	9
427	1,725.3	1,836.3	0
428	8,933.7	7,558.1	40
429	3,500.0	4,010.0	21
430	4,255.4	4,812.9	27
431	5,152.3	4,955.5	27
432	4,533.4	4,197.6	1
433	5,774.5	5,284.5	30
434	4,486.8	3,468.8	24
435	1,080.6	696.6	6
436	14,686.9	11,791.4	36
437	7,666.1	4,622.1	19
438	1,474.0	491.6	4
439	10,100.4	11,537.2	52
440	2,319.6	2,403.5	15
441	5,430.2	4,445.7	21
442	3,269.5	2,386.0	12
443	3,376.0	3,120.2	23
444	2,714.1	2,347.5	17
445	10,690.1	10,144.2	46
446	7,215.4	5,820.5	32
447	797.7	718.4	2
448	1,006.9	817.1	9
Total	1,997,654.8	1,868,227.4	8,593

* Includes private dock equivalents for community docks.

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
1	8024.7	21	00027839	Hall
2	3334.8	13	00027938	Hall
3	196.1			Hall
4	235.9			Hall
5	4622.1	18	00027998	Hall
6	491.6	4	00028047	Hall
7	5262.0	19	00028138	Hall
8	253.7	1	00028131	Hall
9	5118.2	23	00028091	Hall
10	903.3	7	00028053	Hall
11	3490.2	11	00028470	Hall
12	6070.5	18	00028532	Hall
13	1109.7	4	00028595	Hall
14	1293.8	9	00028575	Hall
15	4445.7	21	00028632	Hall
16	179.5			Hall
17	2206.5	8	00028686	Hall
18	3120.2	18	00028718	Hall
19	1248.1	1	00028748	Hall
20	2347.5	17	00029020	Hall
21	7048.0	36	00029102	Hall
22	23.1			Hall
23	390.6			Hall
24	480.2			Hall
25	415.0	2	00029077	Hall
26	1787.3	6	00029040	Hall
27	4371.5	20	00029412	Hall
28	1449.1	12	00029370	Hall
29	718.4	2	00029466	Hall
30	817.1	6	00029508	Hall
31	967.1	1	00029606	Hall
32	779.8	2	00029662	Hall
33	4424.6	25	00029789	Hall
34	248.5	1	00029770	Hall
35	7076.4	33	00029696	Hall
36	674.8	4	00029955	Hall
37	6027.5	21	00030086	Hall
38	3372.9	24	00030142	Hall
39	6564.3	39	00030179	Hall
40	561.2	6	00030296	Hall
41	244.4	1	00030282	Hall
42	12753.5	92	00030555	Hall
43	1692.4	14	00030525	Hall
44	612.6	1	00030514	Hall
45	2809.4	12	00030997	Gwinnett
46	1817.2	13	00030969	Hall
47	3790.9	27	00030926	Hall
48	3912.6	25	00031041	Gwinnett
49	8188.0	56	00031096	Gwinnett
50	3138.8	18	00031187	Gwinnett

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
51	6260.6	51	00031218	Gwinnett
52	12467.4	75	00031285	Gwinnett
53	3349.2	20	00031403	Gwinnett
54	1544.4	6	00031438	Gwinnett
55	4224.1	17	00031453	Gwinnett
56	1716.6	12	00031512	Hall
57	712.2	4	00031499	Hall
58	6556.1	27	00031557	Gwinnett
59	475.9	2	00007002	Forsyth
60	719.6	6	00006974	Forsyth
61	3170.9	6	00017492	Hall
62	7260.6	23	00001953	Forsyth
63	1970.4	4	00002857	Forsyth
64	3987.7	22	00004804	Forsyth
65	5060.4	37	00007926	Forsyth
66	958.4	9	00008510	Forsyth
67	648.8	3	00009707	Dawson
68	2554.0	10	00009681	Dawson
69	3399.7	17	00010449	Dawson
70	7503.5	52	00010821	Dawson
71	584.5	2	00012292	Hall
72	3935.5	21	00013025	Hall
73	2617.8			Hall
74	5406.4	9	00013942	Hall
75	4649.1			Hall
76	10569.2	1	00014070	Hall
77	502.1			Hall
78	4108.4	16	00016568	Hall
79	856.0	4	00016548	Hall
80	1465.6	4	00016499	Hall
81	6458.4	34	00016425	Hall
82	2004.1	13	00016395	Hall
83	5869.9	16	00017971	Hall
84	232.6	1	00017967	Hall
85	296.6	3	00017961	Hall
86	1287.5	9	00017951	Hall
87	1623.3	9	00019972	Hall
88	480.7	3	00019990	Hall
89	975.8	5	00020033	Hall
90	186.4			Hall
91	205.9			Hall
92	994.2			Hall
93	2733.3	7	00022539	Hall
94	1963.4			Hall
95	1365.5	1	00022710	Hall
96	1100.5	1	00022704	Hall
97	2059.3	8	00023194	Hall
98	1223.6	1	00023342	Hall
99	2064.9	1	00023333	Hall
100	1065.8	1	00024301	Hall

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
101	8735.2	20	00024939	Hall
102	3080.2			Hall
103	1996.0			Hall
104	1263.6	3	00025104	Hall
105	1843.8	3	00025097	Hall
106	4968.0	2	00025499	Hall
107	295.6			Hall
108	1604.2	5	00026675	Hall
109	7288.4	35	00026610	Hall
110	6136.9	15	00026555	Hall
111	11137.1	37	00026458	Hall
112	188.6			Hall
113	7543.9	45	00027437	Hall
114	476.3	1	00030688	Hall
115	1452.5	12	00027123	Hall
116	2333.8	13	00027097	Hall
117	17488.4	103	00002702	Forsyth
118	1824.1	8	00028995	Hall
119	830.9	7	00028988	Hall
120	659.3	2	00022969	Hall
121	378.5			Hall
122	832.4			Hall
123	3427.1	14	00024051	Hall
124	1111.5	1	00024040	Hall
125	632.2	1	00006046	Forsyth
126	708.6			Forsyth
127	527.5	1	00007269	Forsyth
128	18550.1	96	00009147	Dawson
129	363.4	1	00010161	Dawson
130	3238.5	3	00010522	Dawson
131	1325.8			Hall
132	1053.1			Hall
133	1101.9	1	00015542	Hall
134	5365.2	24	00017613	Hall
135	3278.6	12	00018025	Hall
136	2301.3	2	00019498	Hall
137	4962.2	34	00019847	Hall
138	1559.4	8	00019916	Hall
139	1936.8	8	00019949	Hall
140	1777.6			Hall
141	2962.2	6	00022920	Hall
142	1700.3	5	00023227	Hall
143	490.6	1	00025237	Hall
144	1689.2	9	00026725	Hall
145	2441.9	14	00027356	Hall
146	4611.1	25	00027390	Hall
147	4212.8	33	00000578	Forsyth
148	6724.8	30	00004141	Forsyth
149	4955.2	17	00023146	Hall
150	9775.0	33	00002990	Forsyth

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
151	5294.6	23	00022381	Hall
152	3832.3	8	00023275	Hall
153	1599.0	8	00019232	Hall
154	1976.6	14	00022660	Hall
155	1414.4			Hall
156	467.3			Hall
157	3606.4	21	00000331	Forsyth
158	6604.9	46	00000262	Forsyth
159	275.5			Forsyth
160	443.6	3	00000247	Forsyth
161	1178.7	9	00000229	Forsyth
162	614.7	1	00000218	Forsyth
163	2318.4	14	00000188	Forsyth
164	4614.5	29	00000494	Forsyth
165	1674.1	11	00000473	Forsyth
166	1797.1	15	00000535	Forsyth
167	5309.0	28	00000635	Forsyth
168	4224.0	23	00000674	Forsyth
169	1686.7	2	00000778	Forsyth
170	329.9	1	00000777	Forsyth
171	711.3	2	00000767	Forsyth
172	2943.6	15	00000734	Forsyth
173	1888.8	8	00000935	Forsyth
174	619.2	4	00000958	Forsyth
175	1841.8	10	00000985	Forsyth
176	1641.9	20	00001028	Forsyth
177	225.1			Forsyth
178	572.5	5	00001007	Forsyth
179	1828.8	14	00001064	Forsyth
180	596.6	4	00001096	Forsyth
181	4056.0	26	00001163	Forsyth
182	508.0	4	00001152	Forsyth
183	2400.0	20	00001206	Forsyth
184	1412.0	2	00001231	Forsyth
185	7310.9	45	00001288	Forsyth
186	1934.0	4	00001272	Forsyth
187	765.1	3	00001373	Forsyth
188	460.4	2	00001362	Forsyth
189	1786.0	9	00001475	Forsyth
190	1156.3	10	00001446	Forsyth
191	2973.5	22	00001409	Forsyth
192	4109.0	21	00001497	Forsyth
193	7105.9	55	00001541	Forsyth
194	3991.2	30	00001628	Forsyth
195	526.3	5	00001616	Forsyth
196	999.8	12	00001673	Forsyth
197	4225.8	32	00001821	Forsyth
198	1929.8	15	00001790	Forsyth
199	1265.4	9	00001771	Forsyth
200	5847.5	42	00002093	Forsyth

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
201	5044.3	30	00002029	Forsyth
202	5994.3	46	00002260	Forsyth
203	5310.1	9	00002377	Forsyth
204	3383.1	1	00002469	Forsyth
205	510.0	2	00002449	Forsyth
206	924.2	1	00002431	Forsyth
207	1073.9	4	00002689	Forsyth
208	4491.2	18	00002642	Forsyth
209	2904.9	20	00002612	Forsyth
210	1161.5	6	00002596	Forsyth
211	650.3	3	00002583	Forsyth
212	4178.8	15	00002524	Forsyth
213	2600.6	16	00002882	Forsyth
214	2156.9	12	00002943	Forsyth
215	1875.0	11	00002965	Forsyth
216	6770.2	36	00003086	Forsyth
217	1639.3	9	00003154	Forsyth
218	15487.5	75	00003215	Forsyth
219	3074.7	9	00003182	Forsyth
220	1822.5	11	00003347	Forsyth
221	7270.4	41	00003450	Forsyth
222	474.5	2	00003439	Forsyth
223	577.6	1	00003426	Forsyth
224	4966.3	27	00003370	Forsyth
225	3774.2	14	00003588	Forsyth
226	5968.0	25	00003522	Forsyth
227	10572.3	19	00003763	Forsyth
228	2160.0	8	00003863	Forsyth
229	2765.7	12	00003896	Forsyth
230	1205.6	3	00003952	Forsyth
231	1215.5	7	00003930	Forsyth
232	11126.3	39	00003980	Forsyth
233	1274.6	6	00004080	Forsyth
234	8139.7	46	00004204	Forsyth
235	1006.0	7	00004420	Forsyth
236	6086.0	23	00004460	Forsyth
237	4051.2	18	00004515	Forsyth
238	428.4	2	00004616	Forsyth
239	161.9			Forsyth
240	105.5			Forsyth
241	3578.2	24	00004652	Forsyth
242	390.6	1	00004699	Forsyth
243	844.8	9	00004732	Forsyth
244	4722.8	23	00004852	Forsyth
245	1426.9	13	00004905	Forsyth
246	260.7	2	00004996	Forsyth
247	3691.1	20	00004952	Forsyth
248	1666.8	11	00005123	Forsyth
249	7482.8	43	00005148	Forsyth
250	499.4	4	00005402	Forsyth

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
251	318.8	2	00005390	Forsyth
252	6704.8	36	00005335	Forsyth
253	5073.0	37	00005408	Forsyth
254	3925.0	33	00005472	Forsyth
255	1298.5	8	00005451	Forsyth
256	3787.6	23	00005601	Forsyth
257	2519.2	12	00005690	Forsyth
258	2120.6	14	00005664	Forsyth
259	1076.6	7		Forsyth
260	722.7	1	00005855	Forsyth
261	4547.6	6	00005912	Forsyth
262	1880.0	3	00005970	Forsyth
263	1586.1	11	00005987	Forsyth
264	417.5	6	00006066	Forsyth
265	304.8	1	00006055	Forsyth
266	2180.7	18	00006097	Forsyth
267	4872.0	34	00006217	Forsyth
268	2695.0	19	00006269	Forsyth
269	1076.6	6	00006302	Forsyth
270	3457.8	22	00006313	Forsyth
271	2035.2	15	00006368	Forsyth
272	933.6	6	00006354	Forsyth
273	3037.6	20	00006445	Forsyth
274	1848.4	2	00006580	Forsyth
275	703.2	1	00006657	Forsyth
276	679.3	6	00006813	Forsyth
277	4142.4	22	00006824	Forsyth
278	1296.9	10	00006898	Forsyth
279	917.6	8	00006928	Forsyth
280	11776.6	77	00007059	Forsyth
281	2252.3			Forsyth
282	190.4			Forsyth
283	7918.8	33	00007298	Forsyth
284	3658.9	21	00007371	Forsyth
285	6663.4	29	00007450	Forsyth
286	6543.1	25	00007572	Forsyth
287	1619.5	1	00007640	Forsyth
288	6350.9	35	00007658	Forsyth
289	1355.4	8	00007752	Forsyth
290	2374.0	17	00007717	Forsyth
291	1086.2	7	00008010	Forsyth
292	3426.5	21	00008067	Forsyth
293	5498.1	11	00008225	Forsyth
294	1052.9	2	00008194	Forsyth
295	4161.0	21	00008145	Forsyth
296	864.0	5	00008131	Forsyth
297	9072.4	38	00008309	Forsyth
298	3955.8	18	00008267	Forsyth
299	11295.2	68	00008399	Forsyth
300	1070.2	10	00008566	Forsyth

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
301	266.9	2	00008584	Forsyth
302	837.8	8	00008634	Forsyth
303	1554.6	12	00008616	Forsyth
304	661.6	5	00008603	Forsyth
305	7027.9	39	00008652	Forsyth
306	4671.7	25	00008717	Forsyth
307	4779.8	40	00008790	Forsyth
308	1681.5	12	00008840	Forsyth
309	2399.1	21	00008885	Forsyth
310	903.4	6	00008874	Forsyth
311	6791.9	13	00008924	Forsyth
312	6481.0	29	00008978	Dawson
313	1830.7	7	00009462	Dawson
314	5926.4	36	00009473	Dawson
315	1601.4	5	00009558	Dawson
316	2005.6	18	00009524	Dawson
317	4272.7	12	00009586	Dawson
318	4291.3	20	00009628	Dawson
319	4434.9	31	00009757	Dawson
320	8250.4	68	00009801	Dawson
321	4966.0	30	00009928	Dawson
322	1690.9	12	00010006	Dawson
323	1710.5	14	00009982	Dawson
324	5575.5	27	00010043	Dawson
325	1462.6	3	00010138	Dawson
326	618.6			Dawson
327	7284.3	32	00010205	Dawson
328	2848.2	17	00010287	Dawson
329	8767.0	63	00010317	Dawson
330	2366.6	21	00010485	Dawson
331	5356.5	29	00010603	Dawson
332	4270.7	29	00010557	Dawson
333	4583.6	42	00010713	Dawson
334	3927.0	29	00010665	Dawson
335	456.7			Dawson
336	2350.7	17	00010791	Dawson
337	7401.7	25	00010896	Dawson
338	2192.7	16	00010974	Dawson
339	5367.1	32	00010996	Dawson
340	9113.5	42	00011072	Dawson
341	570.2	3	00011254	Dawson
342	4773.7	26	00011288	Dawson
343	8041.1	81	00011340	Dawson
344	2732.9	9	00011444	Dawson
345	1537.3	10	00011497	Dawson
346	1666.5	8	00011527	Dawson
347	6226.1	37	00011539	Lumpkin
348	727.6	2	00012212	Hall
349	2376.1	5	00012241	Hall
350	848.5	6	00012262	Hall

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
351	338.3	2	00012274	Hall
352	342.1			Hall
353	1303.2	7	00012315	Hall
354	1499.1	12	00012342	Hall
355	501.6	3	00012330	Hall
356	3771.0	20	00012358	Hall
357	2582.8	16	00012411	Hall
358	15107.9	78	00012440	Hall
359	1709.0	15	00012741	Hall
360	2636.8	22	00012762	Hall
361	1702.5			Hall
362	1768.0			Hall
363	1031.2	1	00012935	Hall
364	3684.2	19	00012952	Hall
365	2423.2	8	00012983	Hall
366	2576.1	14	00013068	Hall
367	5583.6	18	00013130	Hall
368	15681.5	61	00013188	Hall
369	735.4	2	00013354	Hall
370	405.1			Hall
371	1991.7	6	00013410	Hall
372	7254.9	18	00013449	Hall
373	2988.9	12	00013503	Hall
374	10349.1	31	00013616	Hall
375	1085.0	2	00013598	Hall
376	3430.4	17	00013552	Hall
377	811.6	5	00013536	Hall
378	4876.4	22	00013737	Hall
379	2075.0	3	00013720	Hall
380	513.7	2	00013790	Hall
381	1952.2	1	00013852	Hall
382	1981.4			Hall
383	3032.1	3	00013903	Hall
384	126.6			Hall
385	1975.8	4	00013997	Hall
386	893.6	1	00014176	Hall
387	2266.8	8	00014343	Hall
388	2443.3	1	00014470	Hall
389	1192.9			Hall
390	1607.1	1	00014413	Hall
391	1809.3	8	00014387	Hall
392	930.3	3	00014359	Hall
393	1949.4	14	00014553	Hall
394	5020.4	17	00014604	Hall
395	1175.4	8	00014847	Hall
396	759.4	9	00014834	Hall
397	4504.4	20	00014797	Hall
398	3975.0	5	00014744	Hall
399	2249.9	3	00014873	Hall
400	695.4	5	00014896	Hall

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
401	543.1	1	00014884	Hall
402	877.6	8	00014908	Hall
403	1245.2	7	00014918	Hall
404	260.8			Hall
405	295.2	2	00015001	Hall
406	1180.6	10	00014986	Hall
407	7374.0	44	00015014	Hall
408	9364.8	48	00015117	Hall
409	1838.3	9	00015092	Hall
410	7010.7	1	00015212	Hall
411	3214.2	114	00015280	Hall
412	318.5			Hall
413	2515.1	9	00015469	Hall
414	1109.8	2	00015491	Hall
415	1882.5	7	00015501	Hall
416	1721.3	1	00015527	Hall
417	3902.1	13	00015562	Hall
418	3397.4	19	00015619	Hall
419	4281.3	31	00015580	Hall
420	535.8	3	00015849	Hall
421	19843.1	62	00015878	Hall
422	1392.0	3	00016036	Hall
423	2953.7	20	00016109	Hall
424	1215.7	8	00016090	Hall
425	3706.6	1	00016194	Hall
426	3504.9	4	00016134	Hall
427	2341.8	12	00016215	Hall
428	1487.8	9	00016247	Hall
429	2266.8			Hall
430	3942.6	22	00016332	Hall
431	1425.7	3	00016616	Hall
432	13157.3	59	00016655	Hall
433	5631.9	28	00016832	Hall
434	2876.7	10	00016801	Hall
435	7079.7	22	00016915	Hall
436	1242.2	2	00016972	Hall
437	6909.0	34	00017053	Hall
438	651.2	2	00017316	Hall
439	301.3			Hall
440	2092.2	4	00017272	Hall
441	5326.2	22	00017331	Hall
442	5977.7	18	00017524	Hall
443	1746.2	5	00017659	Hall
444	4515.8	17	00017681	Hall
445	57.3			Hall
446	8482.1	45	00017829	Hall
447	2367.3	6	00017898	Hall
448	2525.9	14	00018049	Hall
449	3656.6	17	00018073	Hall
450	1261.8	8	00018107	Hall

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
451	495.7	3	00018129	Hall
452	2104.0	6	00018138	Hall
453	1522.2			Hall
454	6346.8	28	00018237	Hall
455	2753.4	16	00018348	Hall
456	4478.3	18	00018417	Hall
457	3774.0	19	00018378	Hall
458	2564.3	4	00018471	Hall
459	1561.5	2	00018516	Hall
460	10296.0	33	00018678	Hall
461	1316.6	1	00018775	Hall
462	788.5	2	00018811	Hall
463	9660.0	4	00018902	Hall
464	1490.7	3	00018821	Hall
465	2023.2	3	00018936	Hall
466	3389.1	4	00018968	Hall
467	797.6	3	00019008	Hall
468	1043.8	7	00018985	Hall
469	3423.2	22	00019013	Hall
470	914.6	5	00019048	Hall
471	9888.0	36	00019063	Hall
472	4524.9	23	00019159	Hall
473	4159.5	12	00019194	Hall
474	4366.6	11	00019261	Hall
475	341.7			Hall
476	5184.1	10	00019405	Hall
477	7625.2	26	00019430	Hall
478	13859.1	60	00019652	Hall
479	2133.3	11	00019772	Hall
480	2093.6	7	00019826	Hall
481	2068.3	8	00019899	Hall
482	255.6	1	00019986	Hall
483	1180.6	5	00020002	Hall
484	677.7	5	00020014	Hall
485	1097.4	7	00020024	Hall
486	398.7	1	00020057	Hall
487	9102.3	42	00020059	Hall
488	1029.4	6	00020282	Hall
489	694.7	5	00020277	Hall
490	1750.2	3	00020296	Hall
491	1372.0	6	00020317	Hall
492	831.5	6	00020336	Hall
493	900.0	7	00020352	Hall
494	1829.6	5	00020400	Hall
495	1902.0	7	00020376	Hall
496	997.5	3	00020364	Hall
497	1665.2	8	00020490	Hall
498	2696.4	15	00020462	Hall
499	5677.6	14	00020506	Hall
500	1497.8	1	00020550	Hall

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
501	1753.6	1	00020570	Hall
502	1960.8	9	00020585	Hall
503	3660.2	21	00020618	Hall
504	1875.5			Hall
505	1007.5			Hall
506	2457.6	3	00020716	Hall
507	3334.0			Hall
508	4860.3			Hall
509	1155.8			Hall
510	5789.1			Hall
511	1322.7			Hall
512	816.3			Hall
513	1268.2			Hall
514	3004.0			Hall
515	5687.9	1	00022293	Hall
516	1317.0	1	00022300	Hall
517	1376.2	2	00022319	Hall
518	2326.7	7	00022336	Hall
519	274.4	1	00022374	Hall
520	1733.3	12	00022446	Hall
521	1043.8	10	00022463	Hall
522	2632.7	18	00022480	Hall
523	2441.3	15	00022517	Hall
524	2805.7			Hall
525	1000.7	1	00022688	Hall
526	2098.7			Hall
527	2449.4	1	00022745	Hall
528	2810.1	3	00022776	Hall
529	1468.7	9	00022784	Hall
530	709.0	7	00022805	Hall
531	3433.3	16	00022874	Hall
532	651.6	3	00022950	Hall
533	291.6	1	00022978	Hall
534	255.4	2	00022982	Hall
535	6860.4	14	00022995	Hall
536	3220.6	16	00023070	Hall
537	6154.1	26	00023102	Hall
538	242.9			Hall
539	573.7	1	00023218	Hall
540	239.2			Hall
541	331.3			Hall
542	1716.5	3	00023257	Hall
543	1407.2	8	00023352	Hall
544	120.4	4	00023383	Hall
545	107.4	4	00023415	Hall
546	2533.4	10	00023457	Hall
547	948.6	1	00023505	Hall
548	1243.3	3	00023563	Hall
549	5882.8	23	00023646	Hall
550	3155.6	11	00023687	Hall

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
551	2030.4	5	00023708	Hall
552	3489.2	17	00023742	Hall
553	7236.0	31	00023810	Hall
554	5131.0	2	00023888	Hall
555	4666.0	10	00023944	Hall
556	470.1	1	00023993	Hall
557	1440.6			Hall
558	4360.0	8	00024011	Hall
559	1852.6	11	00024087	Hall
560	2749.9	7	00024110	Hall
561	186.1			Hall
562	551.8	1	00024141	Hall
563	3269.2	7	00024151	Hall
564	214.1			Hall
565	572.4	5	00024364	Hall
566	701.3	2	00024418	Hall
567	704.1	2	00024410	Hall
568	1550.0	8	00024382	Hall
569	532.0	3	00024581	Hall
570	1675.8	5	00024615	Hall
571	5596.5	16	00024653	Hall
572	1662.8	10	00024704	Hall
573	3470.3	15	00024724	Hall
574	4005.1	5	00024759	Hall
575	4813.8	16	00025040	Hall
576	9209.7	26	00025361	Hall
577	7102.5	11	00025285	Hall
578	3789.0	12	00025250	Hall
579	4849.0	16	00025446	Hall
580	547.3	2	00025429	Hall
581	14388.2	46	00025684	Hall
582	3227.5	8	00025647	Hall
583	5163.1	21	00025600	Hall
584	123.1	1	00025590	Hall
585	4823.1	24	00025862	Hall
586	2048.1	7	00025840	Hall
587	731.8	4	00025903	Hall
588	260.8	1	00025961	Hall
589	959.1	3	00025952	Hall
590	8592.6	28	00026047	Hall
591	4812.9	21	00026179	Hall
592	1131.0	9	00026160	Hall
593	4092.2	10	00026112	Hall
594	1891.5	13	00026288	Hall
595	6014.5	17	00026236	Hall
596	1729.3	11	00026216	Hall
597	2147.8	4	00026353	Hall
598	730.7	1	00026383	Hall
599	4583.9	11	00026404	Hall
600	642.3	5	00026762	Hall

LDA Segment ID	LDA Segment Length (Feet)	Number of Docks (2002)	Approx. Shoreline Location Code	County
601	2523.0	9	00026819	Hall
602	1836.3			Hall
603	7558.1	40	00026871	Hall
604	4010.0	21	00026945	Hall
605	4812.9	27	00026981	Hall
606	4144.9	22	00027044	Hall
607	334.2	1	00027039	Hall
608	476.4	1	00027034	Hall
609	3715.8	1	00027261	Hall
610	481.7			Hall
611	6980.3	21	00027294	Hall
612	5284.5	30	00027514	Hall
613	1527.1	11	00027623	Hall
614	1941.7	13	00027598	Hall
615	696.6	6	00027816	Hall
616	3666.3	23	00002341	Forsyth
617	2174.9	14	00006392	Forsyth
618	696.2	4	00012642	Hall
619	38.4	10	00000370	Forsyth

APPENDIX F
LAKE LANIER
SHORELINE MANAGEMENT PLAN

1. Purpose	4
2. Objectives	4
3. Authority	5
4. Jurisdiction	5
5. Authorized Project Purposes	5
6. Project Statistics	6
7. References	6
8. Project Description and History	7
9. Master Plan	7
10. Preliminary Planning	8
11. Public Involvement	8
12. Private Boat Dock Carrying Capacity	9
13. General Shoreline Allocation	10
13.1 Prohibited Access Areas	11
13.2 Protected Shoreline Areas	11
13.3 Public Recreation Areas	11
13.4 Limited Development Areas	12
14. Permits For Other Shoreline Uses	13
14.1 Special Event Permits	13
14.2 Specified Act Permits	13
14.3 Section 404 and/or Section 10 Permits	13
14.4 Nationwide Permit	14
15. Shoreline Use Permit/License	14
15.1 Eligibility Requirements	15
15.2 Site Requirements	16
15.3 Floating and Landbased Facilities	18
15.3.1 Floating Facility Types	18
15.3.2 Dock Flotation	19
15.3.3 Dock Structural-Support Systems	19
15.3.4 Dock Ramps and Walkways	20

15.3.5 Dock Roofs and Sundecks.....	21
15.3.6 Boat Hoists	21
15.3.7 Dock Storage Boxes	21
15.3.8 Dock Paint Coatings	21
15.3.9 Dock Anchoring.....	22
15.3.10 Electrical Service	22
15.3.11 Pathways and Steps	23
15.3.12 Water Lines and Pumps.....	24
15.3.13 Telephones and Intercoms	24
15.3.14 Furniture, Decorative Items and Garden Plants, Etc.....	24
15.4 Facility Inspection Program.....	25
15.5 Dock Relocation/Access, Low Pool.....	25
15.6 Facilities For The Disabled.....	26
15.7 Grandfathered Facilities	26
15.8 Land-Use Practices.....	26
15.8.1 Erosion Control	26
15.8.2 Land Formations	27
15.8.3 Exotic Species	27
15.8.4 Chemical Agents.....	27
15.8.5 Fires.....	27
15.8.6 Mowing or Bushhogging	27
15.8.7 Hazardous Trees	28
15.8.8 Pest Control	28
15.8.9 Set-Back Zoning	28
15.8.10 Licensed Roads	29
15.8.11 Violation of Permit Conditions/Unauthorized use	29
15.8.12 Silt Removal.....	30

16. Boundary Control	30
18. Flowage or Flood Easements	31
19. Buffer Zones	32
20. Forest Management	33
21. Wildlife Management	34
22. Fisheries Management	34
24. Wetlands	38
25. Aquatic Plants	38
26. Endangered Species	38
27. Cultural and Historic Resources	39
28. Island Management	39
29. Leases	40
30. Commercial Activity	40
31. Regulatory Buoys	41
32. Administrative Review	41
33. Lake Lanier Focus Group	41
34. Summary	42
35. Exhibits	42

1. Purpose

The purpose of the Shoreline Management Plan (SMP) is to furnish guidance for the management, protection, and preservation of the lake's environment while allowing a balanced use of the Shoreline. However, the guidelines primarily address the private use of "Limited Development Areas" (LDA). The plan also considers means of restoration of the shoreline where excessive use, misuse or degradation may have occurred. **During this update the name of the plan will be changed to the SMP as described in Corps regulations. Additionally, the use of modern technology, not available prior to this update, has been used to evaluate, locate and measure the geographical features of Lake Lanier. The corresponding changes are represented in this plan update.**

Please note that the text shown in bold print is new to the SMP. This was done to highlight the changes to the SMP and to allow the reader to readily identify these changes. The bold print will be removed in the final version of the SMP.

2. Objectives

The objectives of the SMP are:

- A. To insure availability and provide access to project lands and waters while maintaining the shoreline for general public use.
- B. To provide a level of recreational opportunities that does not overly impact project lands and waters.
- C. To promote a reasonably safe and healthful environment for project visitors.
- D. To respond to changing land and water conditions.
- E. To manage project lands in a manner that will conserve natural resources and environmental quality for future generations.
- F. To give special consideration for the protection of threatened and endangered plant and animal species.
- G. To manage recreational and natural resources in a manner that is responsive to the general public.
- H. To reduce or prevent long-term damage or hazards from insect, animal, and other pests.
- I. To manage project shorelines to properly establish, enhance, and maintain acceptable fish and wildlife habitat, aesthetic quality, and sustain natural environmental conditions.
- J. To provide public services through commercial sites and marinas.
- K. To preserve important historic, cultural, and natural aspects of our heritage.
- L. To manage private exclusive use of public property, in a manner that provides the least impact on public use.
- M. To establish a means of education and communication with the project user.
- N. To further provide for the protection of public land and water.

3. Authority

This program has been prepared in accordance with the requirements of Engineering Regulation (ER) 1130-2-406, "Shoreline Management at Civil Works Projects", originally dated December 13, 1974, amended October 31, 1990/September 14, 1992.

4. Jurisdiction

The Corps of Engineers has Proprietary or Managerial jurisdiction on Corps managed Federal lands. Under Section 234 of the Flood Control Act of 1970 certain project personnel may enforce CFR Title 36 part 327 (see Exhibit 11). Under Section 10 of the Rivers and Harbors Act of 1899, as amended and Section 404 of the Clean Water Act of 1977 certain Corps personnel may enforce portions of CFR Title 33 part 200. The State of Georgia and its political subdivisions retain statutory responsibility to enforce state and local laws.

5. Authorized Project Purposes

Congress authorized construction of Lake Lanier in 1946. It became the northern most link in a series of Corps of Engineers built lakes on the Chattahoochee, Apalachicola and Flint River systems. Construction was started in 1951 and completed in 1956 and the lake was fully operational in 1958. The projects current purposes are:

- 1. Flood control-During times of heavy rainfall, run-off waters stored in the lake protect thousands of downstream homes, businesses and farmlands from flooding.**
- 2. Hydroelectric power production -Electricity produced by the powerhouse generators provides pollution free energy peak demand.**
- 3. Water supply and Water Quality -Water stored in the lake is the major water source for 50 % of the population of Georgia.**
- 4. Navigation -Water stored at Lanier can be released to increase downstream river depths allowing commercial barge navigation of the Lower Chattahoochee River.**
- 5. Recreation -Millions of visitors visit the project annually to enjoy the recreational opportunities the lake provides.**
- 6. Fish and Wildlife Management -The Corps of Engineers and Georgia Department of Natural Resources work jointly to implement management plans to ensure protection and enhancement of these resources.**

6. Project Statistics

Lake Lanier is one of the Corps of Engineers most visited projects. From 1994 visitation has increased steadily from 6.7 million visitors to 7.8 million visitors in 2000. As metropolitan Atlanta expands northward usage continues to increase. Future projections for the regions population indicates continued growth.

See Exhibit 2 for a complete list of project data. See Exhibit 2 for a detailed list of project statistical information.

7. References

- A. National Environmental Policy Act of 1969, as amended
- B. Federal Water Pollution Control Act (Clean Water Act of 1977)
- C. Rivers and Harbors Appropriation Act of 1899, as amended
- D. Fish and Wildlife Coordination Act of March 10, 1934, as amended
- E. Endangered Species Act of 1973
- F. Public Law 86-717, 74 Statute 817, Forest Conservation
- G. Public Law 99-662, Section 1134(d), Water Resources Development Act of 1986
- H. Executive Order 11752, 'Prevention, Control, and Abatement of Environmental Pollution at Federal Facilities.'
- I. Code of Federal Regulations, Title 36, part 327 to end
- J. Code of Federal Regulations, Title 33, part 200 to end
- K. Engineer Regulation 405-1-12, chapter 8, Real Estate Handbook
- L. Engineer Regulation 1130-2-400, Management of Natural Resources and Outdoor Recreation at Civil Works Water Resource Projects
- M. Engineer Regulation 1130-2-406, Shoreline Management at Civil Works Projects
- N. SADVR 1130-2-12, Construction of Boat Launching Ramps by Non-Government Groups
- O. SADVR 1130-2-14, Use of Lakeshore Land and Water Areas for Minor Private Purposes

- P. SAMOM 1130-2-2, Permitting Procedures for Private Floating Docks
- Q. MOBDR 1130-2-7, Permit System for Lakeshore Activities
- R. Master Plan, Lake Lanier 09/25/1987
- S. SAM SOP 1130-1-1, Resolution of Encroachments and Trespasses
- T. Environmental Impact Statement for Operations and Maintenance at Lake Sidney Lanier 2002
- U. EP 1130-2-550 Project Operations - Recreation Operations and Maintenance Guidance and Procedures

8. Project Description and History

The Corps of Engineers has developed a Geographical Information System (GIS) to produce more accurate statistical data. This information is presented in this SMP update. As a result, Lake Sidney Lanier now has 39,038 surface acres at pool elevation 1071 mean sea level (MSL). Due to Lanier's length and irregular shape it provides a shoreline of approximately 693 miles. Terrain surrounding Lake Sidney Lanier has rather strong relief with the greatest being to the north and northwest of the lake. The Chattahoochee River and its tributaries have cut deep ravines through the Piedmont Plateau producing numerous islands and promontories that offer superb vistas of the water and opposite shoreline. Streams flowing through the hilly, rugged terrain join to form a very irregular and interesting shoreline.

The shoreline topography varies from rolling to steep. Portions of the shoreline planned for launching ramps, parking areas, picnic areas, swim areas and campgrounds have slopes varying from 5 to 12 percent. The balance varies from 5 to 30 percent with occasional steeper slopes.

9. Master Plan

The purpose of the Master Plan is to provide a comprehensive guide for orderly development of project resources in accordance with established laws, regulations, and policies. The first Master Plan, approved on April 29, 1965, established 83 public recreation areas.

Amended on February 24, 1967, this plan allocated 38 areas available for lease to certain quasi-public type organizations. Lake Lanier's current Master Plan was approved September 25, 1987 after 8 years of development. Following approval of the Master Plan, a five year Operational Management Plan for natural resources and park management was developed by the field office. One of the many components of the Operational Management Plan is shoreline management.

10. Preliminary Planning

The regulation establishing the Lake Sidney Lanier SMP (ER 1130-2-406) was first approved in 1974 **then updated in October 1990, September 1992 and May 1999**. The development and implementation of Lanier's first SMP took place during 1975-76. Final approval of the plan by the State of Georgia and the South Atlantic Division Commander was received in 1979. The regulation also requires five (5) year reviews and periodic updates as necessary. During the 1984 review it became apparent that a major update was necessary. The updating of the 1979 plan was completed and approved by the South Atlantic Division Commander on January 28, 1988.

During the years that followed, the SMP was reviewed without modification pending an update of the Lake Lanier Environmental Impact Statement (EIS) as required by the National Environmental Policy Act (NEPA). The initial Environmental Statement was completed in 1974 and is not inclusive of current plans and operational conditions. A current EIS was considered crucial prior to the updating of the SMP. These two efforts, which are separate processes with separate goals, will complement and support each other to provide the Corps with current tools and documentation to help guide the management of Lake Lanier into the future. This updated SMP represents the shoreline management component of the preferred alternatives that have been evaluated and listed in the EIS.

11. Public Involvement

Notification was provided to the appropriate congressional delegations, local elected officials, and other Federal and State agencies responsible for various aspects of Lake Lanier. On September 20, 2001, the Corps of Engineers hosted a focus group meeting to initiate the public process. The focus group consisted of members representing a variety of backgrounds and interests including area residents, water quality experts, developers, lake related commercial interests, state and local government, environmental and special interest groups.

The public process continued with three public meetings in the Lake Lanier area. Each public meeting was conducted as an open house allowing interested parties to attend between the hours of 1:00 pm and 9:00 pm. Participants were given focus group summaries and comment sheets to facilitate their feedback. Comments were

provided in person, by mail, and at the projects website. Public meetings were held at the following locations:

Gainesville College Oakwood, GA, October 22, 2001

Sawnee Center, Cumming, GA, October 25, 2001

Gainesville Civic Center, Gainesville GA, Nov 7, 2001

Following the public meetings and the preparation of the Preliminary Draft SMP a second focus group meeting was held on September 9, 2002. Additionally, the plan was reviewed by the Corps Mobile District office prior to being presented to the public in final draft form on November 19, 2002.

12. Private Boat Dock Carrying Capacity

In support of the SMP update and in conjunction with the EIS, a Private Boat Dock Carrying Capacity Study was completed. This study was conducted to examine the relationship between private boat dock permitting guidelines at the lake and future shoreline dock density. The study focused on one aspect of the future management of Lake Sidney Lanier: To determine the maximum number of private boat docks that could be permitted within limited development areas (LDA). The study, therefore, estimates the maximum number of private boat docks under a variety of different alternatives. The alternatives differ primarily in how boat docks are spaced along the shoreline. The purposes of the study were as follows:

- To examine data related to current number and density of private boat docks on Lake Lanier.
- To determine the effect of current Corps private dock permitting practices on LDAs.
- To determine potential future lake condition based on different dock permitting scenarios.
- To determine the potential number of boat docks the lake could accommodate in accordance with applicable regulations.
- To suggest changes to SMP guidelines to ensure a healthy future lake.

Based on the study management objectives were developed to include the total number of future boat docks. An evaluation of the entire Limited Development Shoreline zoning on Lake Lanier revealed that a total of 10,615 boat docks could be permitted.

Once the total number of docks (10,615) is reached no new permit requests will be accepted. Appropriate public notice will be issued before saturation is reached. It is anticipated that the historical average number of new permits issued each year (150) will remain constant. At this rate it could take ten years to reach the maximum 10,615 permits identified in the Boat Dock Carrying Capacity Study.

Table 2-14
Summary of Future Dock Permitting Scenarios

Scenario	Number of Existing Docks ¹	Potential Additional Docks	Potential Total Docks	Percent Change in Number of Docks
No Action	8,593	16,734	25,327	195
Preferred Alternative	8,593	2,022	10,615	24

¹ Includes 8,348 private boat docks and the equivalent of 245 boat docks in community docks.

13. General Shoreline Allocation

The increased use of public land and rapid development of adjacent private properties prompted the creation of the SMP. This plan is a guide for the protection, development, and balanced use of the lake's shoreline. The plan has been developed in accordance with applicable regulations and policies. In part, the initial purpose of the SMP was to zone various segments of the shoreline to aid in the protection and orderly management of a diversely used resource. The shoreline allocations are depicted on map pages located at the Operations Managers Office or at <http://gis.sam.usace.army.mil>

Lake Lanier Shoreline Allocations
(Elevation 1071 feet msl)

Allocation ¹	Shoreline Length (miles)	Percent of Total Shoreline	Acres	Percent of Project Property
Limited Development Areas (LDA)	344.70			
LDA in water ¹	9.13			
Total LDA	353.83	47.0%	6,186.6	34.9%
Protected along <i>main</i> shoreline	177.44	23.6	5,079.8	28.6%
Protected in water	3.14			
Protected along <i>island</i> shoreline	59.28	7.9%	1,083.9	6.1%
Total Protected	239.86	31.9%	6,163.6	34.7%
Recreation along <i>main</i> shoreline	136.80	18.2%	4,479.1%	25.2
Recreation in water	0.28			
Lake Lanier Islands Resort islands	19.53	2.6%	850.4	4.8%
Total Recreation	156.61	20.8%	5,329.5	30.0%
Prohibited Areas	1.74	0.2%	64.9	0.4%
Total Allocation	752.05	100.0%	17,744.6	100.0%
Total Main Shoreline²	692.77			
Total Island Shoreline	59.28		1,083.9	
Total Shoreline	752.05			
Total Lake Surface Area at 1,071			39,038.1	

¹“In water” refers to areas where the Corps boundary runs into the water. It is assumed that the shoreline paralleling these segments is of the same allocation as the adjacent shoreline segments.

² Includes Lake Lanier Islands Resort islands.

To maintain a balance between public and private uses, areas presently allocated as "Public Recreation and Protected Shoreline" must be preserved and not converted to "Limited Development Areas". As demands for recreation increases, these areas will be available for future development. Some of these areas may remain undeveloped, but even when left undisturbed, provide considerable value to the project for current and future generations. These values include, but are not limited to timber, wildlife, aesthetics, and natural areas for general public uses such as hiking, fishing or picnicking.

13.1 Prohibited Access Areas

This classification protects certain project operation areas and the recreational visitor. Although restricted visitation is allowed at most of these sites, Shoreline Use Permits are not issued for these locations. The only areas allocated under this classification are in the proximity of the powerhouse intakes, dam, saddle dikes, spillway, tailrace, and Corps marine yard. Less than two miles of shoreline is classified as "Prohibited Access". These areas are shown in orange on Exhibit 1.

13.2 Protected Shoreline Areas

Areas are designated "protected" to preserve the scenic appeal of a lake that has become urban; to avoid conflict between private and public uses; to protect specific habitat for fish and wildlife; to protect cultural historical, and archaeological sites; to protect endangered species; to protect navigation channels; to restrict placement of floating facilities in areas too shallow for navigation or too exposed to winds and currents; and to protect important natural formations and vistas.

Passive recreational use is permitted along protected shoreline provided that aesthetic, environmental, historical, or natural resource values are not negatively impacted; however, private recreational facilities will not be authorized at these locations. Approximately 24 percent of the shoreline is allocated in the "Protected" classification. Additionally, all islands with the exception of those leased to Lake Lanier Islands share this allocation zoning. These areas are shown in yellow on Exhibit 1. Public safety, environmental stewardship and sustainability are the Corps principal concerns along common boundaries fronting protected shoreline.

13.3 Public Recreation Areas

Although most of the project is considered available for limited recreational purposes, specific areas are set aside for intensive recreational development and use. These sites include campgrounds, day-use parks, primitive or natural areas, lands leased to public

groups and other local, state or federal agencies for recreational use or development and marine services.

Permits for private shoreline use facilities are not granted in public recreation areas. Commercial activity is prohibited in all of these areas without a permit. Authorization for any commercial activity is restricted to those sites currently designated for commercial purpose. These sites include the lake's marinas, **leased club sites** and the Lake Lanier Islands complex. The Corps primary management concerns in public recreation areas are to provide sites suitable for quality recreational experiences with facilities that can sustain intensive use, are vandal resistant, reasonably safe, and large enough to support normal weekend use during the peak recreation season. Locations of these sites are shown in red on Exhibit 1. Approximately 21 percent of the shoreline is classified as 'Public Recreation'.

13.4 Limited Development Areas

Specific private uses of public lands may be permitted along shoreline designated 'Limited Development' as identified on Exhibit I. Permit applications will be considered individually on their own merits utilizing SMP guidelines. Comparisons to other existing situations are not practical due to the evolution and changes in public laws, regulations, and policies. The issuance of a Shoreline Use Permit/License does not preclude use of the shoreline by the general public. However, personal properties authorized for placement are the permittee's private belongings. Unauthorized intrusion upon private floating facilities or picnic shelters is considered a trespass and could be reported to the proper local authorities. However, pedestrian traffic and general public use of the lake and shoreline cannot be restricted or denied. Permit holders who attempt to preclude such uses are in violation of permit conditions and are subject to enforcement action as well as permit revocation requiring removal of all previously authorized facilities.

Approximately 47 percent of shoreline is classified as 'Limited Development'. These areas are shown in green on Exhibit 1.

14. Permits For Other Shoreline Uses

As with any large multi-use facility the demand for space on Lake Lanier must be regulated to encourage proper utilization and promote public safety. It is the intent of this section to describe the activities that are allowed and what permits are applicable other than those authorized by a Shoreline Use Permit/License. **All permit requests are subject to review and may be granted only if public law and regulatory guidance are met and do not violate the Corps commitment to environmental stewardship and sustainable management principles.**

14.1 Special Event Permits

Special Event Permits are required for recreational use of the project when more than 25 persons or vessels are involved in a proposed activity. Generally speaking it is not the intent of this program to deny use of the project. It is, however, necessary to insure that environmental issues are addressed; that regulatory guidance is reviewed; that public safety is considered; that space is available; that the rights of others are not effected; and that the activity can in-fact be authorized. Permits issued by the Corps for special events do not relieve the permittee from obtaining similar local or state authorization, if required. Examples of special events permits are sailing regattas, fishing tournaments, company or corporate outings, water ski demonstrations, etc. Fees may be assessed.

14.2 Specified Act Permits

Specified Act permits may be granted to perform certain one-time only acts of a minor nature such as removal of hazardous trees, exotic plants such as kudzu or English ivy, or noxious plants such as poison oak/ivy, or sumac; plant native species; establish footpaths; etc. The permit will detail the authorized work including the methods to be employed, time frames, location, equipment to be used if any, and restoration of public land if necessary. A drawing or plan including photographs may be required. The Specified Acts Permit is issued for short term only. Specified Act Permits are not issued for activities that will damage, destroy or significantly alter public lands. Each request for a Specified Acts Permit will be reviewed based on environmental law and regulation and authorization will be based upon the projects own merits.

14.3 Section 404 and/or Section 10 Permits

Lake Lanier is considered both Waters of the State of Georgia and Waters of the United States. Permits are issued pursuant to the authority granted under Section 404 of the Federal Water Pollution Control Act (Clean Water Act) and Section 10 of the Rivers and Harbors Appropriation Act of 1899, as amended. All requests are subject to the Endangered Species Act, the National Environmental Policy Act, and the Fish and Wildlife Coordination Act. Certain activities such as dredging, riprapping, construction of outfall lines, intake structures, other fixed structures, fill and the discharge of dredged or fill material, etc., into either navigable waters or waters of the U.S. may be permitted in accordance with CFR

Title 33 parts 322 & 323 provided it is not prohibited by CFR Title 36 part 327, the shoreline management plan, environmental law, or the public review process.

Lake Lanier, as well as the other Mobile District water resource development projects within the state of Georgia, is granted Regional Authority to issue permits by the Savannah District Regulatory Functions Branch. The Savannah District Engineer has issued 16 regional permits that can be issued by the Operations Manager for minor structures and activities in waters of the United States if authorized by the SMP.

Regulatory permitting is completed pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act of 1977. Typically, permits are issued for shoreline stabilization and dredging activities that are performed by adjacent landowners and are characterized as minor in nature. **Applications for permits must contain plans and specifications that sufficiently depict the actions requested and clearly indicate that work will be performed in compliance with permit conditions. Regional permit requests can be considered for each adjacent landowner, however, work performed under previous permits for similar actions nearby should be considered for consistency and compatibility. For this reason, riprap is the preferred method of shoreline stabilization. Sea walls and gabion baskets will be considered only when rip-rap is not a functional alternative.**

Individual and nationwide permits are used to authorize projects that exceed the Regional Permits limitations. These activities include large scale dredging projects to a single entity and structures that require dredging or shoreline stabilization. Individual and nationwide permits require coordination with project staff and the North Area Section Office of the Savannah Regulatory Functions Branch. Pre-construction meetings often identify potential controversy and allow the applicant to anticipate potential impacts. All applications for work on Lake Lanier must be submitted to the Lanier Project Management Operations office. Exhibit 7 provides more detail of items possibly permitted under Sections 404 and 10.

14.4 Nationwide Permit

The authority to initiate permits for activities of a minor nature relative to Section 404 and Section 10 Permits (item 13.3) has been delegated to Corps field offices. The parameters have been established in CFR Title 33 and are implemented through the Specified Acts Permit form. Violations of the permit are generally addressed through CFR Title 36 as petty offenses. Restoration and/or restitution are also employed as a means of corrective action.

15. Shoreline Use Permit/License

This is a **temporary** permit used to authorize specific private use of public shoreline designated as "Limited Development". Authority to issue these permits has been delegated to the Operations Manager and is issued for the purpose of recreational use only.

Permittees must remain in compliance with the terms and conditions of the permit, the

Shoreline Management Plan, SAM-SOP-1130-1-1, ER 1130-2-406, and Code of Federal Regulations Title 36 Section 327 to remain valid. A list of facilities that can be authorized is identified in Exhibit 9.

15.1 Eligibility Requirements

Permits may be issued in “Limited Development” areas only. The permit will be issued for a maximum of a five-year period. The permit may be reissued when the current term expires **if the permitted facilities and uses of public land are in compliance with the conditions of the permit.** Permits are non-transferable. They become null and void upon sale or transfer of the property associated with the permitted facilities or the death of the permittee. **New owners must notify the Operations Managers office of their purchase and make application for a new permit**

To reduce environmental impacts to public property, community docks are now the preferred method of shoreline access and boat moorage. Community docks focus shoreline facilities in the most desirable location taking advantage of maximum water depth, slopes used for access and allow for the protection of important natural features. Property owners benefit from an upfront knowledge of the available permitted actions and can pursue completion without the delays associated with individual permitting. This concept supports local municipal zoning ordinances requiring “Planned Community Developments” or PUD “Planned Unit Developments”.

For this reason, community docks are required for all new residential developments where their use would reduce negative environmental impacts and provide greater protection of public land. New residential developments are defined as a property or properties receiving final plat approval after the implementation date of this plan. If the development is a PUD then community docks will be required. When evaluating requests for new docks the total shoreline frontage associated with the private property will be identified. If the multi-slip facilities can be accommodated within 20 percent or less of the total leaving 80 percent or more to be rezoned as protected shoreline, a community dock will be required. Requests that do not meet this guidance can be further evaluated based on their environmental benefits and public interest. If site conditions prohibit the use of a community dock the Operations Manager may permit a variance for the use of private individual docks. It is not intended that this use be applied to an existing isolated lot. A community dock is intended to provide access to property owners, who would have otherwise qualified for a private individual dock under the guidance set forth in this plan.

Following the issuance of a community dock permit the remaining shoreline and adjacent public property will be rezoned as “Protected”. No new private boat dock facilities will be permitted at these locations. The Corps will encourage existing private dock permittees in previously developed areas who are desiring to replace facilities to use community docks when appropriate. The use of a community boat ramp with a courtesy dock may be substituted for multi-slip docks to provide lake

access to more of the residents. However, parking facilities and boat storage will be maintained on private property.

Property owners may establish an association for a jointly owned courtesy facility on public land where private lands provide common access to public property. Such facilities are for all residents of the subdivision. Floating facilities authorized through associations are for courtesy use only, not for overnight storage or mooring purposes. Courtesy docks may not exceed 192 square feet.

Site appointments are required with an area ranger prior to the issuance of a permit for private docks and related facilities. Appointments will be scheduled through the Operations Managers Office. During the appointment rangers will evaluate the location and facilities requested and provide an application package if site requirements are met (see section 15.2 Site Requirements). The location of facilities will be identified and reserved for a 90-day period from the date of the appointment. If applications are not received within this period the site will no longer be reserved. Once the application package is received the eligibility requirements will be evaluated, if all criteria are met then the facilities requested will be authorized by permit.

For those individuals who may qualify for private dock permits the following requirements apply. Individual lots must have a minimum of 82 feet of private land adjoining public property. This frontage must provide unrestricted legal access to public lands that are zoned "Limited Development". This requirement is not intended to apply to existing platted lots previously eligible for permit unless modified. Proof of the required access may be satisfied by submitting either a copy of a recorded deed containing an adequate legal description or notarized closing statement. **Either document must be accompanied by the current property plat. Failure to provide proof of ownership, access, and a plat will result in denial of a request.**

Only one dock permit will be allowed per **household**. Multiple persons listed on a deed will be considered as one adjacent landowner and therefore ineligible for new permits. Permits will be issued on a first applicant basis. Permits are not issued for speculative purposes, enhancement of private property or to persons renting private property. The permittee must be the primary user and owner of facilities permitted. Permits are not issued to minors.

Permits are temporary in nature with termination dates. The issuance of a permit is a privilege and does not infer private ownership or rights to public lands. **Under no circumstances should any individual proceed with installation of facilities until a valid permit is in hand.** Structures placed on public lands via a Shoreline Use Permit/License are private property on public lands authorized only for the term of the permit.

15.2 Site Requirements

Proposed locations for placement of facilities via permit must conform to the SMP and Allocation Map (Exhibit I). This map identifies the zoning of all public lands. New facilities will be considered in "Limited Development" shoreline only. Additionally, the

location of the proposed facilities must not cause a safety hazard to the applicant/user or general public. **Shoreline stabilization measures (rip-rap) may be required with the issuance of new permits that require fixed steps or are located on sites already significantly affected by erosion. Regional permit authority for steps is limited to a maximum of 20 feet in length and not extend more than 10 feet lake ward from the top of the bank (see Exhibit 4). Shoreline areas that require more than the maximum length of steps will be considered unsafe and grounds for permit denial and rezoning.**

The selected site for any floating facility must be at the nearest point of shoreline to the adjacent owner's private property. Distance to the nearest point on water has no bearing on the issuance or denial of a permit. Deviations of not more than one hundred (100) feet left or right of this point may be considered if water depth or spacing is a problem. However, placement should not be made that would produce a crossing or crossover situation; meaning that an applicant's facilities should not go beyond existing neighboring facilities. Crossover situations cause community discord and therefore, **will not be authorized.** Private property lines do not extend onto public lands and do not indicate rights or privileges to or on government property not afforded any other member of the general public; nor does adjacent land ownership guarantee privacy or imply exclusive use of public shoreline.

The proposed location for any new floating facility must provide at least a fifty foot (50) foot buffer area between existing or proposed structures at full pool elevations. This buffer is from the nearest point of one facility to the nearest point of the second facility and applies to across cove situations as well.

In an effort to provide for safe navigation, reduce potential environmental damage, and improve aesthetics, the length of a vessel allowed at a private dock will be determined by length of the dock, mooring safety requirements and site conditions. Generally, boats that create blind spots, diminish boating safety, or exceed the docks ability to safely moor and protect from storm damage must be stored in marina facilities. Permittees may not rent out moorage space on private docks and in no case shall a vessel be moored to another vessel.

All intended boat-mooring sites will allow for six (6) feet of water under the dock at the dock's lakeside or slip end to prevent damage to boating equipment and to allow for water fluctuation. This requirement is subject to change based on the outcome of the ACT and ACF Water Allocation Compact Study and its effects on the future lake levels at Lake Lanier.

At locations selected for private floating facility the center one-third of the cove or channel must be left open for navigation. **Community docks require one half of the cove be left open for navigation.** At no time may the length of any dock including any moored vessel extend into this protected **navigation channel** at full pool elevation. Corps policy is to regain this navigable space when considering replacement facilities under existing permits. All new facilities will be placed or replaced in such a way as to have the least impact on navigation. During periods of low water navigation channels will not be obstructed.

Permits may not be issued in "Limited Development" zoned locations where endangered species exist, at cultural or historic sites, **areas where the shoreline slope can not be accessed with the maximum authorized fixed steps**, or in areas determined to be wetlands in accordance with CFR Title 33. Such locations will be rezoned to 'Protected' shoreline.

15.3 Floating and Landbased Facilities

The Operations Manager is authorized to issue a Shoreline Use Permits/License for a floating facility, utility rights-of-way, improved shoreline access, etc. For a complete list of the items currently authorized as well as those "Grandfathered" see Exhibit 9.

15.3.1 Floating Facility Types

In accordance with ER 1130-2-406 floating facilities will be permitted for the purpose of docking or mooring a vessel for private, not commercial use. It is important to note that the permit calls for a floating facility not fixed or suspended and the permit is issued for the purpose of boat storage and related boating apparatus only.

Private floating facilities eligible for permitting are as follows:

Boat dock: A structure with or without a roof, without sides/walls (completely enclosed) unless existing and grandfathered, with a storage slip(s) for docking or mooring a vessel. Such structures will not exceed a maximum dimensions of 32' X 32'. The aggregate slip size will not exceed 20' (feet wide) by 28' (feet long). Walkways must be a minimum of 4' wide. The maximum dimension will include any platform/deck added or constructed to the docking facility. The maximum dimension of any attached platform/deck will not exceed 192 square feet. For the purposes of determining width from length on any type of floating facility, width will always be that portion parallel to the shoreline; length will always be that portion perpendicular to the shoreline. NOTE: The smallest dock to be permitted will be no smaller than 18' X 24' feet providing a 10' X 20' foot slip. All new dock construction will be open-sided (without sides/ walls) due to inspection requirements; unauthorized use and storage (indicating human habitation and unsanitary conditions); reduced visual obstruction to shoreline esthetics; and reduced storm and wind damage to the structure. A roof with straight-line design and minimum pitch from the centerline ridge is recommended. Roof decks will be allowed, but structural integrity is critical when covered with furniture and occupied by several persons (cases of collapse have been recorded).

Platform/T-dock: **no permits for private use will be issued for new platform/T-Docks due to safety concerns and general unsuitability as a mooring facility. Existing docks of this configuration that are currently authorized under permit will not be affected by this change in policy.**

Mooring Buoys: Although provisions for mooring buoys are provided in ER 1130-2-406, these are no longer permitted on Lake Lanier due to the demand for public space and previous safety problems caused by their presence.

15.3.2 Dock Flotation

Flotation material is a substance used to float a mooring facility on the waters surface. Floats and the flotation material for all docks and boat mooring buoys shall be fabricated of materials manufactured for marine use. The float and its flotation material shall be 100% warranted for a minimum of 8 years against sinking, becoming waterlogged, cracking, peeling, fragmenting, or losing beads. All floats shall resist puncture and penetration and shall not be subject to damage by animals under normal conditions for the area. All floats and the flotation material used in them shall be fire resistant. Any float which is within 40 feet of a line carrying fuel shall be 100% impervious to water and fuel. The use of new or recycled plastic or metal drums or non-compartmentalized air containers for encasement or floats is prohibited. For any floats installed after the effective date of this specification, repair or replacement shall be required when it or its flotation material no longer performs its designated function or it fails to meet the specifications for which it was originally warranted.

15.3.3 Dock Structural-Support Systems

Materials commonly used for joist's, rafters, studding and decking are wood and/or metal. **All wood shall be pressure treated with environmentally friendly chemicals, arsenic treated wood materials are prohibited.** Metal decking is discouraged due to repair difficulties and slip hazards once the metal becomes damp from mud, rain, ice or snow. Metal should primarily be used for support functions not decking. **Metal decking, if used, must be designed for this purpose and have a nonskid tread.**

Wood construction is considered unsafe when nails, bolts, or screws are protruding to cause a trip hazard; when materials become partially decayed or slick from use; when materials become ripped, jagged, pointed, splintered from wind or other factors; when wood supports and decking become loose or missing, when wooden materials protrude beyond the defined limits of the structure's approved dimensions.

Metal construction is considered unsafe when it becomes pointed, sharp or jagged from wear, rust or wind damage; when bolts, screws, etc., become loose causing a trip hazard or allowing the structure to become partially unstable; when metal joints lose structural strength due to broken welds or rust; when metals protrude beyond the defined limits of the floating facility's approved dimensions; or when portions of metal decking is missing. Under these and other unsafe conditions the permittee must repair, remove and/or replace the facility in accordance with current standards.

Permitted facilities and activities are subject to periodic inspection by authorized Corps representatives. **The Operations Manager will notify the permittee of any deficiencies and establish a reasonable schedule for their correction.** No deviation or changes from approved plans will be allowed without prior written approval of the Operations Manager.

15.3.4 Dock Ramps and Walkways

All dock ramps and walkways may be constructed of treaded metal, lumber treated with environmentally suitable chemicals, or marine products with skid resistant surfaces. Coverings such as carpet limit the inspection of the facility, promote decay, and create slippery surfaces. Due to these safety concerns carpet and other unsuitable coverings are prohibited and require removal.

Unless otherwise approved dock walkways shall be at least four (4) feet, but not more than six (6) feet wide. Walkways less than four feet wide are not allowed due to safety considerations. However, walkways previously approved that are less than four feet wide or more than four (4) feet above the ground or water surface must have handrails 36-48 inches high with an intermediate guardrail approximately one-half the distance below the top rail. For the purpose of determining the dimensions of an attached platform, four feet of walkway adjacent to the slip is not considered a portion of the attached platform.

Floating ramps leading to docks will not be less than four (4) nor more than six (6) feet in width nor exceed forty (40) feet in length. **If land-based fixed steps are approved in conjunction with the approach ramp, the steps shall not exceed six (6) feet in width and be no longer than 20 feet in length (see section 15.2 “Site Requirements”).** Because fixed **piers** obstruct lake access during low lake levels, no new authorizations will be granted. **Additionally, ramps will not lead to the upper level/roof of a dock facility. Existing structures of this type will be grandfathered.** All approach ramps four (4) feet above water or ground surface must have handrails 36-48 inches high with an intermediate guardrail approximately one-half the distance below the top rail. All safety rails must be made of continuous rigid material. All approach ramps must be floating unless otherwise approved by the Operations Manager. All floating facilities must have an approach ramp. **The minimum approach ramp dimension is sixteen (16) feet long by four (4) feet wide.**

Walkways found to be in excess of the permitted length will generally require removal. If a determination is made that the existing length is required to meet the minimum depth standard of 6 feet at full pool and all other site requirements are in compliance an exception may be considered.

All walking surfaces of floating facilities are considered unsafe when not structurally sound; having obstructions restricting the walking surface; when not kept free of carpet, protruding nails, screws, mud, grease, oils, soaps, or any material that would create a trip hazard; when not free from excessive spring, deflection, or lateral movement; when not supported by adequate flotation; when pieces or sections of decking are missing; Handrails are considered unsafe when toe-nail construction has been used; when handrails have been installed too low or too widely gapped to be effective; or any other condition that might make the walkway unsafe.

15.3.5 Dock Roofs and Sundecks

Although roofs may be constructed to allow for an upper sundeck, applicants should be encouraged to erect floating facilities with gabled superstructure having the minimum possible pitch for the material used. Maximum slope shall not exceed 3(vertical) on 12 (horizontal). Roofs may be constructed with either wood and shingle, or metal products. If an upper roof sundeck is constructed the entire rim of the upper structure's roof-deck must be enclosed with a continuous rigid retaining rail. The rails shall be 36-48 inches high with an intermediate guardrail approximately one-half the distance below the top rail. A permanent and/or fixed bench and rail combination may be constructed along the interior perimeter of the upper roof-deck. Single level roofs are authorized, however, any type of covering that establishes a second level roof or room, whole or in part is prohibited.

Roofs are considered unsafe when there is material failure; when the substructure or superstructure is damaged, rotting, or not structurally sound; when the outer perimeter of the roof-deck is not completely enclosed; when safety rails are damaged, failing, or poorly constructed (toe-nail construction of safety rails is poor construction); when pieces or sections of decking or roofing are missing; when steps leading to the roof are poorly constructed, improperly affixed to the main dock structure not stable, etc., or any other condition that might make the roof unsafe.

15.3.6 Boat Hoists

Boat slips may contain floating or suspended hoists. Suspended boat hoists are only permitted when the applicant submits certified engineering drawings that guarantee the dock and lift capacity for the vessel being stored. Floating boatlifts must be attached to the substructure. All hoists and lifts must be constructed within the slip area **with the exception of personal watercraft (PWC) floating hoist or lifts that allow the PWC to rest on the dock. A maximum of two hoists for PWC use outside of the slip may be authorized**

15.3.7 Dock Storage Boxes

Enclosed storage on a floating facility will be limited to the maximum dimensions of 8 feet long, 4 feet wide, and 2.5 feet high. Storage boxes may not interfere with walk space. Dock storage boxes are authorized for storage of water related recreation equipment only. Boat docks are not to be used for general storage and no flammable liquids may be left unattended.

15.3.8 Dock Paint Coatings

Permittees are not required to paint metal or stain wood components of their facilities. **However, if painted, colors such as dark browns black and dark greens that blend with the natural surroundings are required. Bright colors are not authorized.** Wood surfaces may be left untreated to weather naturally.

15.3.9 Dock Anchoring

An anchorage system shall be provided which will ensure secure anchoring of the floating facility taking into consideration the water depth, exposure to wave action, and wind. Shoreline trees or other natural features will not be used as anchors. To prevent stress, floating facilities will be anchored perpendicular to the shoreline with anchor cables placed at 45-degree angles to the shoreline. **Anchor posts with sleeves resting on the lake bottom may be used without cables, however, if this is not sufficient, cable(s) will be required in conjunction with anchor post. A maximum of two (2) anchor post can be used provided they are installed on the shoreline side of the dock.** The permit holder must ensure that floating facilities never become elevated above the ground or water, and prevent the loss of post during periods of lake level fluctuation. Anchor cables may be secured to the shoreline with metal or wooden posts, or screw augers placed so not to endanger visitors or damage vegetation. Metal anchor posts are preferred since additional grounding is afforded in case of electrical failure. Care should be exercised when installing metal anchor posts. If the metal post is driven into the ground, the metal may split or become jagged creating a safety hazard that must be corrected. The floating facility must be either floating or resting on the ground at all times.

Anchor cables may not obstruct the public's use of the shoreline or water surface. Excessive cabling is not allowed if it blocks off an area for private use. Cables exceeding 45-degree angles may require reinstallation upon inspection. Cables shall be maintained in a taut condition. Cables shall not cross those of an adjacent facility. **No other cable or anchoring devices will be permitted on the lake bottom.** Cables may not be lined with Styrofoam or plastic jugs, etc. due to aesthetics. Floating facilities should not share the same anchor post.

15.3.10 Electrical Service

Current requirements for installation and use of electric service on public lands at Lake Lanier were adopted 27 Nov 85 (See Exhibit 3). This requirement slightly exceeds the National Electric Code (NEC). This standard insists that all convenience receptacles and lighting have ground-fault protections.

Item "D-3" of the requirements advises that flexible cord types (those normally used for ship to shore power with twist lock connections) are to be used to tie service from the GFI to the dock.

Light fixtures must be shielded or otherwise constructed so that residents or boaters are not blinded by the glare from lights. Dock lighting must not protrude beyond the floating facility structure and must be pointed downward.

Regardless of the age, condition or Grandfathered provision, all electrical service must have GFI protection and be buried underground to meet requirements. Recertification is required at each permit renewal, change of ownership or at any time an inspection reveals that the service does not meet requirements. See Exhibit 3

15.3.11 Pathways and Steps

Meandering pedestrian pathways may be **created** for access to the permitted facilities at no fee. Pathways will follow a meandering route that conforms to the topography as much as possible to help prevent erosion, avoid the need for removal of vegetation, and prevent the construction of bridges or steps. **All work will be completed with hand tools only unless otherwise authorized in writing by the Operations Manager.** If surface treatment is required to prevent erosion or fill depressions, wood chips or on-site forest litter are recommended. If erosion is evident due to continued foot traffic and water run off, intermittent water breaks may be necessary.

If slopes prohibit safe access by means of a natural path then steps or a bridge creating the least environmental impacts may be authorized under permit with a fee. **Materials used to create these structures must be properly treated and environmentally friendly, no wood treated with arsenic will be authorized.** All steps must be constructed of at least 8" wide x 6" high material without borders. Every effort should be made to prevent continuous running steps. Steps may not be elevated nor create a boardwalk. Steps or landings may not be erected in a manner to create patios. Unless the steepness of the slope dictates it or handicap needs demand it, steps should be constructed without handrails. All steps must be constructed at contour or ground level. If backfilling is required, the surface treatment must be wood chips or similar mulch. Landscape timbers are not authorized for step construction due to safety considerations.

Footbridges may only be authorized if there are no other alternatives to provide safe access. Footbridges may not exceed four feet in width. All foot bridges more than four feet above the surface of the ground must have a handrail. The rails shall be 36-48 inches high with an intermediate guardrail approximately one-half the distance below the top rail. The pathway permit does not convey the right to use equipment or construct any other structure unless specifically authorized.

Pedestrian access lighting may be installed underground following the meandering footpath. Permit holders are **required** to use mushroom style lighting, not to exceed a height of two feet (2). See Exhibit 3, "Requirements for Installation and Use of Electric Service on Government Property at Lake Lanier". **Existing pathway lighting not meeting this standard will require replacement upon repair.**

Natural pathways are considered unsafe when the terrain is too steep to safely access the shoreline, thus requiring improved steps. Pathways must remain free of stumps, snags and other tripping hazards. Steps are considered unsafe and unauthorized when poorly placed or constructed so that the step is loose; or when materials are defective damaged, or decaying.

15.3.12 Water Lines and Pumps

Water lines not-to-exceed 2" in diameter may be installed underground and must follow the access path. Water lines may be placed in the same trench as the electric line. Water lines may be installed to deliver fresh or raw water or both. Pumps associated with water lines must be electric, may not exceed two (2) horsepower and must be installed on the floating facility. Pumps and electrical components will not be submerged. Electrical service must conform to Exhibit 3. All water lines must be attached to the dock and/or ramp and may not be submerged. Water faucets may be placed on the dock and/or land. The installation of water faucets should be inconspicuous or low profile and must not exceed thirty (30) inches in height. Waterlines for the withdrawal and subsequent redelivery of water for the purposes of heat pump service is prohibited unless a National Pollutant Discharge Elimination System (NPDES) Permit has been obtained from the State of Georgia.

No new landbased pump houses will be authorized. Removal of existing pump houses will be required if the facility is not a well-constructed shed type facility, the well is abandoned, or if the structure needs major repair.

15.3.13 Telephones and Intercoms

Telephone service may be authorized, however, use of **cell telephones is encouraged**. Telephone lines must be installed underground in the same trench as other electrical wiring. Intercom lines may be installed along with other electrical services.

15.3.14 Furniture, Decorative Items and Garden Plants, Etc

Docks are permitted for the purpose of providing moorage for vessels. However, it is recognized that docks may serve multiple purposes and may be used for fishing, sunbathing, or other leisure activities where furniture may be desired. Outdoor or patio type furniture may be used on upper or lower sundecks provided the furniture does not restrict or interfere with the walkways or otherwise cause a hazard. Four-foot wide dock sections are not considered adequate to accommodate furniture. Due to wind and wave action, dock owners are encouraged to securely attach furniture to the dock or remove it when not in use.

Diving boards/structures of any type as well as sliding boards, hammocks and playground equipment are prohibited. Additionally, items such as indoor furniture or objects that denote habitation such as, but not limited to couches, sinks, cabinets, **appliances, satellite dishes, security cameras and permanent stereo systems are prohibited**.

Outdoor furniture may be placed on 'grandfathered' picnic shelters and patios. However, outdoor furniture may only be placed on 'grandfathered' patios during actual use and may not be left more than 24 hours. Neither picnic shelters nor landbased boat shelters may be used or converted to storage shelters or **habitable structures**.

Decorative items, house and garden plants, Christmas trees and lights, **signs, or banners** and other similar commodities are prohibited on public land and on private facilities located on public property.

15.4 Facility Inspection Program

All permitted facilities must be operated, used and maintained by the permittee in a safe, healthful condition at all times. At the time of permit renewal, change of ownership or at the discretion of the Operations Manager all permittees will be required to contract the services of a Corps trained "candidate", or higher, level inspector, who has passed all written exams and continues to meet the requirements for either: the American Society of Home Inspectors (ASHI) or Georgia Association of Home Inspectors (GAHI). Inspectors will provide permit holders at a minimum, a Corps of Engineers inspection report that details the deficiencies found and the inspector's final inspection and certification that the facilities are in full compliance of the permit conditions. Payment of costs associated with the inspection along with the submission of full application package including certifications will be the responsibility of the permit holder.

In order to be Corps trained to perform facility inspections an individual will be required to attend an orientation session held at the Operations Managers Office. The orientation will acquaint inspectors with Corps requirements, boundary identification, and permit conditions. Required inspection and certification forms will be located on the Lake Sidney Lanier web site. See Exhibit 3

Permittees who determine to replace their existing dock must request an appointment with their area ranger to discuss size and location. After the previous facility has been removed the replacement facility may be installed anytime within the five-year permit period.

15.5 Dock Relocation/Access, Low Pool

During periods of low lake levels floating facilities may be moved to follow the receding shoreline as long as one third of the channel remains open for navigation and safety is not an issue. Permittees have the option to move docks laterally but not beyond or crossing any neighboring facilities and not within the boundaries of "protected" or "recreation" zoned shoreline. In locations where competition for space to keep docks afloat is a problem during low lake levels neighbors are encouraged to seek amicable solutions.

Excavation, digging, leveling or changing the contour to access the lakebed without a permit is prohibited. Permanent placement of hoist to enable dock movement is prohibited. Access to the dock during periods of low lake levels must generally be gained through some temporary wooden means.

15.6 Facilities For The Disabled

The Corps has developed a number of handicap facilities for lake access in public recreation areas **that are in compliance with the Americans Disabilities Act (ADA). Adjacent landowners and permittees are encouraged to use these facilities when the need for disability access arises. If direct access to the dock is required from the adjoining property for a disabled resident, authorization for specialized facilities can be considered. Each case will be reviewed based upon its own merits. To qualify one must provide a doctors letter that describes the disability. The letter must provide sufficient detail concerning the disability and the type of access medically necessary for continued use of the facilities. Benches, handrails or use of a motorized cart or similar vehicle may be authorized. Authorization will be granted for the minimum improvements necessary to provide safe access. Temporary solutions will be considered for temporary disabilities. In any case the person requiring the access must reside full time in the home of the permittee. At renewal of the permit this need must be reestablished with a subsequent doctors letter. Because of the temporary nature of these permits hardened surfaces such as gravel, asphalt or concrete may not be authorized due to negative environmental impacts and the high cost of removal. Site conditions may limit the Corps ability to accommodate every applicant.**

15.7 Grandfathered Facilities

A 'grandfathered' item is defined as an activity, facility or structure that was authorized under a previous policy and prior permit, but new permits are no longer issued for their construction. Existing permits will continue to be reissued for these items in protected/recreation areas as long as they are maintained in a usable and safe condition, not occasion a threat to life or property, and the permittee is in substantial compliance with the existing permit conditions. If the permitted facilities do not meet these requirements they must be removed and cannot be replaced.

15.8 Land-Use Practices

It is the policy of the Mobile District to authorize certain private uses of public lands when these uses or acts are compatible with the provisions of public law and regulation. Permits may be obtained to control erosion, plant native species, reduce or eliminate noxious plants, aid in fire prevention, **and remove hazardous trees** etc.

15.8.1 Erosion Control

Erosion control methods such as planting of native vegetation or placing water breaks along footpaths to reduce rainwater runoff velocity may be authorized. Permits for shoreline protection (rip rap) as addressed by Section 10 and 404 of the Clean Water Act and authorized by a Specified Acts Permits are also available at the Operation Managers Office. See section 14.3

Point-source sedimentation violations that directly impact Lake Lanier may be reported to the local government with jurisdiction, the Georgia Environmental Protections Division, or the Operation Managers' office. The Operations Manager's authority is limited; therefore, local review would only determine the extent of damage and initiate contact with the appropriate enforcement element.

15.8.2 Land Formations

Land formations may not be modified without a permit.

15.8.3 Exotic Species

Exotic species or plants not native to the area are not authorized and must be removed. Flower and vegetable gardens are not authorized. Native vegetative species may be planted in a random or natural fashion and **must be authorized by a Specified Acts Permit.**

15.8.4 Chemical Agents

Broad uses of Chemical agents such as pesticides are not authorized. Chemical products such as pre-emergence, weed killers, fertilizers, growth retardant, etc., may not be used on public lands, however, some topical application to control noxious or nonnative species may be allowed under rigid control via a Specified Acts Permit. The use of such products on private property must not affect public lands or waters.

15.8.5 Fires

Fires or burning on the shoreline is no longer authorized on Corps managed lands regardless of the lake level. County burn permits do not authorize burning on Corps managed properties. Adjacent landowners may remove forest litter away from their residences not exceeding six feet in locations where residential structures were built close to the government property line.

15.8.6 Mowing or Bushhogging

Mowing and general lawn care of public land is not permitted. Presently, there are areas on public land where the adjacent landowner has maintained grassy areas in a lawn-like condition. These open areas generally evolved from agricultural practices that removed tree cover prior to land acquisition by the Government or from tree loss due to fires, diseases or other causes since impoundment of the lake. Adjacent landowners may continue maintaining these existing grassy areas provided a Shoreline Use Permit/License has been

issued to authorize the activity. **Because grass is not a high quality vegetative buffer, it is project policy to restore grassy areas to a more natural state. When such areas are not maintained and woody vegetation has reestablished itself this portion of the permit will not be renewed. During changes of ownerships minimization of permitted mowed areas will be encouraged to help protect the lakes water quality. Adjacent landowners have the greatest impact and opportunity to protect or restore the lakes vegetative buffer.**

Authorized footpaths six (6) feet wide may also be maintained by mowing and limited underbrushing. Site plans delineating the limits of cleared areas, underbrushing, or plantings from the approved plant list in Exhibit 8 will be developed on-site by the applicant and a Corps ranger.

15.8.7 Hazardous Trees

Hazardous trees that endanger life or property may be cut/dropped and/or removed from public land. Specified Act permits may be issued or the applicant advised in writing the reasons for denial. If the Corps is requested to fell hazardous trees any subsequent cleanup or removal of the tree may be authorized by permit **to the adjacent landowner making the request.**

15.8.8 Pest Control

Pest Control includes forest insects, pets or stray animals, rodents and other health related nuisances. Coordination between Corps and local government agencies is essential not only to reduce health hazards, but also to prevent endangerment to others as well as the resource. Naturally occurring wildlife species are not considered to be pests.

15.8.9 Set-Back Zoning

Set-Back building codes are absolutely necessary to prevent building errors or boundary discrepancy from becoming major encroachment problems. Local governments are strongly encouraged to pursue set-back zoning on the Corps boundary line. Such a policy will greatly reduce conflict between the general public, the Corps, and the neighboring landowners, as well as reduce the taxpayer's share of costs necessary to protect public lands around Lake Lanier. It is recommended that a 15-foot setback be established and enforced. **Setbacks of sufficient width are required so that construction of home sites will not require storage of excavated material, fill, construction materials or equipment on public lands.**

15.8.10 Licensed Roads

Private roads established under prior policy were authorized for shoreline access only and were not intended to be used for vehicle or vessel storage. These roads now have a Grandfathered status. No new roads will be authorized for private use.

15.8.11 Violation of Permit Conditions/Unauthorized use

Violations of permit conditions or unauthorized uses of public property will result in corrective or enforcement actions against the permittee. **These actions may include administrative penalties such as site restoration and or restitution to the government. Additional penalties include the issuance of a citation under the Code of Federal Regulations Title 36. In consideration of the issuance of this permit, the permittee must be in compliance with Title 36, Part 327 (including but not limited to Sections 14,15,20, and 30) and must remain in compliance with those sections. Any incidents of noncompliance with those sections or the remaining conditions will result in revocation of the permit or non-renewal, or the addition of other special conditions. Non-renewal or revocation will require removal of the permitted facilities.**

All Shoreline Use Permits are issued and enforced in accordance with the provisions of Title 36, Chapter III, Part 327, Code of Federal Regulations. Noncompliance with any of the terms and conditions, general or special, may result in the issuance of a Violation Notice requiring the payment of a fine or appearance before the U.S. Magistrate, termination of the Permit, and/or restitution. Severe cases of destruction of public land may also result in a moratorium being placed on the affected area of public land, preventing the issuance of any new Permit for a minimum period of 5 years.

By 30 days written notice, mailed to the permittee by certified letter, the District Commander may revoke this permit whenever the public interest necessitates such revocation or when the permittee fails to comply with any permit condition or term. The revocation notice shall specify the reasons for such action. If the permittee requests a hearing in writing to the District Commander through the Operations Manager within the 30 day period, the District Commander shall grant such hearing at the earliest opportunity. In no event shall the hearing date be more than 60 days from the date of the hearing request. Following the hearing, a written decision will be rendered and a copy mailed to the permittee by certified letter. Notwithstanding the condition cited above, if in the opinion of the District Commander, emergency circumstances dictate otherwise, the district commander may summarily revoke the permit.

The most common activities addressed as unauthorized use include the conversion of public land to private use such as with vegetable and flower gardens, clearing of trees, underbrushing without a permit, construction of roadways, and abandonment or disposal of personal property. Due to the lack of setback policies construction of houses, sundecks,

porches, swimming pools or outbuildings are often partially on public property as well as related debris, earthen fill, septic tanks and drain fields, once a permit violation or unauthorized use is corrected the violator may be eligible to reapply for a **Shoreline Use Permit** subject to current regulations.

15.8.12 Silt Removal

Silt Removal may be authorized in accordance with Code of Federal Regulations Title 33 and 36. Silt removal cannot be authorized to excavate original soils and rock. Only alluvial soil (sedimentation) may be removed. Permits to remove silt will not authorize the altering of the original contour, drainage pattern, or wetlands, nor removal of one (1) foot or less of silt deposit. Silt removal will not be authorized if access to the shoreline is not available without destruction of the sites. Silt removal authorizations must comply with the Nationwide permit program addressed in Sections 14.3 and 14.4. **A silt removal plan will be required from the permittee and must include a cross-section with dimensions illustrating current and final slope as well as quantity of silt and depths after work is complete. The plan must describe the method in which excavated material is to be removed and the location where the silt will be relocated.** Excavation may not occur below free flowing stream levels. Final grade must allow for free or continuous drainage to the main channel and newly created slopes will not exceed 2:1.

Silt removal may be required when degradation of project lands and water occurs. Restoration will not be required if the effort to restore would produce or create worse conditions.

16. Boundary Control

The project was initially surveyed with monuments placed during the middle 1960's and early 1970's. Lake Lanier has approximately **760** miles of boundary line encompassing its **56,782** acres of project land and water. The most recent routine boundary survey was conducted from 1983 to 1996 and resulted in one half of the project western boundary line being resurveyed.

Although some sections of the boundary line follow a specific contour or elevation, most of the government boundary consists of straight lines between points. These points are represented on the ground by either angle iron or monuments. Often a private survey was accepted as being representative of the government's line if the private survey was recorded in the courthouse prior to the government survey in the mid-1960's. Many of these private surveys contained errors and tracts subdivided based on these surveys resulted in lots that in some instances encroached on public property.

As part of the continuing effort to maintain the boundary line, witness trees are painted and **boundary line monuments were further identified with high visibility Carsonite post.** Witness tree markings do not represent the exact boundary line, but simply mean that the

government's boundary line is nearby. **It is important to note that project staff are not surveying the boundary line, but rather reidentifying it to facilitate boundary line inspection.** A private survey is recommended prior to any construction adjacent to public lands. The Corps of Engineers does not assume the responsibility of identifying private property boundary lines. Information related to the government's boundary can be obtained at the Operations Manager's office or on the world wide web at <http://gis.sam.usace.army.mil/>. For further information related to the government's boundary refer to Exhibit 6.

17. Encroachment Resolution

Items placed on public lands longer than 24 hours that are not authorized by a permit are considered encroachments. Such items are subject to removal at the owners expense. If impounded and unclaimed, these items will ultimately be disposed of. Encroachments are classified as either minor or major.

Minor encroachments are portable personal items. The Corps generally prefers to return minor encroachments to private property. The abandonment of personal items is often in the form of solid waste such as rubber tires, non-encapsulated, lumber, steel, furniture, building debris, etc.

On December 11, 2000, Congress passed the Water Resources Development Act (WRDA) of 2000, Public Law 106-541. Included within the provisions of this act, is Section 516, entitled "Lake Sidney Lanier Home Preservation." This Act directs how existing major encroachments at Lake Lanier are to be resolved.

The Act pertains to those encroachments on fee or easement properties that were constructed before January 1, 2000. This Act allows eligible homeowners to keep structures for human habitation and the attached improvements such as decks, patios and house steps. Items not eligible include gazebos, walkways to the lake, and other items not attached to the eligible structure. Encroachments that are not eligible will require removal in accordance with SAM SOP 1130-1-1.

18. Flowage or Flood Easements

The United States (Corps of Engineers) owns most of the lands surrounding Lake Lanier in fee title. **During the construction of Buford Dam and Lake Lanier a maximum flood elevation of 1085 mean sea level was established. In some areas where the flood elevation occurred on private property, a flowage easement was purchased. These lands remain private property, but have restrictions placed on their use. A flowage easement is a real property interest that allows the Corps to occasionally or perpetually flood private property. This restricts the private owner from constructing habitable structures and prohibits alteration of the existing contour. In areas where no fee or easement interests were acquired and private property is perpetually covered by water, the Corps maintains Regulatory jurisdiction as waters of the United States.**

Certain private uses of easement property may be authorized by the Operations Manager. Locations of easements can be identified at the Operations Manager's office. All purchased easements have been recorded.

The Corps of Engineers has also acquired the right to occasionally flood private property down-stream of Buford Dam. These rights were acquired to contain high flows that force water upstream into tributaries. There is no regional flood contour established, rather each easement tract has a calculated high water elevation unique to its location.

Consent to an easement can be obtained to authorize non-habitable structures below 1085msl. Items commonly permitted under the Lake Lanier SMP can be authorized at the local level. The Consent to Easement allows for items that do not violate the easement restrictions detailed in the recorded deed, with the exception of perpetual flowage easement tracts purchased in the Richland Creek watershed, located in Segment W. These easements, in Segment W, are located downstream of the emergency spillway which allows for an uncontrolled release of floodwaters from Lake Lanier during extremely high lake levels (above 1085 msl).

19. Buffer Zones

Vegetative buffers serve many important functions in protecting water resources. By stabilizing the stream banks and shorelines with native vegetation, erosion and sedimentation rates will be reduced. Increased sediment loads are associated with the physical destruction of habitat such as the smothering of bottom communities and spawning beds.

Vegetative buffers protect the water quality by reducing sediment, nutrient, and contaminant loading from activities occurring in the surrounding watershed. Overland water flow approaching surface water bodies from the surrounding watershed is intercepted and filtered by vegetative buffers before it enters the water body. Pollutant and sediment transported may be partially removed as a result of a combination of processes including reduction in flow pattern and transport capacity, settling and deposition of particulates, and eventually nutrient uptake by plants. In addition, the vegetation provides stream bank/shoreline stabilization to the water body. The roots of vegetation anchor shoreline sediments and protect the shoreline from the erosive forces of water movement.

Lake Lanier serves as the water source for metro Atlanta and the surrounding counties as well as those areas along the Chattahoochee River down stream. Recognizing this purpose and the regional impacts, it is imperative that measures be taken to preserve the lakes water quality. It is now required that “limited development” areas serve as vegetated buffers with minimum disturbance to allow for safe access. Exceptions to this policy would include those areas authorized for underbrushing, mowing and intensive public use areas such as parks and lease areas.

This policy is consistent with state requirements and the preferred alternative within the Environmental Impact Statement. See section 20 Forest Management for guidance on underbrushing permits.

20. Forest Management

Lake Lanier's forested lands are managed to achieve multiple use benefits. Guidance for forest management is contained in Public Law 86-717 which established that project lands be developed and maintained to assure that forest resources are managed for multiple use yield in a manner that will not impair the productivity of the land to provide for future generations. Forest products are not the primary focus of management goals at Lake Lanier. Equally important within the context of multiple-use are esthetics, wildlife benefits, air and water quality, soil erosion, as well as the quality of outdoor recreation experiences.

In "Limited Development Areas" the forest and vegetative management objectives at Lake Sidney Lanier are to sustain a healthy, vigorously growing, uneven-aged, esthetically pleasing forest capable of supporting recreational use **while protecting water quality and providing for environmental sustainability. In "limited development" areas minor underbrushing can be authorized. The authorization to underbrush is limited to the removal of vegetation with a diameter of two inches (2") or less and pruning of tree limbs not to exceed head height. In no case will the underbrushing exceed a 20-foot corridor on both sides of the existing pathway. To obtain a permit individuals must meet on site with their area ranger to develop a plan to accompany their request. The use of heavy equipment is prohibited. Authorization will be granted in conjunction with a Shoreline Use Permit/License for a period not to exceed five years.** Violations can result in the revocation of the permit in its entirety.

Adequate native understory vegetation must be maintained for forest regeneration. The cutting of dead or diseased trees, which pose a threat to persons or property, can be authorized. Clearing to obtain scenic vistas or to establish lawns is not permitted. Removal of forest humus or mulch is prohibited since it results in sheet erosion, root damage, and soil compaction. Areas presently modified and permitted to provide vistas or lawns will be authorized for continued maintenance in accordance with Section 15.8.6. Similar areas that are not authorized must be revegetated by the permittee under permit guidelines or allowed to regenerate naturally.

The "Protected" forest management objective is to sustain a fully stocked stand of native trees. Management practices will include those necessary to provide protection from fire, insects, disease and other threats, to allow for appropriate harvest of trees, and to regenerate forest stands.

"Public Recreation" forest management objectives are to maintain a healthy, vigorously growing forest capable of supporting pressure from recreational use. The preferred density for stands in these areas should provide a 60/40 relationship between shade and sun and can be achieved with a basal area of 60 square feet per acre. In public recreation areas that are

currently undeveloped the objective is to carry a healthy vegetative cover capable of supporting future development and high-density recreational use. Implementation of forest and vegetative management objectives is accomplished utilizing a variety of methods including selective thinning to reduce basal area and increase stand vigor, regeneration to establish cover on open areas and to replace mature stands.

21. Wildlife Management

Successful wildlife management at Lake Lanier can best be achieved by integrating wildlife programs with effective forest management practices. The goal of wildlife management is aimed at developing, improving, and maintaining native vegetative communities that will serve diverse wildlife. This objective was established since different wildlife associate with different plant types. Fulfillment of this goal will provide better opportunities to observe wildlife and to engage in other non-consumptive uses such as photography and nature study.

Due to extensive development adjacent to public land and Lanier's heavy visitation, hunting has been **generally limited to waterfowl only. On the northern reaches of the Chattahoochee River within the property leased by the Georgia Department of Natural Resources (GADNR) and Don Carter State Park hunting may be permitted. For more information contact the Wildlife Resources Division of the GADNR.**

Consequently, management emphasis has been devoted to the promotion of non-game wildlife, although game species and waterfowl derive considerable benefits. In conjunction with a non-game management emphasis, the Operations Manager is mandated to enhance and promote endangered and threatened wildlife species and their habitat wherever they exist on the project.

Since the wildlife program strives to promote a diverse wildlife community, the Corps often manipulates habitats. Active management includes providing habitat components such as nesting structures or food plots. Since "Limited Development" areas tend to receive stress from human activity, the Corps encourages and authorizes planting native vegetation by interested parties. **Such request must be accompanied by a written proposal that details native species selection and placement.** Snag or dead trees that do not endanger life or property are purposely left to benefit both birds and mammals.

Wildlife population management is the responsibility of the Georgia Department of Natural Resources. The Corps cooperates to support State efforts by providing **hunting opportunities**, habitat for game species and assisting with the control of pest species.

22. Fisheries Management

The Georgia Department of Natural Resources (DNR) has the primary responsibility to management fish and wildlife on Lake Lanier. The Corps coordinates management activities with DNR in order to maintain acceptable fish and wildlife populations. Corps rangers often assist with fish kill investigation, habitat enhancement, and

occasionally field monitoring of fish populations. The Corps' primary goal in fisheries management is to maintain acceptable habitat capable of supporting a diverse sport fishery on a sustained yield basis and to enhance fishing opportunities. These goals are accomplished by DNR sampling and stocking, a cooperative effort between DNR and the Corps to create fish attractors and provide public access through multiple launch ramps, bank fishing piers, and recreational areas.

Habitat enhancement is accomplished by conducting various practices such as water level management for stabilizing spawning habitat. Because the lake is sensitive to many outside influences, other activities must be monitored for adverse impacts, such as nearby construction activities. Maintenance of productive fisheries habitat is achieved in part by maintaining an active water quality program. Corps personnel cooperate with the Georgia Environmental Protection Division to resolve water quality problems. Corps personnel also cooperate with county health departments to correct septic tank pollution and with state and county engineering departments to resolve soil erosion problems.

Working under specific management directives, Corps personnel continually work with lake users to minimize infringement to fish spawning habitat and water quality. Visitors should refrain from clearing non-hazardous shoreline stumps or trees that have fallen onto the lakebed. Permits can be obtained to install fish attractors at or below elevation 1050 MSL.

Special Consideration Programs:

Special consideration programs include endangered species management, non-native plant management such as kudzu control, fire management, erosion control, and water quality.

23. Water Quality

Water quality management at Lanier is a complex and challenging task due largely to the extensive and varied human activity both in and around the lake. The broad goal of this management responsibility is **to preserve and enhance** water quality adequate for safe and healthy public use as well as conservation of wildlife, fish and other beneficial aquatic life. To achieve this goal the Corps of Engineers strives to maintain compliance with federal and state water quality laws and standards as they relate to specific Corps operations. Protection of project waters is promoted by the following Corps involvements: limited Corps enforcement of project water pollution regulations as shown on Exhibit 11, periodic water assessment, implementation of solid waste abatement programs for the general shoreline, and promotion of environmental awareness. Additionally, the Corps of Engineers actively seeks and maintains cooperative relations with other water quality management agencies.

Jurisdiction and enforcement of water quality is encumbered by multiple government agencies having different and overlapping regulatory responsibilities. The Corps is mandated by federal law to protect the lake resource for safe and healthful public use. Corps personnel are authorized to enforce provisions of Code of Federal Regulations, Title 36, part 327, which prohibits the discharge of pollutants in or onto project property. As situations dictate project staff conduct preliminary investigations of non-CFR violations on or near the

project and forward their findings to agencies with appropriate jurisdiction for continued investigation and proper enforcement.

The State of Georgia and its Political subdivisions have principal authority and responsibility to enforce Georgia laws on the Lake Lanier project. The State has its own water quality control law, which establishes enforcement authority by the Georgia Environmental Protection Division (EPD). EPD is also authorized by the U.S. Environmental Protection Agency (EPA) to implement and enforce the Federal Clean Water Act within the State of Georgia. A major component of this federal law involves the National Pollutant Discharge Elimination System (NPDES). This is a permit program that authorizes certain discharge of effluent into open waters. A common example of a permitted discharge includes treated wastewater from a municipal sewage treatment facility. The Corps refers cases of continuing unpermitted discharges to EPD, which has responsibility for the NPDES program and associated enforcement action.

To complement EPD's management of surface discharges, a separate permit program is administered to accommodate on-site, sub-surface disposal of wastewater. This program is administered by environmental health offices of local county health departments that issue permits for septic tank installation and underground discharge of wastewater or sewage, such as that from private residences.

Another authority is established for federal regulation of sanitation devices on vessels known as marine sanitation devices (MSD). The U.S. Coast Guard has authority under CFR Title 33 to control discharge of sewage from vessels by specifying and enforcing design, installation, and operation of MSD. However, federal regulation of this aspect of water quality control currently preempts state regulation of MSDs with the exception of MSDs on houseboats. Since the U.S. Coast Guard does not normally patrol Lake Lanier, enforcement of MSD regulations are greatly limited.

To promote a healthier environment Corps regulations prohibit the discharge of sewage, garbage, and other pollutants into lake waters or onto public lands. Sewage from vessels will be removed at marine pump-out stations located at are located at Bald Ridge, Lan-Mar, Gainesville, Sunrise Marina, Aqualand, Starboard, and Holiday Marinas.

Water pollution may be derived from and categorized into two broad sources - point and non-point. Point sources are best described as pollution originating from an identifiable source such as an effluent line. Non-point sources are not readily identifiable and are derived over a broad area. Examples of non-point source pollution include pesticide run-off and soil erosion from a stream watershed. Dependant on the circumstance, some types of pollution may occur in either category. Thus the classification of pollution sources is a relative determination, but this description has some significance as far as applicable regulations and enforcement.

Since point sources are easier to identify than non-point sources they are generally easier to control. Septic tanks occasionally degrade the lake's water quality by being located too close to the flood plain and/or not functioning correctly. Consequently, the Corps has broadened

its policy toward septic tank systems. The policy states that septic tanks and drain fields will not be permitted on public property regardless of their age, if located below elevation 1085 MSL. All septic systems that are currently located on public land below elevation 1085 MSL must be removed. **Systems located on public property above elevation 1085 MSL may remain, but require inspection and certification that the system is functioning properly. County Health Department officials can provide this certification upon request. The existing systems will be identified during renewal and change of ownership inspections.** Once major repair is required the system must be closed and rebuilt on private property. These measures will reduce infiltration of septic tank contents into lake water during periods of higher lake levels. Consistent with the Corps policy change, health officials surrounding Lanier have previously implemented a requirement prohibiting new septic systems below contour 1085 MSL regardless of property ownership. To enlighten the public on how they can help protect the lake's water quality, the Corps is taking a more active role in environmental awareness programs. Interpretive programs that address water quality will be presented to public groups. New Shoreline Use Permit/Licenses are required to meet on-site with Corps staff to discuss proposed facilities, water quality and other environmental concerns. Where water quality is degraded due to erosion, permits may be issued to allow residents to plant native vegetation.

Cleaning vessels and docks with soaps and solvents at the shoreline pollutes the lake. This activity and use of insecticides, herbicides, pre-emergent and fertilizers are prohibited on public land and water. Application of the above chemicals and construction on adjacent private property has strong potential to disperse pollutants into the lake. Instances of sedimentation and chemical pollution will be investigated and reported to the appropriate agency for their action. **Shoreline Use Permit/Licenses can be revoked in whole or in part for violations of this restriction.**

Non-point source pollution is difficult to control. Chemical applications over large areas ultimately degrade the lake's water quality. Indiscriminate use of fertilizer contributes to nutrient loading, thus accelerating the natural aging of the lake. Phosphorus from fertilizers and other sources control the lake's productivity. Cases of excess phosphorous generate unwanted high levels of algae that can reduce oxygen levels and kill fish. To relieve some of these problems, the Corps strives to educate the public about the values of good water quality practices. Additionally, the Corps conducts an annual solid waste removal program along the general shoreline. This removal eliminates a substantial amount of debris that in itself is a form of water pollution or has potential to become soluble in lake water.

To maintain a comprehensive effort toward controlling pollution the Corps and EPD are involved in monitoring water quality on Lake Lanier. **The Corps collects water samples at swim beaches throughout the recreation season. These samples are laboratory tested to determine the level of fecal coliform bacteria.** EPD samples the lake's water quality on a regular basis and when conditions exist that are suspected to threaten public health, EPD may issue orders restricting the use of project waters. If lake waters are found to be a health hazard, the Corps will comply with requests by either EPD or the Division of Public Health, Dept. of Human Resources by posting warnings and/or -restricting access to any portion of the lake body.

To meet its own directives the Corps conducts limited water quality monitoring. The Corps has measured several water quality factors at the dam for several years. However, to establish a broad baseline of the lake's condition, the Corps will sponsor a major water quality study at least once every ten years. This study typically evaluates selected chemical, physical and biological conditions of the lake, its tributaries, and the river below the dam.

24. Wetlands

The term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands in, on or around Lake Lanier provide significant natural biological functions including food chain production, general habitat for aquatic and land species such as nesting, spawning, rearing and resting sites, and serve to purify water. Maintenance of wetland areas is important due to their scarcity in North Georgia. All wetland habitats in an area should be preserved to promote the region's ecological integrity. To maintain wetlands, no permit will be issued that involves general or specific use or alteration of wetlands unless concurrence is gained from the Corps of Engineers, the U.S. Fish and Wildlife Service, and the State of Georgia Department of Natural Resources.

To minimize impacts to wetlands, some determination of a wetland should be made. Certain vegetation is readily adapted to and identified with wetland areas. Wetland vegetation may be used to make a preliminary determination to an area's potential wetland status. However, because soil type and hydrological conditions are also evaluated in determining the status, all appropriate agencies should be consulted to officially classify wetlands.

25. Aquatic Plants

Due to the rise and fall of Lake Lanier, its depth, and northern Georgia location, nuisance aquatic weeds have not thus far invaded the project. However, the transport of such weeds is possible and low areas may eventually have seasonal problems unless the general public inspects and cleans their boats and trailers after visiting other waterways known to have aquatic weed problems. Of most concern are hydrilla and Eurasian watermilfoil.

26. Endangered Species

The Endangered Species Act of 1973 declares the intention of the Congress to conserve threatened and endangered species and the ecosystems on which those species depend. The Endangered Species Act requires that federal agencies use their authorities in furtherance of its purposes by carrying out programs for the conservation of endangered or threatened species, and by taking such action necessary to insure that any activity authorized, funded or carried out is not likely to jeopardize the continued existence or result in the destruction or

adverse modification of habitat of such species. Permits will not be issued that conflict with the preservation of endangered species. Any permit issued in violation of the Endangered Species Act either past or present will be rescinded.

The U.S. Fish and Wildlife Service (USFWS) identified federally listed endangered or threatened species that exist or might occur on project property. The Georgia Department of Natural Resources also identifies State protected species that are endangered, threatened or a species of concern in Georgia. The Endangered Species Act (ESA) requires protection of federally listed species and their habitat. Likewise, the protection of Georgia's protected species is required under State law and is applicable to project natural resource activities.

27. Cultural and Historic Resources

The National Historic Preservation Act of 1966 and The Preservation of Historical and Archaeological Data Act of 1974 were provided by Congress to protect historic sites and recover historical and archeological data. If it is determined that a previously issued permit infringes upon or impacts a historic site, the permit will be rescinded. Permits will not be issued that involve general or specific use or alteration of historic sites unless culturally cleared by appropriate agencies. The use of metal detectors or other land-based electronic or nonelectronic detection devices are prohibited except by written permission from the projects Operations Manager.

Lake Lanier has an approved Historic Properties Management Plan (HPMP), dated April 1997, detailing the characteristics of each significant Historic Resource Site. The plan was prepared under provisions of ER 1130-2-438 and a number of Acts, Executive Orders, CFR's, ER's and Guidance Letters. Previous historic resources investigations occurred in the late 1930's, 1950-01, 1978, and 1987.

As a result of ongoing consultation with the Georgia State Historic Preservation Officer (SHIPO), it was determined that most project lands with a high potential for historic properties have been surveyed. Historic resource surveys of Lake Lanier have identified over 600 historic sites on Government property. Data recovery was conducted at several prehistoric archeological sites prior to impoundment. Since passage of the National Historic Preservation Act in 1966, data recovery has been conducted at two prehistoric sites that were determined eligible for the National Register of Historic Places. The National Register eligibility of 5 historic properties remains to be determined.

28. Island Management

Lake Lanier has more than 100 islands that provide scenic value, provide wildlife habitat, serve as buffers between development, and afford numerous day-use recreational activities. Day-use activities consist of fishing, sunbathing, hiking, swimming, bird watching, wading,

picnicking, etc. All fires and camping, including the placement of any type tent, are not permitted on islands.

The practice of island camping has been prohibited due to resulting site degradation; lack of sanitation facilities and potable water; and the lack of adequate patrol and law enforcement. Unrestricted use has led to unauthorized construction, rowdiness, the loss of vegetation and wildlife food sources, and has encouraged erosion. Public use is also credited with starting fires that have completely burned several islands.

Except for holiday weekends most campers can be accommodated in Corps and other public and private campgrounds. Development of the islands is not considered a feasible solution. In an informal survey of campers who frequent the islands it was learned that if facilities were developed on the islands those visitors who prefer a rustic or primitive type camp setting would no longer frequent the area.

Boaters wishing to anchor off an island to spend the night on their vessel may do so. However, fires are prohibited on islands. Visitors wishing to tent camp will be directed to the nearest available campground.

Other natural resource concerns on islands that must be addressed by Management action include kudzu control or eradication, if possible, timber stand improvement, erosion control, and wildlife management.

29. Leases

With the exception of possibly establishing marina services in the upper **Chestatee River, and the leasing of existing recreation areas to local or state governments**, no new areas are currently available for leasing. **The proposed marina will have to conform to the estimated 9000 acres of surface water above the highway 53 bridge and the limited clearing the bridge provides. It is visualized that 500 dry slips and 250 wet slips may be authorized.** Presently 34 areas are leased to other federal, state and local governments and quasi-public organizations for either public recreation or commercial purposes. Leased areas are generally granted use to a specific contour or elevation. Marinas are often allowed to provide for safety and security by prohibiting non-patronage related activities or boating within 100 feet of their fixed or floating facilities.

30. Commercial Activity

Commercial activity is prohibited without a lease. Presently 10 marinas plus the Lake Lanier Islands complex are outgranted for commercial purposes. All commercial activities must be conducted at one of these locations. Parties interested in providing some business service for Lanier visitors must first seek a subconcessionaires agreement with one of the above 11 lease-holders. If this agreement is reached the lessee will then approach the Corps for concurrence and amendment of the lessee's contract with the Corps. The Corps retains the

final approval and does not automatically concur with subconcession agreements. The Corps of Engineers will provide commercial activity information to the general public, but the agency does not contract with third party members.

31. Regulatory Buoys

The placement of regulatory buoys such as "no wake" are accomplished by the Corps with the Georgia Department of Natural Resources, Game and Fish Division, concurrence. It is the intent-of this program to promote public boating safety. Areas are regulated to the minimum required to provide safe boat operation yet meet each agency's enforcement ability. Regulatory zoning to suit private needs would over-regulate the project to such a degree that boaters would be prone to ignore regulatory buoys and therefore, such zoning is not authorized. Information concerning regulatory buoys can be found on the projects web site at http://lanier.sam.usace.army.mil/Lanier_Nav_Maps/Pages/Index.htm

32. Administrative Review

Recommendations made by Corps field personnel relative to the issuance of permits are subject to review by supervisory and managerial personnel. Permit authorizations are made by the Operation Manager or his designee only. Review of permit denials may be requested. If reviews made by supervisory then managerial personnel are not deemed adequate then a complaint may be forwarded through the field office to the Mobile District office for further review and response. The administrative review process is considered exhausted at the District Commanders level. Administrative review beyond the District level will be based on the District Commanders recommendation.

33. Lake Lanier Focus Group

There is a continuing need for coordination and exchange of information between Lake Lanier users and the Corps of Engineers concerning shoreline management. Lake Lanier Shoreline Management Plan Updates will be facilitated by the **Operations Manager and a focus group who's members will include a variety of backgrounds and interests including area residents, water quality experts, land developers, lake related commercial interests, State fisheries and law enforcement, and environmental interest groups. The specific organizations represented will include GA DNR, GA EPD, County Parks and Leisure, North Georgia College, Gainesville College, Lake Lanier Association, U.S. Coast Guard Aux, Georgia Mountain Regional Development Center, University of Georgia, Chattahoochee River Keeper, Marine Trade Assoc., Lanier Sailing Club, and a bass fishing tournament director.**

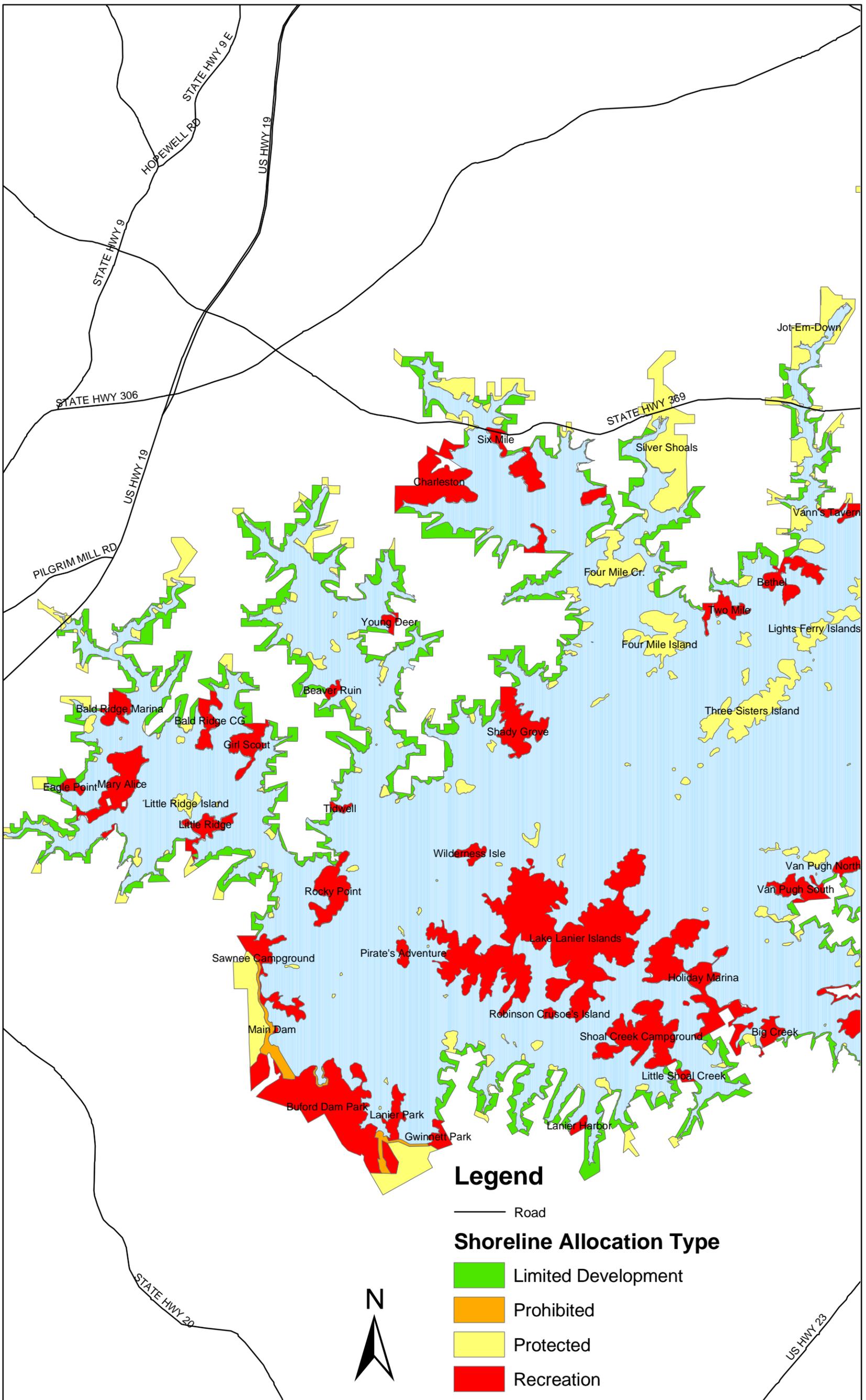
34. Summary

The Corps is charged with protecting and managing Lake Lanier within its scope of authority while serving the **needs of the** general public. It is the **intent** of this plan to provide the most benefit to the public and to balance needs against the physical limitations and natural qualities of the project. In formulating the plan present and future needs were considered. The Operations Manager will continually monitor the needs of lake users and recommend revisions that will minimize conflicts between various interests. Minor changes in area limits or allocations of areas will continue to be approved by the District Commander and reported to the Division Commander on an annual basis. In advance of recommending a major revision to this plan the **public process will be repeated, changes will be publicly announced for review and comment prior to implementation.** To reduce the amount of time to recommend, review, evaluate, and update minor portions of the plan, individual segments may be evaluated rather than the entire document.

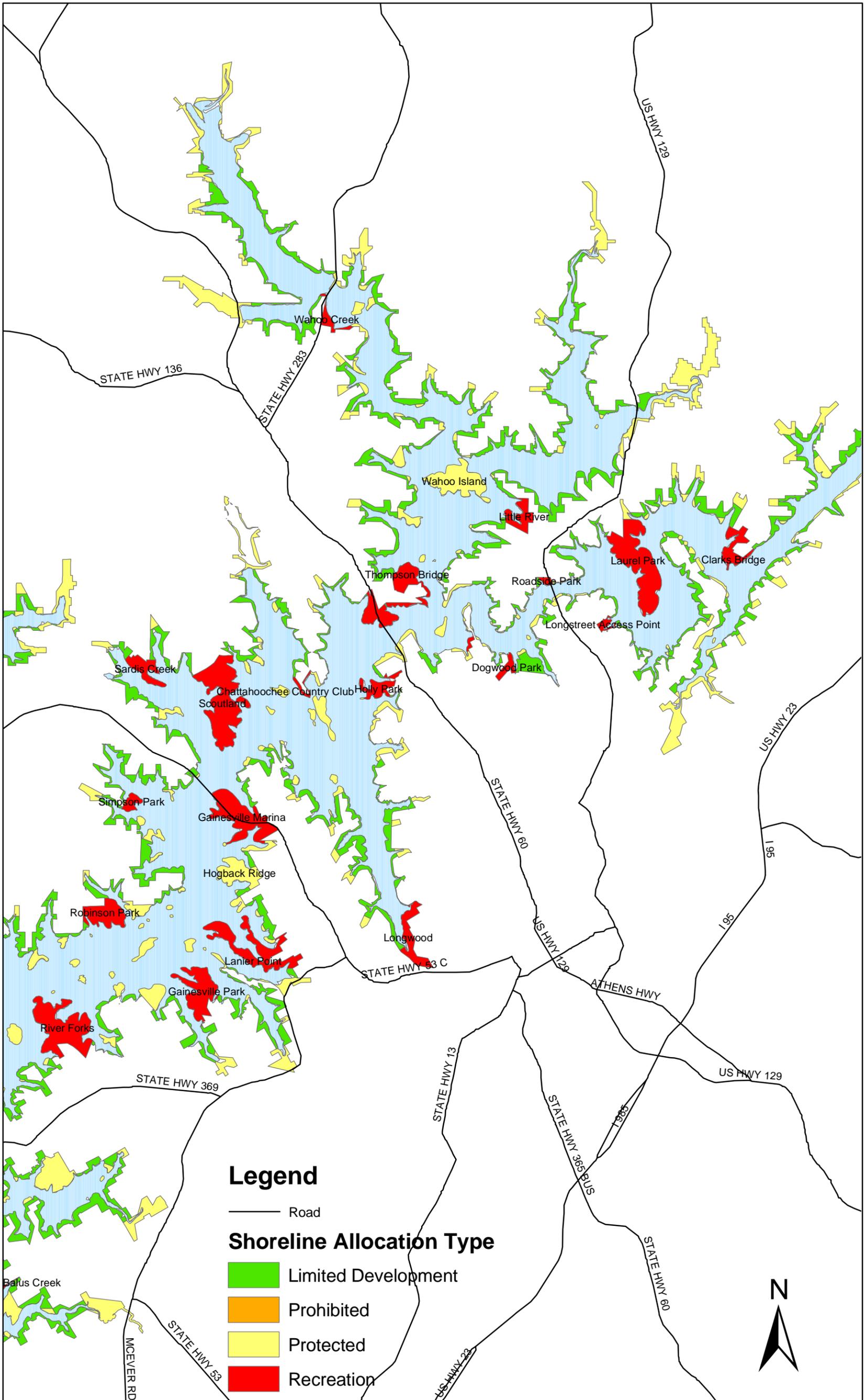
35. Exhibits

Exhibit 1	Shoreline Allocation Map
Exhibit 2	Project Statistics
Exhibit 3	Facility Inspection Forms
Exhibit 4	Pathway/Steps Standard
Exhibit 5	Shoreline Allocation Signage
Exhibit 6	Boundary Line Marking Standard
Exhibit 7	Shoreline Protection
Exhibit 8	Native Trees and Shrubs of Lake Lanier
Exhibit 9	Brochure "How to Apply for a Permit"
Exhibit 10	Applications
Exhibit 11	Code of Federal Regulations, Title 36, Part 327, Parks, Forests, and Public Property

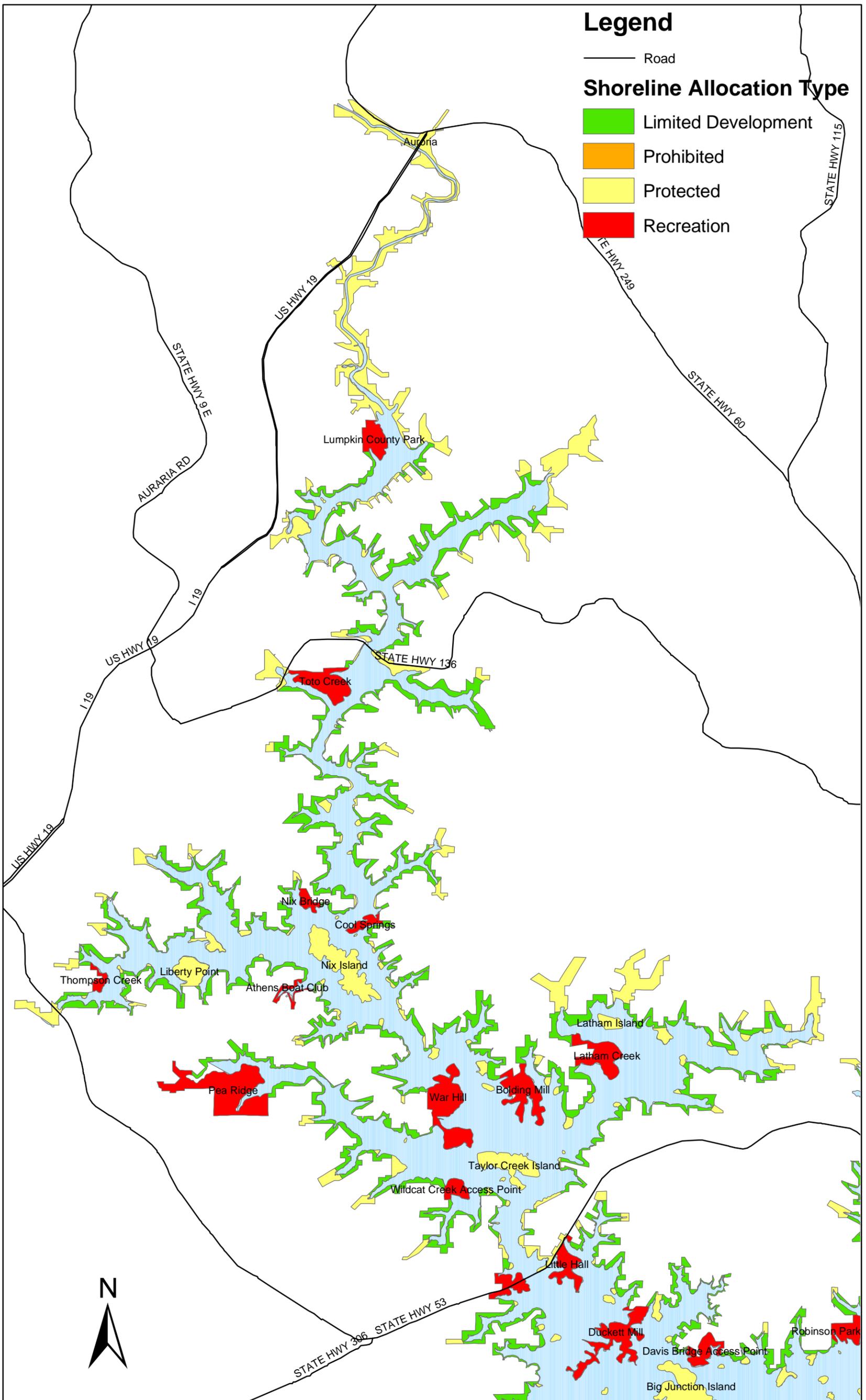
Exhibit 1



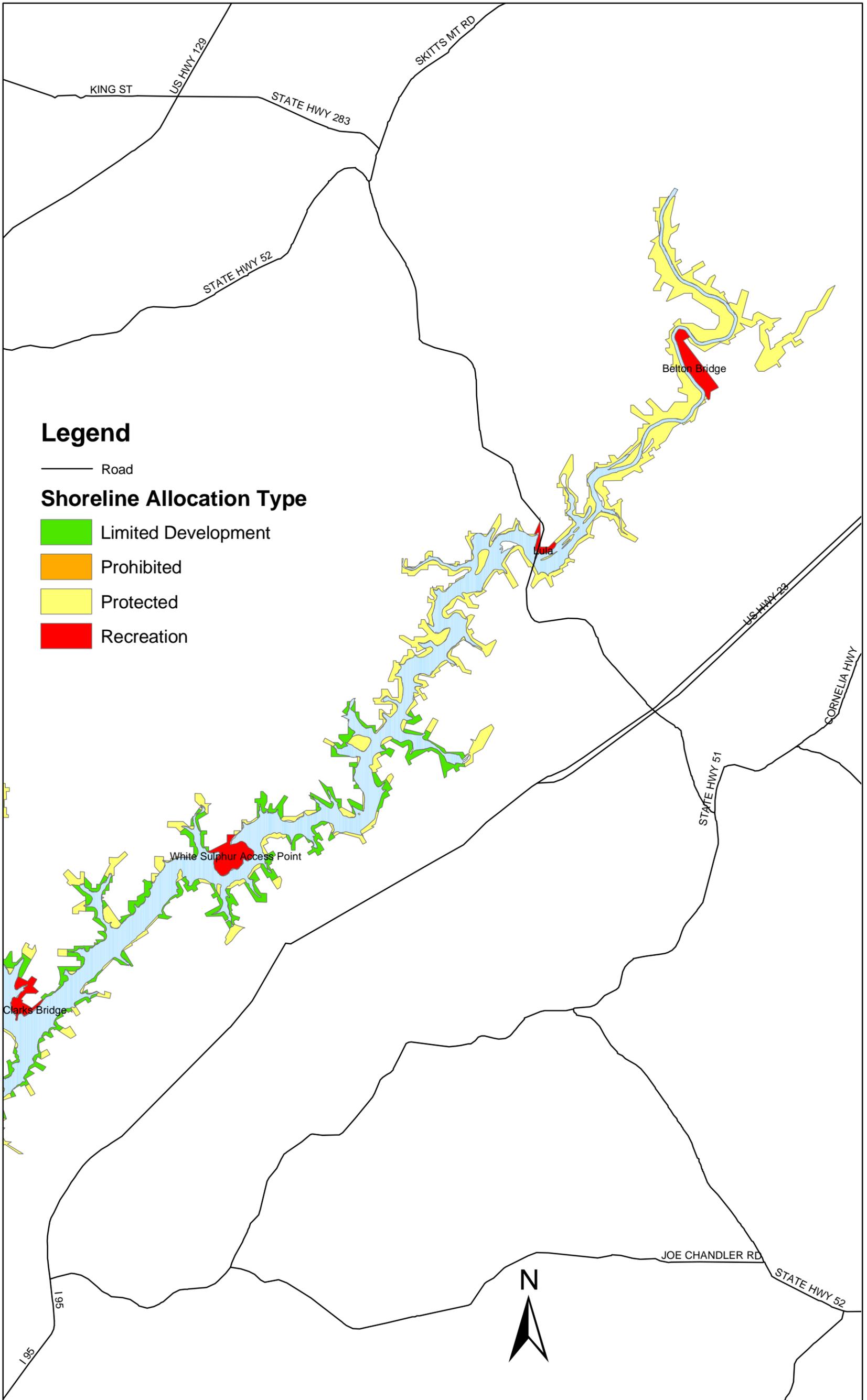
Shoreline Allocation Map



Shoreline Allocation Map



Shoreline Allocation Map



Shoreline Allocation Map

Exhibit 2

**U.S. Army Corps of Engineers
1050 Buford Dam Road
P.O. Box 567
Buford, GA 30515-0567**

Office: 770-945-9531 Fax: 770-945-7428
Water Release Schedule: 770-945-1466 Lake Info: 770-945-1467

STREAM DATA

Drainage area (square miles).....1040
Average stream flow
(CUBIC FEET PER SECOND).....2024

LAKE

ELEVATION (feet above sea level)
Top of flood control pool.....1085
Top of power pool.....1071
Bottom of power pool.....1035

STORAGE CAPACITIES (acre feet)
For flood control.....637,000
For power production.....1,049,400
In permanent pool.....868,000
At 1070 msl there are 624,744,141,120 gallons of
water in the lake.

DAM

ELEVATIONS (feet above mean sea level)
Top of dam and saddle dikes.....1106
Crest of spillway.....1085

DIMENSIONS (feet)

Length along top of dam
And intake structure.....2,360
Total length of saddle dikes.....6,600
Height of dam above river bed.....192
Width of spillway chute.....100

QUANTITY OF FILL

(cubic yards, approximate)
Dam3,751,000
Saddle dikes.....771,000

AREAS AND LENGTHS OF SHORELINE

	Area (Acres)	Shoreline (Miles)
Top of flood control pool...	47,000	752
At top of power pool.....	39,000	692

POWER DEVELOPMENT

Power UNITS (kilowatts)
Two main units, each.....40,000
One service unit.....6,000

BRIDGE ELEVATIONS

BRIDGE	ELEVATION*
Lanier Islands Bridge	1085
Two Mile Bridge	1083
Browns Bridge	1088
Lanier Bridge	1092
Thompson Bridge	1091
Longstreet Bridge	1114
Clarks Bridge	1082
Bells Mill Bridge	1083
Lula Bridge	1086
Belton Bridge	1085
Bolling Bridge	1085
Toto Creek Bridge	1096
Wilkie Bridge	1086
Six Mile Creek Bridge	1081
Flowery Branch Bridge	1083
Wahoo Creek Bridge	1078

*Bottom of span-MSL; center of bridge

Lake Lanier Elevation Extreme for Each Calendar Year Since 1957

<i>YEAR</i>	<i>HIGHEST</i>	<i>DATE</i>	<i>LOWEST</i>	<i>DATE</i>
1956			928.85	Apr 1
1957			1013.71	Jan 1
1958	1068.9	Jan 4	1047.08	Jan 1
1959	1071.92	Jul 15	1060.68	Jan 21
1960	1072.08	Apr 5	1061.37	Dec 30
1961	1070.86	Apr 17	1060.87	Feb 1
1962	1072.03	Apr 14	1059.47	Dec 19
1963	1073.96	May 2	1060.42	Jan 1
1964	1077.19	Apr 14	1066.17	Jan 1
1965	1071.78	Mar 27	1064.22	Dec 31
1966	1072.95	Mar 7	1064.12	Jan 5
1967	1073.53	Aug 28	1066.81	Jan 2/4
1968	1070.71	Jun 10/11	1058.74	Nov 16
1969	1071.53	Apr 21	1061.5	Dec 24
1970	1070.47	Jun 8	1057.57	Dec 18
1971	1071.74	Aug 3	1064.07	Nov 29
1972	1072.2	Jan 14	1058.92	Nov 3
1973	1073.55	Jun 7	1065.44	Jan 1
1974	1073.18	Apr 5	1061.37	Nov 16
1975	1073.08	Mar 17	1062.87	Jan 3
1976	1075.81	Apr 2	1065.85	Nov 25
1977	1076.25	Apr 6	1064.13	Oct 1
1978	1072.6	Jan 27	1058.03	Dec 2
1979	1076.03	Mar 31	1058.77	Jan 1
1980	1076.07	Mar 31	1063.04	Dec 29
1981	1067.53	Jun 13	1052.66	Dec 24
1982	1070.72	Dec 13	1053.64	Jan 1
1983	1073.25	Apr 11	1062.98	Nov 19
1984	1073.18	May 9	1065.5	Nov 27
1985	1071.17	May 14	1064.66	Nov 29
1986	1065.12	Mar 24	1054.85	Oct 9
1987	1071.8	Jul 6	1057.91	Dec 14
1988	1063.77	Apr 26	1056.62	Dec 23
1989	1072.32	Jul 31	1056.81	Jan 1
1990	1075.25	Mar 20	1059.88	Dec 18
1991	1073.1	May 6	1061	Jan 1
1992	1073	Dec 22	1064.69	Jan 1
1993	1073.57	Jan 14	1059.26	Nov 26
1994	1073.6	Aug 18	1059.9	Jan 1
1995	1072.05	Mar 9	1064	Oct 3
1996	1074.63	Feb 4	1064.16	Nov 23

1997	1072.54	May 5	1064.88	Oct 24
1998	1073.08	May 4	1062.18	Dec 23
1999	1068.69	May 15	1062.27	Oct 10
2000	1068.4	May 10	1055.98	Dec 31
2001	1062.8	June 12	1055.61	Jan 17
2002			1058.76	Dec 9

Special notes:

1. Gates were closed February 1956.
2. Pool elevation (1070.00) was reached at 7:00 a.m. on May 25, 1959.
3. All trees were topped at elevation 1035 with the exception of fish shelters.
4. Highest recorded lake level is 1077.19 in 1964 (7+ ft. above full pool).
5. The Lowest recorded lake level was 1052.66 in 1981 (17+ ft. below full pool).



LAKE SIDNEY LANIER DRAINAGE BASIN

Lake Lanier Shoreline Allocations

(Elevation 1071 feet msl)

Allocation ¹	Shoreline Length (miles)	Percent of Total Shoreline	Acres	Percent of Project Property
Limited Development Areas (LDA)	344.70			
LDA in water ¹	9.13			
Total LDA	353.83	47.0%	6,186.6	34.9%
Protected along <i>main</i> shoreline	177.44	23.6	5,079.8	28.6%
Protected in water	3.14			
Protected along <i>island</i> shoreline	59.28	7.9%	1,083.9	6.1%
Total Protected	239.86	31.9%	6,163.6	34.7%
Recreation along <i>main</i> shoreline	136.80	18.2%	4,479.1%	25.2
Recreation in water	0.28			
Lake Lanier Islands Resort islands	19.53	2.6%	850.4	4.8%
Total Recreation	156.61	20.8%	5,329.5	30.0%
Prohibited Areas	1.74	0.2%	64.9	0.4%
Total Allocation	752.05	100.0%	17,744.6	100.0%
Total Main Shoreline²	692.77			
Total Island Shoreline	59.28		1,083.9	
Total Shoreline	752.05			
Total Lake Surface Area at 1,071			39,038.1	

¹“In water” refers to areas where the Corps boundary runs into the water. It is assumed that the shoreline paralleling these segments is of the same allocation as the adjacent shoreline segments.

² Includes Lake Lanier Islands Resort islands.

Exhibit 3

- Dock/boat creates a navigation hazard and must be relocated.
- Unauthorized dock/exceeds permitted size.
- Dock ramp exceeds permitted size.
- Improperly anchored/anchored to trees.

2. Landbased Facilities

- Electrical service requires certification upon renewals, change of ownerships, or modifications of the facility.
- Electrical service fails NEC/CORP requirements.
- Use of extension cord as a service feeder is prohibited.
- All electric, water and telephone/intercom lines must be buried along the pathway.
- Elevated/raised steps, boardwalk prohibited.
- Pathway steps are not properly installed or are unstable. Minimum size requirements for steps are 8 inches tall by 8 inches deep by 4 feet in width.
- Discharge line not authorized on public property (includes rain gutter discharge lines).
- Temporary steps to lakebed must be removed to private land.
- Footbridge requires repair.

3. Grandfathered Facilities

- Dock walkways from shoreline greater than 40 feet in length must comply with current standards. The excess ramp length must be removed.

4. Vegetation/Landforms

- Unauthorized limbing/cutting of vegetation.
- Unauthorized removal of forest litter/leaves/humus.
- Unauthorized burning.
- Improperly installed silt barriers on private property are causing erosion/siltation on public land. Silt barriers must be reinstalled properly.
- Excessive erosion is occurring along the pathway due to improper installation of the path.
- The planting or alteration of terrain on public property is unauthorized.

5. Minor Encroachments

- Remove all unauthorized/unpermitted personal property.
- Remove all man made debris/stored items from public land.

6. Other

- Major encroachments (portions of house, deck, driveway, etc.)

7. Comments:

Date of Inspection

Name of Inspector

I CERTIFY THAT THE DEFICIENCIES PREVIOUSLY NOTED HAVE BEEN REPAIRED/RESOLVED AND THE PERMITTED FACILITIES ARE IN COMPLIANCE WITH THE PERMIT CONDITIONS.

Date

Inspectors Signature

ASHI/GAHI Membership #

REQUIREMENTS FOR INSTALLATION AND USE OF ELECTRIC SERVICE
ON GOVERNMENT PROPERTY AT LAKE SIDNEY LANIER

Note: All installations must meet or exceed National Electric Code standards for **WET** locations, Marinas and Boatyards (Article 555) and any additional requirements set by the Corps of Engineers as listed below.

A. Installation from property line to shoreline service pole.

1. Must be underground and follow access path (no overhead wiring).
2. Only types UF and USE cable may be used.
3. Installation requirements.
 - a. Cables may be direct buried or enclosed in approved conduit.
 - b. Minimum burial depth is 24"
 - c. Warning tape must be buried at 12" depth.

B. Service Pole.

1. Cannot be set below elevation 1073 m.s.l.
2. Maximum 6" square or 6" diameter & 10' long, (8" max. above the ground).
3. Wooden post only - no utility poles.

C. Shoreline service panel box.

1. Must be at eye level, but no less than five feet above the ground.
2. Cable leading from the ground into panel must be enclosed in conduit and hard wired.

D. Service from shoreline panel box to boatdock.

1. Cable from panel box must be hard-wired into ground-fault circuitry.
2. Only approved for wet locations may be used.
3. Locking & grounding receptacles and plugs are required at shoreline distribution panel and/or service connections to floating facility and all ship to shore receptacles.
4. Surplus cable for use during low lake elevations must be coiled and attached to service pole.

E. Receptacles.

1. All receptacles:
 - a. Must have ground-fault protection at service pole.
 - b. Must be in weatherproof receptacle boxes with self-closing caps.
 - c. Maximum number of receptacles on dock is two single or one duplex.
2. Receptacles providing shore power for boats:
 - a. 20 ampere minimum rating.
 - b. Must be locking and grounding type.
3. Convenience outlets:
 - a. 15 and 20 ampere rated only.
 - b. Must be unplugged when unattended and not in use.
4. Receptacle height:
 - a. On service post - minimum 4' above the ground.
 - b. On boatdock - minimum of 30" above the deck.

F. Dock wiring.

1. Must be approved for wet locations and enclosed in conduit.
2. End of conduit must be installed to prevent entry of moisture.
3. Links of liquidtight flexible conduit must be utilized at moveable ramp and dock joints.

G. Lighting.

1. Minimum requires for safe access will be allowed.
2. Maximum bulb size for any purpose is 150 watts.
3. Fixtures and lights must be approved for wet locations and cannot be mounted to extend beyond the outer perimeter of the boatdock.
4. All lights must be aimed downward.
5. Lighting along path may be "mushroom" type with no exposed wiring.

H. General guidelines.

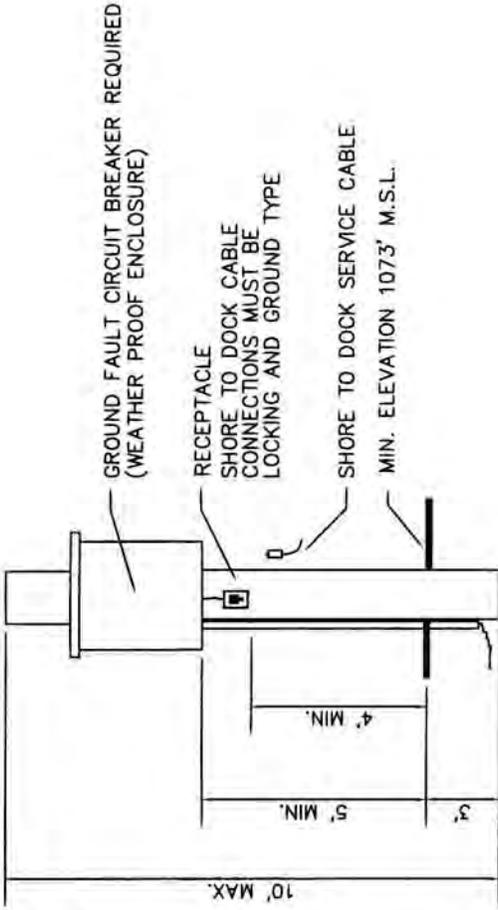
1. All breakers, cables, cords and receptacles must be sized to accommodate service needs.
2. It is recommended that a licensed electrician perform installation

EXHIBIT C

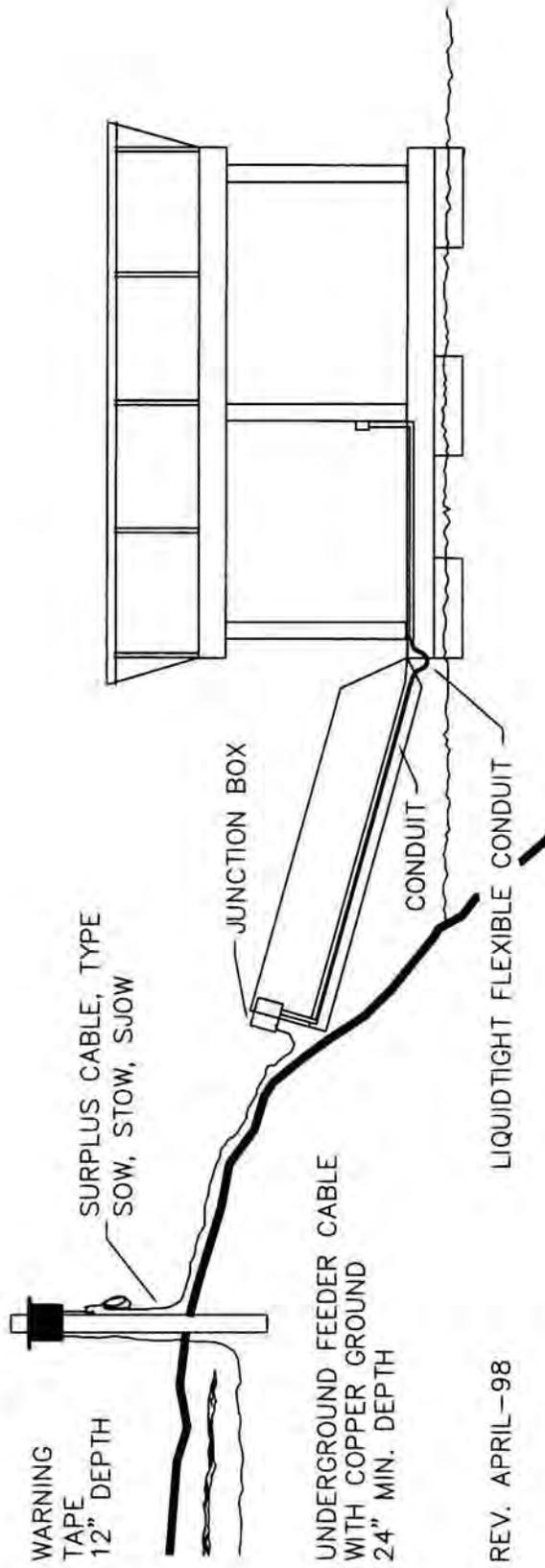
I CERTIFY THAT ELECTRICAL INSTALLATION AUTHORIZED BY SHORELINE USE PERMIT _____ MEETS OR EXCEEDS NEC & CORPS REQUIREMENTS

ELECTRICIAN SIGNATURE _____ DATE _____ GA STATE LIC.# _____

PERMITTEE SIGNATURE _____ DATE _____ PERMIT # _____



SERVICE POLE DETAIL



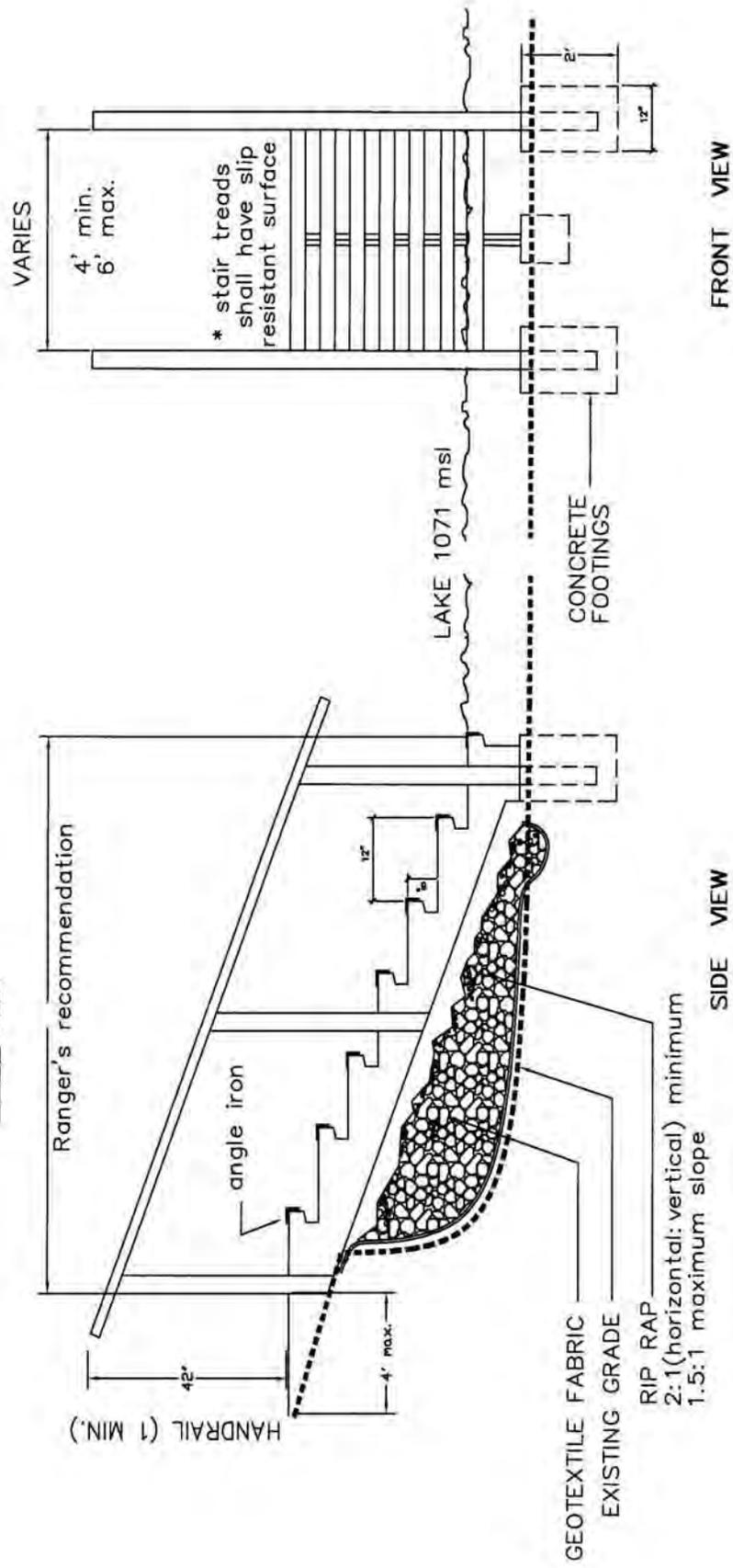
REV. APRIL-98

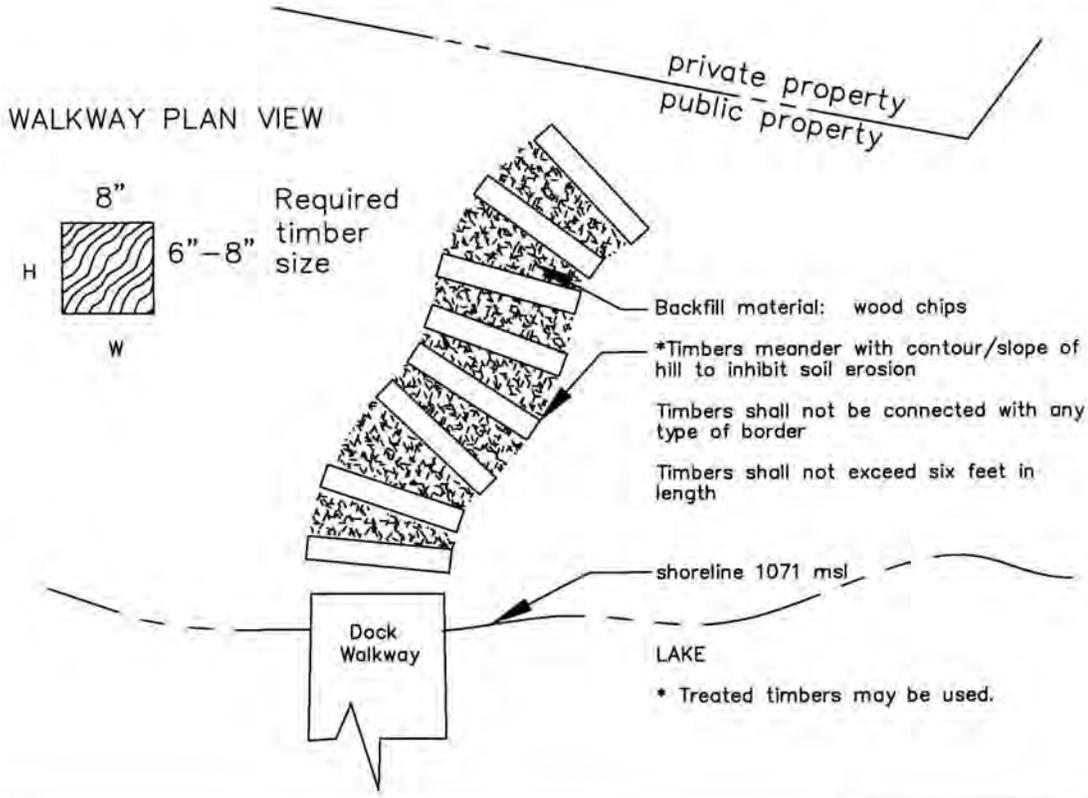
Exhibit 4

CONCEPTUAL FIXED STEPS DETAIL

rev. July 2000
SCALE: NOT TO SCALE

RECOMMENDED LENGTH
— FEET





WALKWAY CONSTRUCTION CROSS-SECTION

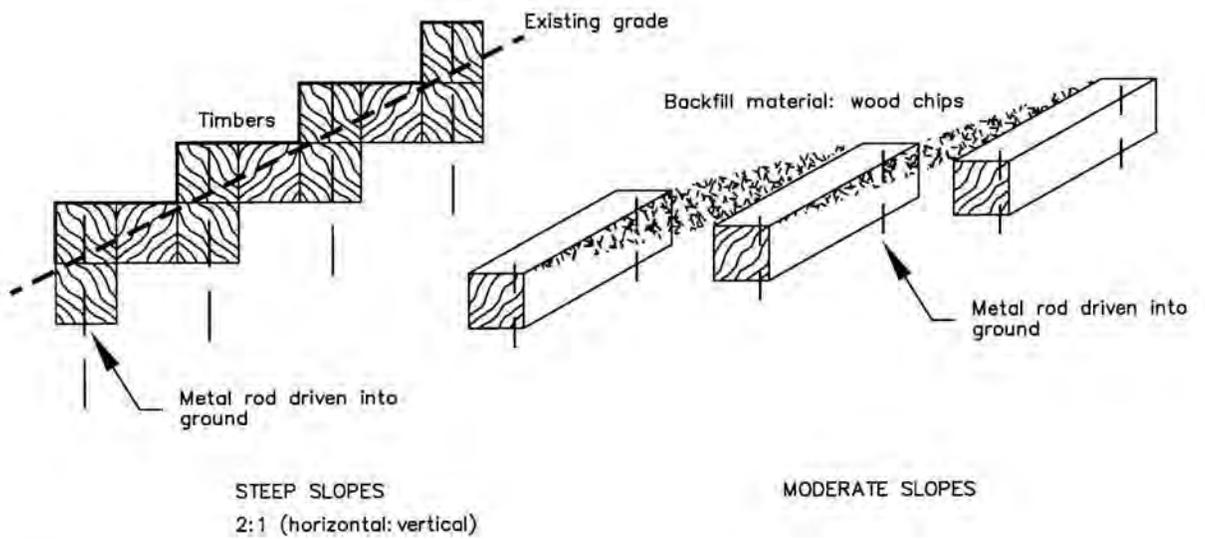
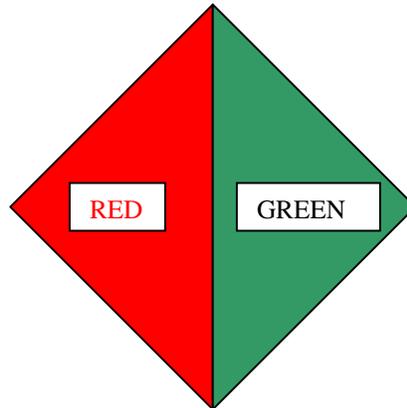


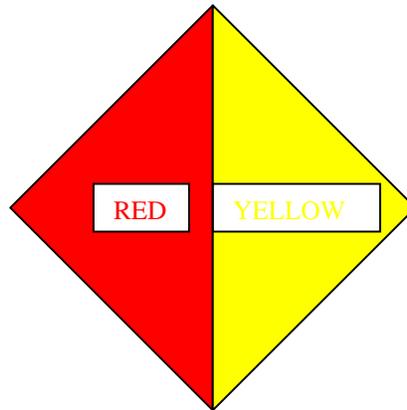
Exhibit 5

SHORELINE ALLOCATION SIGNAGE



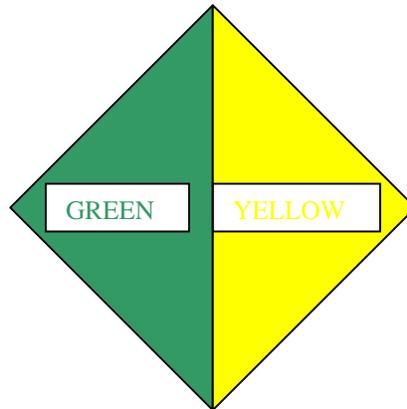
Recreation Area

Limited Development Area



Recreation Area

Protected Area



Limited Development Area

Protected Area

Exhibit 6

MISCONCEPTIONS

Contrary to frequent rumors, ongoing survey efforts at Lake Lanier are not being performed to move present property lines. The Government line is currently monumented in its permanent location, except in isolated cases where land exchanges, acquisitions or disposals would alter the property line location. Permanent survey markers are located at all property corners except where they have been accidentally destroyed by construction or by vandalism. The maintenance survey effort that is observed around the lake involves replacing missing property corners, repainting line reference trees, and setting intermittent "Point On Line" monuments between property corners. The "Point On Line" monuments will aid both reservoir personnel and adjacent property owners in locating the property line on long tangents where neither property corner marking the end of the tangent can be easily viewed. A source of misunderstanding concerning the Government property line occurs when one assumes that the painted line reference trees are the exact property line. These trees are painted to alert the observer that a property line is nearby. Also, signs are placed on some of these painted trees stating "United States Army Engineer District, Mobile - Boundary Line Nearby" or "United States Army Engineer District, Mobile - Easement Line". If activities require knowing exactly where the line is, a private registered land surveyor should be contacted. Since these painted trees are not on the exact property line, repainting may give the appearance to an adjacent property owner that the line has been "moved" when, in fact, it may only indicate that a different tree was painted.

QUESTIONS

If you have questions about the location of the boundary line, contact the Lake Lanier Resource Manager's Office: (770) 945-9531. A field appointment with a Corps ranger can be scheduled to answer any questions you may have concerning public property and our Lakeshore Use Permit Program.

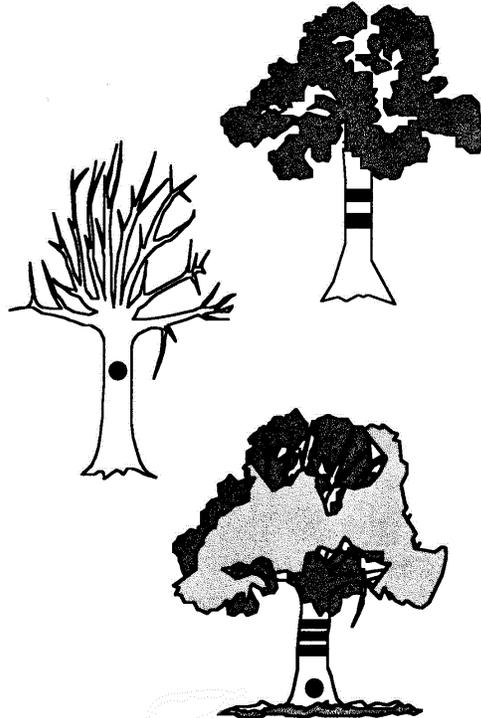
**U.S. Army Corps of Engineers
Lake Sidney Lanier
P.O. Box 567
Buford, GA 30518**



**US Army Corps
of Engineers**

Mobile District

BOUNDARY LINE MARKINGS AND PERMITTED USES OF PUBLIC LAND AT LAKE LANIER



INTRODUCTION

Annually, Lake Sidney Lanier provides a source of recreation for more than 19 million visitor days of use. The popularity of Lake Lanier's 38,000 acres of water and over 19,000 acres of land (at 1070 mean sea level) has made it the most highly visited Corps of Engineers lake in the nation. Resource protection and management is necessary to preserve the project for future generations while providing quality recreation opportunities for today's visitors. Management must insure a balance between the recreation user, the environment, and conservation of project resources. Consideration must also be given to conflicting uses between the general public and the owners of adjacent private property.

PERMITTED PRIVATE USE

The Lakeshore Management Plan furnishes guidance for the protection and preservation of environmental characteristics of Lake Lanier's shoreline. Copies of the plan are available at the Resource Manager's Office. Public land adjacent to the lake is delineated into different areas of use. This designation of public land allows the District Engineer to approve specific types of private use in certain areas around the lake. Private use is regulated through a Lakeshore Use Permit program that may allow individuals with approved access to public land to construct and/or install specific facilities, such as a boat dock, or water and electric lines. Although private facilities may be authorized, the ownership of adjacent private land does not convey any exclusive rights to public land. The placing of structures or special use of public land without prior written authorization or deviation from the terms of the authorization may constitute a violation of Title 36, Part 327, United States Code of Federal Regulations.

Without proper authorization, the construction, placement, or continued existence of any structure or item of any kind under, upon, in, or over the project lands or waters and/or the destruction, injury, defacement, removal, or any alteration of public property including natural formations, historical and archeological features, and vegetation growth is unlawful.

The Corps of Engineers requests the assistance of all citizens in preventing encroachments on public or private land around Lake Lanier. To assist in identifying public property at Lanier, an extensive boundary maintenance program exists that includes the brushing out and painting of the boundary line every 3 to 5 years.

BOUNDARY LINE WITNESS MARKINGS

"Painting the boundary line" actually means painting witness trees near the line. At Lake Lanier, red paint is used to mark witness trees along the fee boundary. White paint is used to identify the limits of Government owned easements. Drawings 1 through 3 illustrate the different types of markings and describes their meanings.

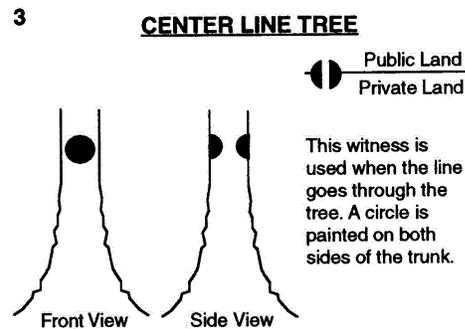
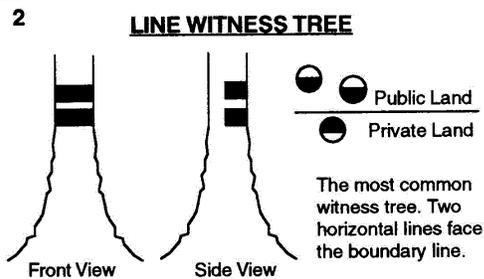
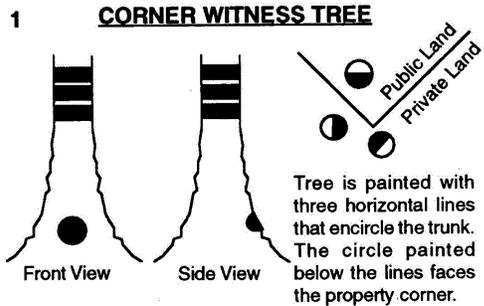


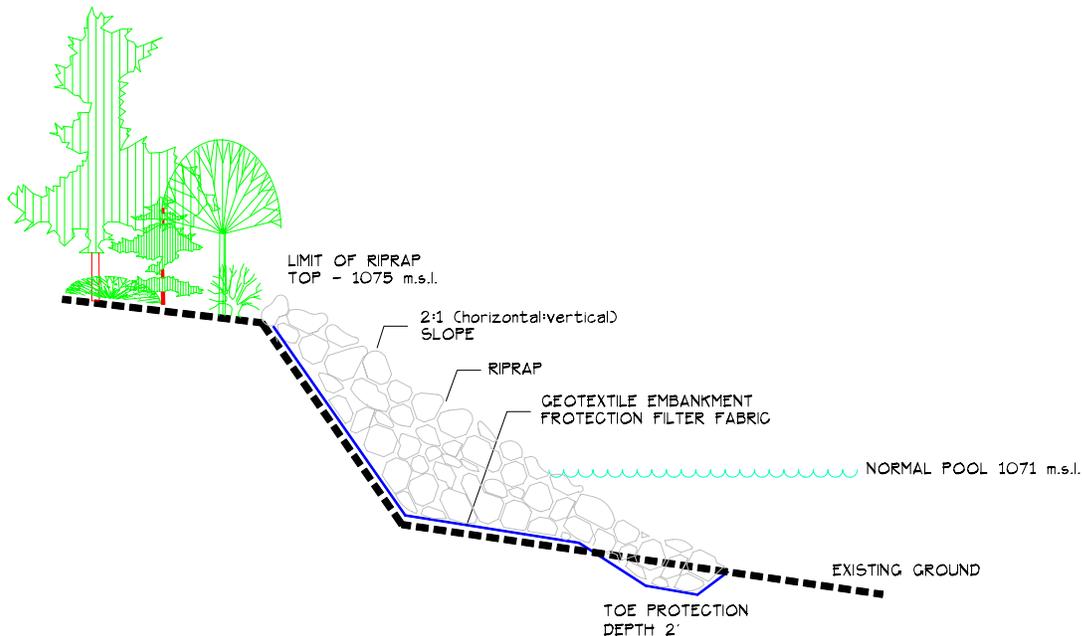
Exhibit 7

Riprap

Riprap is a layer of loose stone over the soil. The layer relies entirely on the weight of the stones to prevent displacement by waves; there is no binding force other than surface friction. After installation, the bank shall have a slope of 2:1 or flatter.

Advantages: A riprap structure is flexible and is not impaired by differential settlement. Limited damage is easily repaired.

Disadvantages: (1) On shores with waves greater than 3 feet in height, sufficiently large stone sizes may be difficult to obtain from local suppliers. (2) Heavy equipment may be required for grading the bluff and placing large stones. (3) The rough stone surface limits access to the water.



It is essential that the rock be large enough to be immovable even by the largest expected waves. The sizes in the following tables are from Moulton (1991, Table 12.8):

Wave height (ft)	Size of graded riprap stone (in.)			Thickness of riprap layer (in.)
	Maximum	Average	Minimum	
1	15	10	5	16
2	18	12	6	20
3	21	14	7	22
4	24	16	8	26
5	27	18	9	30

To prevent movement of underlying soil through the stone layer, a layer of filter cloth must be placed under the riprap. The filter prevents the soil from being dragged and pumped out between the interstices of the rocks, undercutting the riprap. Riprap is the most economical of the shoreline protection methods approved in the Lakeshore Management Plan. A Specified Acts Permit must be obtained from the Corps of Engineers prior to commencement of work. Contact the Corps office at 770-945-9531 for additional information.

Exhibit 8

Native Trees of Lake Lanier

Common Name	Scientific Name
Allegheny chinkapin	<i>Castanea pumila</i>
Alternate-leaf dogwood	<i>Cornus alternifolia</i>
American beech	<i>Fagus grandifolia</i>
American chestnut	<i>Castanea dentate</i>
American elm	<i>Ulmus americana</i>
American holly	<i>Ilex opaca</i>
American mountain ash	<i>Sorbus americana</i>
American plum	<i>Prunus americana</i>
American sycamore	<i>Platanus occidentalis</i>
Bald cypress	<i>Taxodium distichum</i>
Basswood	<i>Tilia heterophylla</i>
Bitternut hickory	<i>Carya cordiformis</i>
Black cherry	<i>Prunus serotina</i>
Black locust	<i>Robina pseudoacacia</i>
Black oak	<i>Quercus velutina</i>
Black tupelo	<i>Nyssa sylvatica</i>
Black walnut	<i>Juglans nigra</i>
Black willow	<i>Salix nigra</i>
Blackjack oak	<i>Quercus michauxii</i>
Box elder	<i>Acer negundo</i>
Buckthorn bumelia	<i>Bumelia lycoides</i>
Butternut	<i>Juglans cinera</i>
Carolina buckthorn	<i>Rhamnus caroliniana</i>
Chalk Maple	<i>Acer leucoderme</i>
Cherry Birch	<i>Betula lenta</i>
Chestnut Oak	<i>Quercus prinus</i>
Chickasaw plum	<i>Prunus angustifolia</i>
Cockspur hawthorn	<i>Crataegus crus-galli</i>
Common chokecherry	<i>Prunus virginiana</i>
Common hoptree	<i>Ptelea trifoliata</i>
Common juniper	<i>Juniperus communis</i>
Common sweetbay	<i>Symplocos tinctoria</i>
Cucumber tree	<i>Magnolia acuminata</i>
Devil's walking stick	<i>Aralia spinosa</i>
Downy serviceberry	<i>Amelanchier arborea</i>
Dwarf chinkapin oak	<i>Quercus prinoides</i>
Eastern cottonwood	<i>Populus deltoids</i>
Elderberry	<i>Sambucus canadensis</i>
Flatwood plum	<i>Prunus umbellata</i>
Florida maple	<i>Acer barbatum</i>
Flowering dogwood	<i>Cornus florida</i>
Fraser magnolia	<i>Magnolia fraseri</i>
Fringetree	<i>Chionanthus virginicus</i>
Georgia oak	<i>Quercus georgiana</i>
Green ash	<i>Fraxinus pennsylvanica</i>
Hackberry	<i>Celtis laevigata</i>
Heart-leaved willow	<i>Salix rigida</i>
Honeylocust	<i>Gleditsia triacanthos</i>
Hop Hornbeam	<i>Ostrya virginiana</i>
Ironwood	<i>Carpinus caroliniana</i>
Littlehip hawthorn	<i>Crataegus spathulata</i>
Lobloly pine	<i>Pinus taeda</i>

Native Trees of Lake Lanier

Common Name	Scientific Name
Longleaf pine	<i>Pinus palustris</i>
Mazzard cherry	<i>Prunus avium</i>
Missouri willow	<i>Salix eriocephala</i>
Mockernut hickory	<i>Carya tomentosa</i>
Muehlenberg oak	<i>Quercus muehlenbergii</i>
Northern Red oak	<i>Quercus rubra</i>
Osage orange	<i>Maclura pomifera</i>
Overcup oak	<i>Quercus marilandica</i>
Painted buckeye	<i>Aesculus sylvatica</i>
Paw paw	<i>Asimina triloba</i>
Persimmon	<i>Diospyros virginiana</i>
Pignut hickory	<i>Carya glabra</i>
Pin cherry	<i>Prunus pensylvanica</i>
Pitch pine	<i>Pinus rigida</i>
Post oak	<i>Quercus stellata</i>
Red bay	<i>Persea borbonia</i>
Red cedar	<i>Juniperus virginiana</i>
Red maple	<i>Acer rubrum</i>
Red mulberry	<i>Morus rubra</i>
Redbud	<i>Cercis canadensis</i>
River birch	<i>Betula nigra</i>
Sand hickory	<i>Carya pallida</i>
Sassafras	<i>Sassafras albidum</i>
Scarlet oak	<i>Quercus coccinea</i>
Shagbark hickory	<i>Carya ovata</i>
Shortleaf pine	<i>Pinus echinata</i>
Shumard oak	<i>Quercus shumardii</i>
Silver maple	<i>Acer saccharinum</i>
Sourwood	<i>Oxydendrum arboreum</i>
Southern red oak	<i>Quercus falcate</i>
Southern crabapple	<i>Pyrus angustifolia</i>
Sweet crabapple	<i>Pyrus coronaria</i>
Sweetbay	<i>Magnolia virginiana</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Tulip poplar (yellow poplar)	<i>Liriodendron tulipifera</i>
Turkey oak	<i>Quercus laevis</i>
Umbrella magnolia	<i>Magnolia tripetala</i>
Virginia Pine	<i>Pinus virginiana</i>
Washington hawthorn	<i>Crataegus phaenopyrum</i>
Water hickory	<i>Carya aquatica</i>
Water oak	<i>Quercus nigra</i>
White ash	<i>Fraxinus americana</i>
White oak	<i>Quercus alba</i>
White pine	<i>Pinus strobes</i>
Willow oak	<i>Quercus phellos</i>
Winged elm	<i>Ulmus alata</i>
Yellow buckeye	<i>Aesculus octandra</i>

Native Shrubs of Lake Lanier

Common Name	Scientific Name
American barberry	<i>Berberis canadensis</i>
American beauty-berry	<i>Callicarpa americana</i>
Beaked hazelnut	<i>Corylus americana</i>
Black haw	<i>Viburnum prunifolium</i>
Black huckleberry	<i>Gaylussacia baccata</i>
Bladdernut	<i>Staphylea trifolia</i>
Bristly locust	<i>Robina hispida</i>
Buttonbush	<i>Cephalanthus occidentalis</i>
Carolina silverbell	<i>Halesia carolina</i>
Deerberry	<i>Vaccinium stamineum</i>
Dense-flowered St. John's Wort	<i>Hypericum densiflorum</i>
Dewberry	<i>Rubus</i> spp.
Downy viburnum	<i>Viburnum rafinesquianum</i>
Drooping leucothoe	<i>Leucothoe axillaries</i>
Eastern wahoo	<i>Euonymus atropurpureus</i>
Elderberry	<i>Sambucus canadensis</i>
Evergreen bayberry	<i>Myrica heterophylla</i>
Flame azalea	<i>Rhododendron calendulaceum</i>
Hackberry	<i>Celtis occidentalis</i>
Hawthorn	<i>Crataegus</i> spp.
Hazel alder	<i>Alnus serrulata</i>
Highbush blueberry	<i>Vaccinium corymbosum</i>
Indigo bush	<i>Amorpha fruticosa</i>
Leatherwood	<i>Dirca palustris</i>
Maple-leaved viburnum	<i>Viburnum acerifolium</i>
Minnie bush	<i>Menziesia pilosa</i>
Mountain holly	<i>Ilex ambigua</i>
Mountain laurel	<i>Kalmia latifolia</i>
Mountain stewartia	<i>Stewartia ovata</i>
New Jersey tea	<i>Ceanothus americanus</i>
Red chokecherry	<i>Sorbus arbutifolia</i>
Rosebay rhododendron	<i>Rhodoendron maximum</i>
Rusty black haw	<i>Viburnum rufidulum</i>
Scentless mock-orange	<i>Philadelphus inodorus</i>
Sheep laurel	<i>Kalmia angustifolia</i>
Shrubby St. John's wort	<i>Hypericum prolificum</i>
Smooth sumac	<i>Rhus glabra</i>
Southern arrowwood	<i>Viburnum dentatum</i>
Spicebush	<i>Lindera benzoin</i>
Staghorn sumac	<i>Rhus typhina</i>
Strawberry bush	<i>Euonymus americanus</i>
Swamp rose	<i>Rosa palustris</i>
Sweet shrub	<i>Callicarpa floridus</i>
Trumpet creeper	<i>Campsis radicans</i>
Trumpet honeysuckle	<i>Lonicera sempervirens</i>
Virginia willow	<i>Itea virginica</i>
Virgin's bower	<i>Clematis virginiana</i>
Wild hydrangea	<i>Hydrangea aborescens</i>
Wild rose	<i>Rosa carolina</i>
Winged sumac	<i>Rhus copallina</i>
Witch-hazel	<i>Hamamelis virginiana</i>
Yellow-root	<i>Xanthorhiza simplicissima</i>

Exhibit 9

INTRODUCTION

The U.S. Army Corps of Engineers welcomes you to Lake Sidney Lanier. Constructed by the Corps in 1952, the project has become one of the most popular federally operated facilities in the nation. The Corps of Engineers has been delegated authority by Congress to manage and regulate public use of the lake. As part of its management program the Corps may issue permits to install minor private facilities on certain public lands and waters.

Permit/Licenses are issued for a maximum of five years and are nontransferable. They grant no real estate rights nor convey any private exclusive use privileges on government property. Lake Lanier's shoreline is open to use by the general public.

This guide contains helpful information on how to apply for a "Shoreline Use Permit/License".

WHO MAY APPLY

Individuals who own property adjacent to public lands zoned as "limited development" may apply for a Shoreline Use Permit/License. First-time applicants for new facilities must meet on-site with a Ranger. New owners of existing facilities may apply for a permit at the Resource Manager's Office.

Permit expirations are normally processed automatically. Please keep your mailing address current.

HOW TO APPLY

Contact the Corps Resource Manager's Office at 404/945-9531 and request an appointment with the Ranger responsible for your area of the lake.

The Ranger will meet with you at the property to discuss Shoreline Management policies. If the facilities meet our guidelines, you will be given an application packet to complete and return to the Resource Manager's Office for review and consideration. Final approval will not be given until the Resource Manager's Office reviews and issues the permit.

WHAT TO FILE

- Two (2) completed original applications.
- One (1) copy of your property deed or closing statement. (Note: Must be signed and notarized.)
- One (1) site plan drawing.
- Two (2) standard dock drawings displaying dimensions.
- Electrical certification statement (after installation/upon reauthorization)
- A check made out to: "F & A OFFICER, U.S. ARMY, MOBILE" for \$ _____

WHERE TO FILE

Resource Manager's Office
Lake Sidney Lanier
P. O. Box 567
Buford, Georgia 30518-0567
Telephone: 404/945-9531

WHAT FACILITIES MAY BE AUTHORIZED

FACILITY TYPE	5 YEAR RATE **
Floating Facility-New	\$30.00
Floating Facility-New Owner	\$30.00
Floating Facility-Modification	\$30.00
Floating Facility-Renewance	\$30.00
Electric Line	\$35.00
Water Line	\$35.00
Telephone Line	\$35.00
Water Pump	\$35.00
Steps and/or Walkway	\$50.00
Shoreline Protection	No Fee
• Boat Launching Ramp	\$67.00
• Shoreline Access Road	\$58.00
• Marine Rail	\$67.00
• Pazio	\$50.00
• PumpHouse	\$20.00
• Well	No Fee
• Picnic shelter	\$50.00
• Hand Rail	\$28.00
• Landbased Boathouse	\$67.00
• Grandfathered items, new authorizations no longer granted. Removal required when facility becomes unsafe or unusable.	

• • RATES ARE SUBJECT TO CHANGE.

HOW TO MODIFY THE PERMIT

Modification to facilities requires prior approval of the Resource Manager. A site review is generally required. Contact your Ranger for additional information.

Exhibit 10

**APPLICATION FOR SHORELINE USE PERMIT/LICENSE
(ER 1130-2-460)**

NOTE: Read Privacy Act Notice, Permit Conditions and CFR
Title 36, Part 327 Prior to Completion of Application.

Please print or type the information requested below.
Submit two signed and completed copies of this application to the Resource Manager.

Name of Applicant: _____	Home Telephone: _____
Mailing Address: _____	Work Telephone: _____
City: _____	State: _____ Zip Code: _____

Describe facility, activity, or use requested and include location. List boat registration number(s), length and color of boat(s) if this request is for a boat mooring facility.

The following person will be available on short-notice call and will be responsible for providing any needed surveillance of the structure in my absence (NOT IMMEDIATE HOUSEHOLD).

Name: _____ Telephone: _____

I hereby apply for a permit/license to perform the above described use of public property or that which is authorized by the Corps of Engineers and agree to abide by all regulations, policies, and conditions that govern such privileges. I also agree that NO WORK will begin until I receive WRITTEN APPROVAL to proceed. I have read and understand the Privacy Act Notice and all Thirty-Two Permit Conditions and hereby accept this instrument with all conditions thereof.

_____ Date	_____ Signature of Applicant
---------------	---------------------------------

DO NOT WRITE BELOW THIS LINE

Shoreline Use Permit/License

Permit/License Number
This permit is hereby granted by delegation of the Secretary of the Army under authority conferred on him by the Act of Congress approved 31 August 1951 (USC 140). The applicant is hereby authorized to perform that which is described by the attached Exhibits A/B, C and D of this permit.
_____ Resource Manager

PERMIT CONDITIONS

1. This permit is granted solely to the applicant for the purpose described on the attached permit.
2. The permittee agrees to and does hereby release and agree to save and hold the Government harmless from any and all causes of action, suits at law or equity, or claims or demands or from any liability of any nature whatsoever for or on account of any damages to persons or property, including a permitted facility, growing out of the ownership, construction, operation or maintenance by the permittee of the permitted facilities and/or activities.
3. Ownership, construction, operation, use and maintenance of a permitted facility are subject to the Government's navigation servitude.
4. No attempt shall be made by the permittee to forbid the full and free use by the public of all public waters and/or lands at or adjacent to the permitted facility or to unreasonably interfere with any authorized project purposes, including navigation in connection with the ownership, construction, operation or maintenance of a permitted facility and/or activity.
5. The permittee agrees that if subsequent operations by the Government require an alteration in the location of a permitted facility and/or activity or if in the opinion of the District Commander a permitted facility and/or activity shall cause unreasonable obstruction to navigation or that the public interest so requires, the permittee shall be required, upon written notice from the District Commander to remove, alter, or relocate the permitted facility, without expense to the Government.
6. The Government shall in no case be liable for any damage or injury to the permitted facility which may be caused by or result from subsequent operations undertaken by the Government for the improvement of navigation or for other lawful purposes, and no claims or right to compensation shall accrue from any such damage. This includes any damage that may occur to private property if a facility is removed for noncompliance with the conditions of the permit.
7. Ownership, construction, operation, use and maintenance of a permitted facility and/or activity are subject to all applicable federal, state and local laws and regulations. Failure to abide by these applicable laws and regulations may be cause for revocation of the permit.
8. This permit does not convey any property rights either in real estate or material; and does not authorize any injury to private property or invasion of private rights or any infringement of federal, state or local laws or regulations, nor does it obviate the necessity of obtaining state or local assent required by law for the construction, operation, use or maintenance of a permitted facility and/or activity.
9. The permittee agrees to construct the facility within one year of the permit/license issue date. The permit shall become null and void if construction is not completed within that period. Further, the permittee agrees to operate and maintain any permitted facility and/or activity in a manner so as to provide safety, minimize any adverse impact on fish and wildlife habitat, natural, environmental, or cultural resources values and in a manner so as to minimize the degradation of water quality.
10. The permittee shall remove a permitted facility within 30 days, at his/her expense, and restore the waterway and lands to a condition accepted by the Resource Manager upon termination or revocation of this permit or if the permittee ceases to use, operate or maintain a permitted facility and/or activity. If the permittee fails to comply to the satisfaction of the Resource Manager, the District Commander may remove the facility by contract or otherwise and the permittee agrees to pay all costs incurred thereof.
11. The use of a permitted boat dock facility shall be limited to the mooring of the permittee's vessel or watercraft and the storage, in enclosed locker facilities, of his/her gear essential to the operation of such vessel or watercraft.
12. Neither a permitted facility nor any houseboat, cabin cruiser, or other vessel moored thereto shall be used as a place of habitation or as a full- or part-time residence or in any manner which gives the appearance of converting the public property, on which the facility is located, to private use.
13. Facilities granted under this permit will not be leased, rented, sub-let or provided to others by means of engaging in commercial activity(s) by the permittee or his/her agent for monetary gain. This does not preclude the permittee from selling total ownership to the facility.
14. On all new docks and boat mooring buoys, flotation shall be of materials which will not become waterlogged, is not subject to damage by animals, is not subject to deterioration upon contact with petroleum products (gasoline, diesel fuel, oil, or other caustic substances) and will not sink or contaminate the water if punctured. No metal-covered or injected drum flotation will be allowed. Foam bead flotation may be authorized by the District Commander if it is encased in a protective coating to prevent deterioration with resultant loss of beads. Existing flotation will be authorized until it has severely deteriorated and is no longer serviceable or capable of supporting the structure, at which time it should be replaced with approved flotation.

15. Permitted facilities and activities are subject to periodic inspection by authorized Corps representatives. The Resource Manager will notify the permittee of any deficiencies and together establish a schedule for their correction. No deviation or changes from approved plans will be allowed without prior written approval of the Resource Manager.
16. Floating facilities shall be securely attached to the shore in accordance with the approved plans by means of moorings which do not obstruct general public use of the shoreline or adversely affect the natural terrain or vegetation. Anchoring to vegetation is prohibited.
17. The permit display tag shall be posted on the permitted facility and/or the land areas covered by the permit so that it can be visually checked with ease in accordance with instructions provided by the Resource Manager.
18. No vegetation other than that authorized by permit will be damaged, destroyed or removed. No vegetation of any kind will be planted, other than that specifically described in the permit.
19. No change in land form such as grading, excavation or filling is authorized by this permit.
20. This permit is non-transferable. Upon the sale or other transfer of the permitted facility or the death of the permittee and I his/her legal spouse, this permit is null and void.
21. By 30 days written notice, mailed to the permittee by certified letter, the District Commander may revoke this permit whenever the public interest necessitates such revocation or when the permittee fails to comply with any permit condition or term. The revocation notice shall specify the reasons for such action. If the permittee requests a hearing in writing to the District Commander through the Resource Manager Within the 30 day period, the District Commander shall grant such hearing at the earliest opportunity. In no event shall the hearing date be more than 60 days from the date of the hearing request. Following the hearing, a written decision will be rendered and a copy mailed to the permittee by certified letter.
22. Notwithstanding the condition cited in Condition 21 above, if in the opinion of the District Commander, emergency circumstances dictate otherwise, the district commander may summarily revoke the permit.
23. When vegetation modification on these lands is accomplished by chemical means, the program will be in accordance with appropriate federal, state and local laws, rules and regulations.
24. The Resource Manager or his/her authorized representative shall be allowed to cross the permittee's property, as necessary, to inspect facilities and/or activities under permit.
25. When vegetation modification is allowed, the permittee will delineate the government property line in a clear, but unobtrusive manner approved by the Resource Manager and in accordance with the project Shoreline Management Plan.
26. If the ownership of a permitted facility is sold or transferred, the permittee or new owner will notify the Resource Manager of the action prior to the finalization. The new owner must apply for a Shoreline Use Permit within 14 days or remove the facility and restore the use area within 30 days from the date of ownership transfer.
27. If permitted facilities are removed for storage or extensive maintenance, the Resource Manager may require all portions of the facility be removed from public property.
28. Diving boards, platforms, or similar structures are prohibited. Suspended boat hoists are prohibited without the express written authorization of the Resource Manager.
29. All electrical service must meet or exceed the National Electric Code standards for Wet Locations, Marinas and Boatyards (Article 555) and any additional Corps of Engineers requirements. All electrical installation must be certified by a licensed electrician.
30. All activities /facilities must conform to authorization shown in Exhibits A/B, C and D and the policies of the project Shoreline Management Plan. A copy of the Shoreline Management Plan is available at the Resource Manager's Office.
31. Activities and facilities not expressly authorized by Exhibits A/B, C and D or by CFR Title 36 are prohibited.
32. Special condition(s). See description, Exhibit A/B.

PRIVACY ACT NOTICE

AUTHORITY

Section 4, 1944 Flood Control Act as amended, PL 87-874.

PURPOSES

These applications are used in considering the issuance of permits for floating facilities and landscaping by private landowners adjacent to Corps Lakes. This information is collected and maintained at project offices and is used as a basis for issuing permits. Needed for description of facility to assure conditions of permit requirement are met. To provide auditing information for programs with financial involvement. To provide information for contact of responsible party available on short notice in case of emergency.

ROUTINE USES

This information may be disclosed to Department of Justice or other federal, state, or local law enforcement agencies charged with the responsibility of investigating or prosecuting violations or potential violations of law or enforcing or implementing statutes, rules, regulations, or orders issued pursuant thereto; or to a Congressional office in response to an inquiry made at the applicant's request. The applicant's name and address are considered public information and may be disclosed in response to a Freedom of Information Act request.

EFFECTS OF NONDISCLOSURE

Disclosure of information is voluntary. Failure to provide information will preclude issuance of a permit.

Exhibit 11



US Army Corps of Engineers

RULES AND REGULATIONS GOVERNING PUBLIC USE OF CORPS OF ENGINEERS WATER RESOURCES DEVELOPMENT PROJECTS

Title 36 -- Parks, Forests, and Public Property CHAPTER III -- U.S. ARMY CORPS OF ENGINEERS PART 327--RULES AND REGULATIONS GOVERNING PUBLIC USE OF WATER RESOURCES DEVELOPMENT PROJECTS ADMINISTERED BY THE CHIEF OF ENGINEERS

- Section
- 327.0 Applicability**
- 327.1 Policy**
- 327.2 Vehicles.**
- 327.3 Vessels.**
- 327.4 Aircraft.**
- 327.5 Swimming.**
- 327.6 Picnicking.**
- 327.7 Camping.**
- 327.8 Hunting, fishing, and trapping.**
- 327.9 Sanitation.**
- 327.10 Fires.**
- 327.11 Control of animals.**
- 327.12 Restrictions.**
- 327.13 Explosives, firearms, weapons**
- 327.14 Public property.**
- 327.15 Abandonment and impoundment of personal property.**
- 327.16 Lost and found articles.**
- 327.17 Advertisement.**
- 327.18 Commercial activities.**
- 327.19 Permits.**
- 327.20 Unauthorized structures.**
- 327.21 Special events.**
- 327.22 Unauthorized occupation.**
- 327.23 Recreation use fees.**
- 327.24 Interference with Gov. employees.**
- 327.25 Violations of rules and regulations.**
- 327.26 State and local laws.**
- (c) The term "project" or "water resources development project" refers to the water areas of any water resources development project administered by the Chief of Engineers, without regard to ownership of underlying land, to all lands owned in fee by the Federal Government and to all facilities therein or thereon of any such water resources development project.
- (d) All water resources development projects open for public use shall be available to the public without regard to sex, race, color, creed, age, nationality or place of origin. No lessee, licensee, or concessionaire providing a service to the public shall discriminate against any person because of sex, race, creed, color, age, nationality or place of origin in the conduct of the operations under the lease, license or concession contract.
- (e) In addition to the regulations in this part 327, all applicable Federal, state and local laws and regulations remain in full force and effect on project lands or waters which are granted by the District Commander by lease, license or other written agreement.
- (f) The regulations in this part 327 shall be deemed to apply to those lands and waters which are subject to treaties and Federal laws and regulations concerning the rights of Indian Nations and which lands and waters are incorporated, in whole or in part, within water resources development projects administered by the Chief of Engineers, to the extent that the regulations in this part 327 are not inconsistent with such treaties and Federal laws and regulations.
- (g) Any violation of any section of this part 327 shall constitute a separate violation for each calendar day in which it occurs.
- (h) For the purposes of this part 327, the operator of any vehicle, vessel or aircraft as described in this part shall be presumed to be responsible for its use on project property. In the event where an operator cannot be determined, the owner of the vehicle, vessel, or aircraft, whether attended or unattended, will be presumed responsible. Unless proven otherwise, such presumption will be sufficient to issue a citation for the violation of regulations applicable to the use of such vehicle, vessel or aircraft as provided for in Sec. 327.25.
- (i) For the purposes of this part 327, the registered user of a campsite, picnic area, or other facility shall be presumed to be responsible for its use. Unless proven otherwise, such presumption will be sufficient to issue a citation for the violation of regulations applicable to the use of such facilities as provided for in Sec. 327.25.
- 327.2 Vehicles.**
- (a) This section pertains to all vehicles, including, but not limited to, automobiles, trucks, motorcycles, mini-bikes, snowmobiles, dune buggies, all-terrain vehicles, and trailers, campers, bicycles, or any other such equipment.
- (b) Vehicles shall not be parked in violation of posted restrictions and regulations, or in such a manner as to obstruct or impede normal or emergency traffic movement or the parking of other vehicles, create a safety hazard, or endanger any person, property or environmental feature. Vehicles so parked are subject to removal and impoundment at the owner's expense.
- (c) The operation and/or parking of a vehicle off authorized roadways is prohibited except at locations and times designated by the District Commander. Taking any vehicle through, around or beyond a restrictive sign, recognizable barricade, fence, or traffic control barrier is prohibited.
- (d) Vehicles shall be operated in accordance with posted restrictions and regulations.
- (e) No person shall operate any vehicle in a careless, negligent or reckless manner so as to endanger any person, property or environmental feature.
- (f) At designated recreation areas, vehicles shall be used only to enter or leave the area or individual sites or facilities unless otherwise posted.
- (g) Except as authorized by the District Commander, no person shall operate any motorized vehicle without a proper and effective exhaust muffler as defined by state and local laws, or with an exhaust muffler cutout open, or in any other manner which renders the exhaust muffler ineffective in muffling the sound of engine exhaust.
- (h) Vehicles shall be operated in accordance with applicable Federal, state and local laws, which shall be regulated by authorized enforcement officials as prescribed in Sec. 327.26.
- 327.3 Vessels.**
- (a) This section pertains to all vessels or watercraft, including, but not limited to, powerboats, cruisers, houseboats, sailboats, rowboats, canoes, kayaks, personal watercraft, and any other such equipment capable of navigation on water or ice, whether in motion or at rest.
- (b) The placement and/or operation of any vessel or watercraft for a fee or profit upon project waters or lands is prohibited except as authorized by permit, lease, license, or concession contract with the Department of the Army. This paragraph shall not apply to the operation of commercial tows or passenger carrying vessels not based at a Corps project which utilize project waters as a link in continuous transit over navigable waters of the United States.
- (c) Vessels or other watercraft may be operated on the project waters, except in prohibited or restricted areas, in accordance with posted regulations and restrictions, including buoys. All vessels or watercraft so required by applicable Federal, state and local laws shall display an appropriate registration on board whenever the vessel is on project waters.
- (d) No person shall operate any vessel or other watercraft in a careless, negligent, or reckless manner so as to endanger any person, property, or environmental feature.
- (e) All vessels, when on project waters, shall have safety equipment, including personal flotation devices, on board in compliance with U.S. Coast Guard boating safety requirements and in compliance with boating safety laws issued and enforced by the state in which the vessel is located. Owners or operators of vessels not in compliance with this section may be requested to remove the vessel immediately from project waters until such time as items of non-compliance are corrected.

Authority: 16 U.S.C. 460d; 16 U.S.C. 4601-6a; Sec. 210, Pub. L. 90-483, 82 Stat. 746.; 33 U.S.C. 1, 28 Stat. 362.

327.0 Applicability.

The regulations covered in this part 327 shall be applicable to water resources development projects, completed or under construction, administered by the Chief of Engineers, and to those portions of jointly administered water resources development projects which are under the administrative jurisdiction of the Chief of Engineers. ALL OTHER FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS REMAIN IN FULL FORCE AND EFFECT WHERE APPLICABLE TO THOSE WATER RESOURCES DEVELOPMENT PROJECTS.

327.1 Policy.

(a) It is the policy of the Secretary of the Army, acting through the Chief of Engineers, to manage the natural, cultural and developed resources of each project in the public interest, providing the public with safe and healthful recreational opportunities while protecting and enhancing these resources.

(b) Unless otherwise indicated in this part, the term "District Commander" shall include the authorized representatives of the District Commander.

(f) Unless otherwise permitted by Federal, state or local law, vessels or other watercraft, while moored in commercial facilities, community or corporate docks, or at any fixed or permanent mooring point, may only be used for overnight occupancy when such use is incidental to recreational boating. Vessels or other watercraft are not to be used as a place of habitation or residence.

(g) Water skis, parasails, ski-kites and similar devices are permitted in nonrestricted areas except that they may not be used in a careless, negligent, or reckless manner so as to endanger any person, property or environmental feature.

(h) Vessels shall not be attached or anchored to structures such as locks, dams, buoys or other structures unless authorized by the District Commander. All vessels when not in actual use shall be removed from project lands and waters unless securely moored or stored at designated areas approved by the District Commander. The placing of floating or stationary mooring facilities on, adjacent to, or interfering with a buoy, channel marker or other navigational aid is prohibited.

(i) The use at a project of any vessel not constructed or maintained in compliance with the standards and requirements established by the Federal Safe Boating Act of 1971 (Pub. L. 92-75, 85 Stat. 213), or promulgated pursuant to such act, is prohibited.

(j) Except as authorized by the District Commander, no person shall operate any vessel or watercraft without a proper and effective exhaust muffler as defined by state and local laws, or with an exhaust muffler cutout open, or in any other manner which renders the exhaust muffler ineffective in muffling the sound of engine exhaust.

(k) All vessels or other watercraft shall be operated in accordance with applicable Federal, state and local laws, which shall be regulated by authorized enforcement officials as prescribed in Sec. 327.26.

327.4 Aircraft.

(a) This section pertains to all aircraft including, but not limited to, airplanes, seaplanes, helicopters, ultra-light aircraft, motorized hang gliders, hot air balloons, any non-powered flight devices or any other such equipment.

(b) The operation of aircraft on project lands at locations other than those designated by the District Commander is prohibited. This provision shall not be applicable to aircraft engaged on official business of Federal, state or local governments or law enforcement agencies, aircraft used in emergency rescue in accordance with the directions of the District Commander or aircraft forced to land due to circumstances beyond the control of the operator.

(c) No person shall operate any aircraft while on or above project waters or project lands in a careless, negligent or reckless manner so as to endanger any person, property or environmental feature.

(d) Nothing in this section bestows authority to deviate from rules and regulations or prescribed standards of the appropriate State Aeronautical Agency, or the Federal Aviation Administration, including, but not limited to, regulations and standards concerning pilot certifications or ratings, and airspace requirements.

(e) Except in extreme emergencies threatening human life or serious property loss, the air delivery or retrieval of any person, material or equipment by parachute, balloon, helicopter or other means onto or from project lands or waters without written permission of the District Commander is prohibited.

(f) In addition to the provisions in paragraphs (a) through (e) of this section, seaplanes are subject to the following restrictions:

(1) Such use is limited to aircraft utilized for water landings and takeoff, in this part called seaplanes, at the risk of owner, operator and passengers(s).

(2) Seaplane operations contrary to the prohibitions or restrictions established by the District Commander (pursuant to part 328 of this title) are prohibited. The responsibility to ascertain whether seaplane operations are prohibited or restricted is incumbent upon the person(s) contemplating the use of, or using, such waters.

(3) All operations of seaplanes while upon project waters shall be in accordance with U.S. Coast Guard navigation rules for powerboats or vessels and Sec. 327.3.

(4) Seaplanes on project waters and lands in excess of 24 hours shall be securely moored at mooring facilities and at locations permitted by the District Commander. Seaplanes may be temporarily moored on project waters and lands, except in areas prohibited by the District Commander, for periods less than 24 hours providing:

(i) The mooring is safe, secure, and accomplished so as not to damage the rights of the Government or members of the public, and

(ii) The operator remains in the vicinity of the seaplane and reasonably available to relocate the seaplane if necessary.

(5) Commercial operation of seaplanes from project waters is prohibited without written approval of the District Commander following consultation with and necessary clearance from the Federal Aviation Administration (FAA) and other appropriate public authorities and affected interests.

(6) Seaplanes may not be operated at Corps projects between sunset and sunrise unless approved by the District Commander.

327.5 Swimming.

(a) Swimming, wading, snorkeling or scuba diving at one's own risk is permitted, except at launching sites, designated mooring points and public docks, or other areas so designated by the District Commander.

(b) An international diver down, or inland diving flag must be displayed during underwater activities.

(c) Diving, jumping or swinging from trees, bridges or other structures which cross or are adjacent to project waters is prohibited.

327.6 Picnicking.

Picnicking and related day-use activities are permitted, except in those areas where prohibited by the District Commander.

327.7 Camping.

(a) Camping is permitted only at sites and/or areas designated by the District Commander.

(b) Camping at one or more campsites, at any one water resource project for a period longer than 14 days during any 30-consecutive-day period is prohibited without the written permission of the District Commander.

(c) The unauthorized placement of camping equipment or other items on a campsite and/or personal appearance at a campsite without daily occupancy for the purpose of reserving that campsite for future occupancy is prohibited.

(d) The digging or leveling of any ground or the construction of any structure without written permission of the District Commander is prohibited.

(e) Occupying or placement of any camping equipment at a campsite which is posted or otherwise marked or indicated as "reserved" without an authorized reservation for that site is prohibited.

327.8 Hunting, fishing, and trapping.

(a) Hunting is permitted except in areas and during periods where prohibited by the District Commander.

(b) Trapping is permitted except in areas and during periods where prohibited by the District Commander.

(c) Fishing is permitted except in swimming areas, on boat ramps or other areas designated by the District Commander.

(d) Additional restrictions pertaining to these activities may be established by the District Commander.

(e) All applicable Federal, State and local laws regulating these activities apply on project lands and waters, and shall be regulated by authorized enforcement officials as prescribed in Sec. 327.26.

327.9 Sanitation.

(a) Garbage, trash, rubbish, litter, gray water, or any other waste material or waste liquid generated on the project and incidental to authorized recreational activities shall be either removed from the project or deposited in receptacles provided for that purpose. The improper disposal of such wastes, human and animal waste included, on the project is prohibited.

(b) It is a violation to bring onto a project any household or commercial garbage, trash, rubbish, debris, dead animals or litter of any kind for disposal or dumping without the written permission of the District Commander. For the purposes of this section, the owner of any garbage, trash, rubbish, debris, dead animals or litter of any kind shall be presumed to be responsible for proper disposal. Such presumption will be sufficient to issue a citation for violation.

(c) The spilling, pumping, discharge or disposal of contaminants, pollutants or other wastes, including, but not limited to, human or animal waste, petroleum, industrial and commercial products and by-products, on project lands or into project waters is prohibited.

(d) Campers, picnickers, and all other persons using a water resources development project shall keep their sites free of trash and litter during the period of occupancy and shall remove all personal equipment and clean their sites upon departure.

(e) The discharge or placing of sewage, galley waste, garbage, refuse, or pollutants into the project waters from any vessel or watercraft is prohibited.

327.10 Fires.

(a) Gasoline and other fuels, except that which is contained in storage tanks of vehicles, vessels, camping equipment, or hand portable containers designed for such purpose, shall not be carried onto or stored on the project without written permission of the District Commander.

(b) Fires shall be confined to those areas designated by the District Commander, and shall be contained in fireplaces, grills, or other facilities designated for this purpose. Fires shall not be left unattended and must be completely extinguished prior to departure. The burning of materials that produce toxic fumes, including, but not limited to, tires, plastic and other flotation materials or treated wood products is prohibited. The District Commander may prohibit open burning of any type for environmental considerations.

(c) Improper disposal of lighted smoking materials, matches or other burning material is prohibited.

327.11 Control of animals.

(a) No person shall bring or allow dogs, cats, or other pets into developed recreation areas or adjacent waters unless penned, caged, on a leash under six feet in length, or otherwise physically restrained. No person shall allow animals to impede or restrict otherwise full and free use of project lands and waters by the public. No person shall allow animals to bark or emit other noise which unreasonably disturbs other people.

Animals and pets, except properly trained animals assisting those with disabilities (such as seeing-eye dogs), are prohibited in sanitary facilities, playgrounds, swimming beaches and any other areas so designated by the District Commander. Abandonment of any animal on project lands or waters is prohibited. Unclaimed or unattended animals are subject to immediate impoundment and removal in accordance with state and local laws.

(b) Persons bringing or allowing pets in designated public use areas shall be responsible for proper removal and disposal of any waste produced by these animals.

(c) No person shall bring or allow horses, cattle, or other livestock in camping, picnicking, swimming or other recreation areas or on trails except in areas designated by the District Commander.

(b) Personal property placed on Federal lands or waters adjacent to a private residence, facility and/or developments of any private nature for more than 24 hours without permission of the District Commander shall be presumed to have been abandoned and, unless proven otherwise, such presumption will be sufficient to impound the property and/or issue a citation as provided for in Sec. 327.25.

(c) The District Commander shall, by public or private sale or otherwise, dispose of all lost, abandoned or unclaimed personal property that comes into Government custody or control. However, property may not be disposed of until diligent effort has been made to find the owner, heirs, next of kin or legal representative(s). If the owner, heirs, next of kin or legal representative(s) are determined but not found, the property may not be disposed of until the expiration of 120 days after the date when notice, giving the time and place of the intended sale or other disposition, has been sent by certified or registered mail to that person at the last known address. When diligent efforts to determine the owner, heirs, next of kin or legal representative(s) are unsuccessful, the property may be disposed of without delay except that if it has a fair market value of \$100 or more the property may not be disposed of until 90 days after the date it is received at the storage point designated by the District Commander. The net proceeds from the sale of property shall be conveyed into the Treasury of the United States as miscellaneous receipts.

327.16 Lost and found articles.

All articles found shall be deposited by the finder at the Manager's office or with a ranger. All such articles shall be disposed of in accordance with the procedures set forth in Sec. 327.15.

327.17 Advertisement.

(a) Advertising and the distribution of printed matter is allowed within project land and waters provided that a permit to do so has been issued by the District Commander and provided that this activity is not solely commercial advertising.

(b) An application for such a permit shall set forth the name of the applicant, the name of the organization (if any), the date, time, duration, and location of the proposed advertising or the distribution of printed matter, the number of participants, and any other information required by the permit application form. Permit conditions and procedures are available from the District Commander.

(c) Vessels and vehicles with semipermanent or permanent painted or installed signs are exempt as long as they are used for authorized recreational activities and comply with all other rules and regulations pertaining to vessels and vehicles.

For permit terms and conditions see the Federal Register, Volume 65, No. 88, May 5, 2000, page 26137.

327.18 Commercial activities.

(a) The engaging in or solicitation of business on project land or waters without the express written permission of the District Commander is prohibited.

(b) It shall be a violation of this part to refuse to or fail to comply with the fee requirements or other terms or conditions of any permit issued under the provisions of this part 327.

327.19 Permits.

(a) It shall be a violation of this part to refuse to or fail to comply with the fee requirements or other terms or conditions of any permit issued under the provisions of this part 327.

(b) Permits for floating structures (issued under the authority of Sec. 327.30) of any kind on/in waters of water resources development projects, whether or not such waters are deemed navigable waters of the United States but where such waters are under the management of the Corps of Engineers, shall be issued at the discretion of the District Commander under the authority of this section. District Commanders will delineate those portions of the navigable waters of the United States where this provision is applicable and post notices of this designation in the vicinity of the appropriate Manager's office.

(c) Permits for non-floating structures (issued under the authority of Sec. 327.30) of any kind constructed, placed in or affecting waters of water resources development projects where such waters are deemed navigable waters of the U.S. shall be issued under the provisions of section 10 of the Rivers and Harbors Act approved March 3, 1899 (33 U.S.C. 403). If a discharge of dredged or fill material in these waters is involved, a permit is required under Section 404 of the Clean Water Act (33 U.S.C. 1344). (See 33 CFR parts 320 through 330.)

(d) Permits for non-floating structures (issued under the authority of Sec. 327.30) of any kind in waters of water resources development projects, where such waters are under the management of the Corps of Engineers and where such waters are not deemed navigable waters of the United States, shall be issued as set forth in paragraph (b) of this section. If a discharge of dredged or fill material into any water of the United States is involved, a permit is required under section 404 of the Clean Water Act (33 U.S.C. 1344). (See 33 CFR parts 320 through 330). Water quality certification may be required pursuant to Section 401 of the Clean Water Act (33 U.S.C. 1341).

(e) Shoreline Use Permits to authorize private shoreline use facilities, activities or development (issued under the authority of section 327.30) may be issued in accordance with the project Shoreline Management Plan. Failure to comply with the permit conditions issued under Section 327.30 is prohibited.

327.20 Unauthorized structures.

The construction, placement, or existence of any structure (including, but not limited to, roads, trails, signs, non-portable hunting stands or blinds, buoys, docks, or landscape features) of any kind under, upon, in or over the project lands, or waters is prohibited unless a permit, lease, license or other appropriate written authorization has been issued by the District Commander. The design, construction, placement, existence or use of structures in violation of the terms of the permit, lease, license, or other written authorization is prohibited. The government shall not be liable for the loss of, or damage to, any private structures, whether authorized or not, placed on project lands or waters. Unauthorized structures are subject to summary removal or impoundment by the District Commander. Portable hunting stands, climbing devices, steps, or blinds, that are not nailed or screwed into trees and are removed at the end of a day's hunt may be used.

327.21 Special events.

(d) Ranging, grazing, watering or allowing livestock on project lands and waters is prohibited except when authorized by lease, license or other written agreement with the District Commander.

(e) Unauthorized livestock are subject to impoundment and removal in accordance with Federal, state and local laws.

(f) Any animal impounded under the provisions of this section may be confined at a location designated by the District Commander, who may assess a reasonable impoundment fee. This fee shall be paid before the impounded animal is returned to its owner(s).

(g) Wild or exotic pets and animals (including but not limited to cougars, lions, bears, bobcats, wolves, and snakes), or any pets or animals displaying vicious or aggressive behavior or otherwise posing a threat to public safety or deemed a public nuisance, are prohibited from project lands and waters unless authorized by the District Commander, and are subject to removal in accordance with Federal, state and local laws.

327.12 Restrictions.

(a) The District Commander may establish and post a schedule of visiting hours and/or restrictions on the public use of a project or portion of a project. The District Commander may close or restrict the use of a project or portion of a project when necessitated by reason of public health, public safety, maintenance, resource protection or other reasons in the public interest. Entering or using a project in a manner which is contrary to the schedule of visiting hours, closures or restrictions is prohibited.

(b) Quiet shall be maintained in all public use areas between the hours of 10 p.m. and 6 a.m., or those hours designated by the District Commander. Excessive noise during such times which unreasonably disturbs persons is prohibited.

(c) Any act or conduct by any person which interferes with, impedes or disrupts the use of the project or impairs the safety of any person is prohibited. Individuals who are boisterous, rowdy, disorderly, or otherwise disturb the peace on project lands or waters may be requested to leave the project.

(d) The operation or use of any sound producing or motorized equipment, including but not limited to generators, vessels or vehicles, in such a manner as to unreasonably annoy or endanger persons at any time or exceed state or local laws governing noise levels from motorized equipment is prohibited.

(e) The possession and/or consumption of alcoholic beverages on any portion of the project land or waters, or the entire project, may be prohibited when designated and posted by the District Commander.

(f) Unless authorized by the District Commander, smoking is prohibited in Visitor Centers, enclosed park buildings and in areas posted to restrict smoking.

327.13 Explosives, firearms, other weapons and fireworks.

(a) The possession of loaded firearms, ammunition, loaded projectile firing devices, bows and arrows, crossbows, or other weapons is prohibited unless:

(1) In the possession of a Federal, state or local law enforcement officer;

(2) Being used for hunting or fishing as permitted under 327.8, with devices being unloaded when transported to, from or between hunting and fishing sites;

(3) Being used at authorized shooting ranges; or

(4) Written permission has been received from the District Commander.

(b) Possession of explosives or explosive devices of any kind, including fireworks or other pyrotechnics, is prohibited unless written permission has been received from the District Commander.

327.14 Public property.

(a) Destruction, injury, defacement, removal or any alteration of public property including, but not limited to, developed facilities, natural formations, mineral deposits, historical and archaeological features, paleontological resources, boundary monumentation or markers and vegetative growth, is prohibited except when in accordance with written permission of the District Commander.

(b) Cutting or gathering of trees or parts of trees and/or the removal of wood from project lands is prohibited without written permission of the District Commander.

(c) Gathering of dead wood on the ground for use in designated recreation areas as firewood is permitted, unless prohibited and posted by the District Commander.

(d) The use of metal detectors is permitted on designated beaches or other previously disturbed areas unless prohibited by the District Commander for reasons of protection of archaeological, historical or paleontological resources. Specific information regarding metal detector policy and designated use areas is available at the Manager's Office. Items found must be handled in accordance with Sections 327.15 and 327.16 except for non-identifiable items such as coins of value less than \$25.

327.15 Abandonment and impoundment of personal property.

(a) Personal property of any kind shall not be abandoned, stored or left unattended upon project lands or waters. After a period of 24 hours, or at any time after a posted closure hour in a public use area or for the purpose of providing public safety or resource protection, unattended personal property shall be presumed to be abandoned and may be impounded and stored at a storage point designated by the District Commander, who may assess a reasonable impoundment fee. Such fee shall be paid before the impounded property is returned to its owner.

- (6) Alcohol or other controlled substances.
- (b) These state and local laws and ordinances are enforced by those state and local enforcement agencies established and authorized for that purpose.

327.27 (Reserved)

327.28 (Reserved)

327.29 (Reserved)

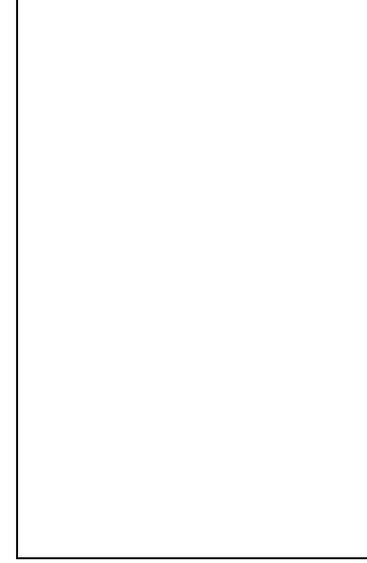
327.30 Shoreline Management on Civil Works Projects

- (a) Purpose. The purpose of this regulation is to provide policy and guidance on management of shorelines of Civil Works projects where 36 CFR Part 327 is applicable.

(A complete copy of 327.30 is available at the Resource Manager's Office, District Office, Division Office or from HQUASACE CECW-ON, Washington, DC 20314-1000.)

A violation of the provisions of this regulation shall subject the violator to a fine of not more than \$5000.00 or imprisonment for not more than 6 months, or both.

In the interest of more effective resource management and to increase the overall enjoyment of the visitor experience available at Corps of Engineers water resources development projects, the preceding rules and regulations have been established. Your observance of these rules while a visitor to these projects will make your visit and the visits of others more pleasant and enjoyable.



THIS REVISION SUPERSEDES EP 1165-2-316, May 1986

- (a) Special events including, but not limited to, water carnivals, boat regattas, fishing tournaments, music festivals, dramatic presentations or other special recreation programs are prohibited unless written permission has been granted by the District Commander. Where appropriate, District Commanders can provide the state a blanket letter of permission to permit fishing tournaments while coordinating the scheduling and details of tournaments with individual projects. An appropriate fee may be charged under the authority of Sec. 327.23.

- (b) The public shall not be charged any fee by the sponsor of such event unless the District Commander has approved in writing (and the sponsor has properly posted) the proposed schedule of fees. The District Commander shall have authority to revoke permission, require removal of any equipment, and require restoration of an area to pre-event condition, upon failure of the sponsor to comply with terms and conditions of the permit/permission or the regulations in this part 327.

327.22 Unauthorized occupation.

- (a) Occupying any lands, buildings, vessels or other facilities within water resource development projects for the purpose of maintaining the same as a full- or part-time residence without the written permission of the District Commander is prohibited. The provisions of this section shall not apply to the occupation of lands for the purpose of camping, in accordance with the provisions of Sec. 327.7.

- (b) Use of project lands or waters for agricultural purposes is prohibited except when in compliance with terms and conditions authorized by lease, license or other written agreement issued by the District Commander.

327.23 Recreation use fees.

- (a) In accordance with the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4600) and the Omnibus Budget Reconciliation Act of 1993, Pub. L. 103-66, the Corps of Engineers collects day use fees, special recreation use fees and/or special permit fees for the use of specialized sites, facilities, equipment or services related to outdoor recreation furnished at Federal expense.

- (b) Where such fees are charged, the District Commander shall insure that clear notice of fee requirements is prominently posted at each area, and at appropriate locations therein and that the notice be included in publications distributed at such areas. Failure to pay authorized recreation use fees as established pursuant to Pub. L. 88-578, 78 Stat. 897, as amended (16 U.S.C. 4601-6a), is prohibited and is punishable by a fine of not more than \$100.

- (c) Failure to pay authorized day use fees, and/or properly display applicable receipt, permit or pass is prohibited.

- (d) Any Golden Age or Golden Access Passport permittee shall be entitled, upon presentation of such a permit, to utilize special recreation facilities at a rate of 50 percent off the established use fee at Federally operated areas. Fraudulent use of a Golden Age or Golden Access Passport is prohibited.

327.24 Interference with Government employees.

- (a) It is a Federal crime pursuant to the provisions of sections 111 and 1114 of Title 18, United States Code, to forcibly assault, resist, oppose, impede, intimidate, or interfere with, attempt to kill or kill any civilian official or employee of the U.S. Army Corps of Engineers engaged in the performance of his or her official duties, or on account of the performance of his or her official duties. Such actions or interference directed against a Federal employee while carrying out the regulations in this part are also a violation of such regulations and may be a state crime pursuant to the laws of the state where they occur.

- (b) Failure to comply with a lawful order issued by a Federal employee acting pursuant to the regulations in this part shall be considered as interference with that employee while engaged in the performance of their official duties. Such interference with a Federal employee includes failure to provide a correct name, address or other information deemed necessary for identification upon request of the Federal employee, when that employee is authorized by the District Commander to issue citations in the performance of the employee's official duties.

327.25 Violations of rules and regulations.

- (a) Any person who violates the provisions of the regulations in this part, other than for a failure to pay authorized recreation use fees as separately provided for in Sec. 327.23, may be punished by a fine of not more than \$5,000 or imprisonment for not more than six months or both and may be tried and sentenced in accordance with the provisions of section 3401 of Title 18, United States Code. Persons designated by the District Commander shall have the authority to issue a citation for violation of the regulations in this part, requiring any person charged with the violation to appear before the United States Magistrate within whose jurisdiction the affected water resources development project is located (16 U.S.C. 4600).

- (b) Any person who commits an act against any official or employee of the U.S. Army Corps of Engineers that is a crime under the provisions of section 111 or section 1114 of Title 18, United States Code or under provisions of pertinent state law may be tried and sentenced as further provided under Federal or state law, as the case may be.

327.26 State and local laws.

- (a) Except as otherwise provided in this part or by Federal law or regulation, state and local laws and ordinances shall apply on project lands and waters. This includes, but is not limited to, state and local laws and ordinances governing:

- (1) Operation and use of motor vehicles, vessels, and aircraft;
- (2) Hunting, fishing and trapping;
- (3) Use or possession of firearms or other weapons;
- (4) Civil disobedience and criminal acts;
- (5) Littering, sanitation and pollution; and

APPENDIX G
GEORGIA STATE WATER QUALITY STANDARDS AND
303(D) LISTED WATERS

APPENDIX G

GEORGIA STATE WATER QUALITY STANDARDS AND 303(D) LISTED WATERS

**Table G-1
State Water Quality Standards for the Lake Lanier Watershed**

Parameter	Units	Georgia Water Quality Standard
Water temperature	°F	90°F
Dissolved oxygen	mg/L	Daily Average of 5 mg/L and no less than 4 mg/L at all times at 1 M depth
pH	SU	> 6 and <9.5
Total nitrogen	mg/L	Not to exceed 4.0 in photic zone
Fecal coliform bacteria	#/100 mL	See note 1 below
Chlorophyll <i>a</i>	mg/m ²	See note 2 below
Total arsenic	µg/L	150 (chronic)
Cadmium	µg/L	1.3 (chronic)
Dissolved Chromium III	µg/L	42 (chronic)
Dissolved copper ²	µg/L	5.0 (chronic)
Dissolved lead ²	µg/L	1.2 (chronic)
Dissolved zinc ²	µg/L	65(chronic)
Dissolved mercury	µg/L	0.012 (chronic)

²Calculated at a hardness of 50 mg/L (CaCO₃).

Notes:

1. The Georgia fecal coliform standard for noncoastal recreational waters is “Fecal coliform not to exceed a geometric mean of 200 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. Should water quality and sanitary studies show natural fecal coliform levels exceed 200/100 mL (geometric mean) occasionally in high quality recreational waters, then the allowable mean fecal coliform level shall not exceed 300 per 100 mL in lakes and reservoirs and 500 per 100 mL in free flowing fresh water streams.”

2. The Georgia chlorophyll *a* standard for Lake Lanier is “For the months of April through October, the average of the monthly mid-channel photic zone composite samples shall not exceed the chlorophyll *a* concentrations at the locations listed below:

Upstream from Buford Dam	5 ug/L
Upstream from Flowery Branch confluence	5 ug/L
At Brown’s Bridge (State Road 369)	5 ug/L
At Bolling Bridge (State Road 53) on Chestatee River	10 ug/L
At Lanier Bridge (State Road 53) on Chattahoochee River	10 ug/L”

Source: GA Chapter 391-3-6, Dec 2002

**Table G-2
Georgia 303(d) List**

State ID	Waterbody	Location	Water Use Class	Violation ¹	Evaluation	COUNTIES
Chattahoochee Headwaters						
R031300010303	Mossy Creek	Totherow Rd. near Clermont to Chattahoochee River	Fishing	FC	Not Supporting	White/Hall
R031300010202	Soquee River	Goshen Creek to SR 17, Clarkesville	Fishing	FC	Not Supporting	Habersham
R031300010305	South Fork Mud Creek	Cornelia	Fishing	Tox	Not Supporting	Habersham
R031300010105	Chattahoochee River	SR255 to Soquee River	Recreation	FC	Not Supporting	White/Habersham
R031300010307	Chattahoochee River	Soquee River to Lake Lanier	Recreation	FCG	Partially Supporting	Habersham/White
R031300010107	Chattahoochee River	Ga. Hwy. 17, Helen to SR255	Recreation	FC	Partially Supporting	White/Habersham
Chestatee River						
R031300010502	Tesnatee Creek	Cleveland	Fishing	FC	Partially Supporting	White
R031300010503	Tesnatee Creek	Town Creek to Chestatee River	Fishing	FC	Not Supporting	White/Lumpkin
R031300010702	Toto Creek	Dawson County	Fishing	FC	Partially Supporting	Dawson
Little River						
R031300010402	Tributary to West Fork Little River	Hall County	Fishing	FC	Partially Supporting	Hall
R031300010403	Wahoo Creek	SR 52 to Lake Lanier	Fishing	FC	Not Supporting	Lumpkin/Hall
R031300010404	West Fork Little River	Headwaters to above Lake Lanier	Fishing	FC	Not Supporting	White/Hall
R031300010405	East Fork Little River	Downstream Hwy 52 to Lake Lanier	Fishing	FC	Not Supporting	Hall

¹ FC – fecal coliform; Tox – toxics; FCG – fish consumption guidance

APPENDIX H
NPDES PERMITTED POINT SOURCES
AND MINES

APPENDIX H

NPDES PERMITTED POINT SOURCES AND MINES

The NPDES Permit Program

The National Pollutant Discharge Elimination System (NPDES) was created in 1972 by the Federal Water Pollution Control Act Amendments (the Clean Water Act). The NPDES program first focused on improving water quality by regulating point sources, specifically industrial process wastewater and municipal sewage discharges. Each facility discharging to U.S. waters is required to obtain a discharge permit with specific numerical limits on the discharge of certain pollutants.

The NPDES program is a federal program with the state of Georgia as the permitting authority for point source discharges into U.S. waters in Georgia. NPDES permits include specific numerical limits on pollutants in the effluent discharged into Lake Lanier. The intent of the numeric limits is to prevent the permitted effluent from violating the Georgia water quality standards.

A list of NPDES permitted point sources is provided in Table H-1.

Mines

The Clean Lakes Study reports that during the 19th and early 20th centuries gold was mined extensively in the Lake Lanier watershed, mainly in what is known as the Dahlonega Gold Belt and the Hall County Gold Belt. The mines—former, current, or future—all present some opportunity for storm water to contact mine tailings and spoil material that can then be washed into Lake Lanier.

Table H-2 lists former, current, and possible future mines.

**Table H-1
Point Source Discharge Locations**

Identification Number	Facility Name	City	County	Receiving Water	Major or Minor		Average Design Flow (million gallons/day)
					Major	Minor	
Lake Lanier							
GA0030261	Habersham On Lanier	Cumming	Forsyth	Lake Lanier			0.11
GA0031674	Lanier Beach South	Forsyth County	Forsyth	Lake Sidney Lanier			
GA0035971	Forsyth Consolidated Schools	Forsyth County	Forsyth	Settingdown Creek			0.038
GA0048712	Gwinnett Co Lanier Wp		Gwinnett				
GA0048721	Gwinnett Co Lanier Wp		Gwinnett				
GA0021229	Usa Coe Lk Lanier Mt View Rec	Gainesville	Hall				
GA0022080	Holiday On Lake Lanier-Buford	Buford	Hall	Lake Lanier			0.35
GA0049115	Lake Lanier Islands Wpcp	Buford	Hall	Lake Lanier			0.004
GA0024198	Chattahoochee Bay	Flowers Branch	Hall	Lake Lanier			
GA0033006	University Yacht Club	Flowers Branch	Hall	Lake Lanier			
GA0049051	Cinnamon Cove Condominiums	Flowers Branch	Hall	Lake Lanier			
GA0022471	Chattahoochee Country Club	Gainesville	Hall	Lake Lanier			0.01
GA0030716	Gainesville White Sulphur Wpcp	Atlanta	Hall	Lake Lanier in Chattahoochee River			0.1
GA0034991	Clark's Cover Marina-Oakwood	Oakwood	Hall	Lake Lanier Tributary			
GA0020168	Gainesville (Linwood Drive)	Gainesville	Hall	Lake Sidney Lanier			3.1
GA0034843	Lanier Elem School	Gainesville	Hall	Unnamed Tributary to Lake Lanier			0.006
GA0034860	Sardis Elem School	Gainesville	Hall	Unnamed Tributary to Lake Lanier			0.0092
GA0034916	Gainesville Chatt. Golf Club	Gainesville	Hall	Unnamed Tributary to Lake Sidney			0.004
Chattahoochee River							
GA0046086	Davidson Mineral Properties	Demorest	Habersham	Hazel Creek			
GA0032506	Demorest Wpcp	Demorest	Habersham	Hazel Creek Tributary to Soquee River			0.4
GA0022209	Lee Arrendale Correct Institute	Habersham County	Habersham	Hudson River Tributary to Broad River			0.25
GA0038245	Lee Arrendale State Prison	Alto	Habersham	Las			
GA0033952	Habersham Central Hi School	Mount Airy	Habersham	Lick Log Creek			
GA0029742	Milam Concrete Co	Cornelia	Habersham	Little Mud Creek			
GA0001783	Ethicon, Inc	Habersham County	Habersham	Mud Creek			
GA0027570	Usda Fs-Lake Russell Rec Area	Cornelia	Habersham	Nancy Town Creek			
GA0003221	Texaco Augusta	Demorest	Habersham	Savannah River			3
GA0021504	Cornelia Wpcp	Cornelia	Habersham	South Fork-Little Mud Creek			
GA0001694	Habersham Mills, Inc	Habersham	Habersham	Soque Rv			
GA0001112	Scovill Fasteners, Inc	Clarksville	Habersham	Soquee River			
GA0032514	Clarksville Wpcp	Clarksville	Habersham	Soquee River in Chattahoochee River			0.75

**Table H-1
Point Source Discharge Locations**

Identification Number	Facility Name	City	County	Receiving Water	Major or Minor		Average Design Flow (million gallons/day)
					Major	Minor	
GA0049026	Gainesville Jr College	Gainesville	Hall	Balus Creek			
GA0037044	Dutch Quality House	Gainesville	Hall	Balus Creek			
GA0034924	So Hall Industrial Park	Oakwood	Hall	Balus Creek			0.01
GA0026301	Baker's Mhp-Bells Mill Creek	Gainesville	Hall	Bells Mill Creek			
GA0034894	South Hall Junior High School	Gainesville	Hall	Caney Creek			0.01
GA0022772	Texaco Gainesville	Gainesville	Hall	Chattahoochee River			
GA0027103	Hall Co-Tadmore Elem School	Gainesville	Hall	East Fork Creek			
GA0032697	Wauka Mtn Elem School	Hall County	Hall	East Fork Little River			0.0136
GA0024589	Milliken-Gainesville	Gainesville	Hall	Flat Creek			
GA0001937	So Moulding & Howe Gainesville	Hall County	Hall	Flat Creek			
GA0035505	Georgianna Motel & Restaurant	Gainesville	Hall	Flat Cr Tributary			
GA0034851	Mcever Elem School	Gainesville	Hall	Flat Cr-Chattahoochee River			
GA0023043	Dixie Mobile Home Park	Gainesville	Hall	Flat Creek			0.0053
GA0024384	Wayne Poultry Co-Gainesville	Gainesville	Hall	Flat Creek			
GA0047724	Queen City Foods, Inc	Gainesville	Hall	Flat Creek			
GA0046647	Hydro Conduit Corp.	Gainesville	Hall	Flat Creek			
GA0047538	Williams Brothers Concrete Co	Gainesville	Hall	Flat Creek			
GA0021156	Gainesville Flat Cr Wpcp	Gainesville	Hall	Flat Creek/Lake Lanier			7.2
GA0002593	Swift Dairy & Poultry Gains	Gainesville	Hall	Gainesville MI Branch			
GA0047490	Greenway Mhp		Hall	Hawkins Branch			
	Lakeside Mobile Home						
GA0049891	Community	Gainesville	Hall	Indian Springs Branch			0.003
GA0049026	Gainesville Jr College	Gainesville	Hall	Balus Creek			
GA0031933	Flowery Branch Wpcp	Flowery Branch	Hall	Lake Sidney Lanier in Chattahoochee			0.4
GA0024635	Milliken-New Holland	New Holland	Hall	Limestone Creek			
GA0047716	Guilford Mills, Inc		Hall	Limestone Creek			
GA0022136	Lula Elem Sch	Lula	Hall	Lula Branch			0
GA0024767	Lula Wpcp	Lula	Hall	Lula Branch Tributary to Hagen Creek			
GA0049387	Blue Circle Aggregates, Inc	Hall County	Hall	Mitchell Creek			0.012
GA0027090	Flowery Branch Elem School	Flowery Branch	Hall	Mud Creek			
GA0001368	W M Wrigley Co Gainesville	Hall County	Hall	Mud Creek			
GA0035751	Schubert Corp-Flowery Branch	Hall County	Hall	Mud Creek			
GA0037265	Skf Bearing Industries Co	Flowery Branch	Hall	Mud Creek			
GA0027111	Johnson High School	Gainesville	Hall	Redwine Creek			0.04
GA0001791	Johnson & Johnson Advanced Mtl	Hall County	Hall	Redwine Creek / Balus Creek			

**Table H-1
Point Source Discharge Locations**

Identification Number	Facility Name	City	County	Receiving Water	Major or Minor		Average Design Flow (million gallons/day)
					Major	Minor	
GA0001350	Marell Poultry Murrayville	Hall County	Hall	Squirrel Creek			
GA0026999	Harrison Oil Co	Gainesville	Hall	Unknown			
GA0033171	Jerry C Carter Oil - Gainesville	Gainesville	Hall	Unknown			
GA0023469	Shadygrove Mhp-Flowery Branch	Flowery Branch	Hall	Unnamed Tributary to Balus Creek			0.02
GA0048089	Oakwood Elem School	Oakwood	Hall	Unnamed Tributary to Balus Creek			0.012
GA0032590	Helen Wpcp	Helen	White	Chattahoochee River			0.5
GA0034983	Camp Barney Medintz-Cleveland	White County	White	Jenny Creek-Twon Creek-Mossy Creek			
Chestatee River							
GA0034886	North Hall High School	Gainesville	Hall	Unnamed Tributary to Wahoo Creek			0.03
GA0036234	Dahlonega Wtp	Dahlonega	Lumpkin				
GA0037958	Vulcan Materials Co	Dahlonega	Lumpkin	Chestatee River			
GA0022977	Am Telephone & Telegraph Co	Dahlonega	Lumpkin	Pecks Mill Creek			
GA0034207	Oak Grove Mhp-Dahlonega	Dahlonega	Lumpkin	Unnamed Tributary to Cane Creek			0.005
GA0037281	High Point Minerals, Inc.	Buford	Lumpkin	Unnamed Tributary to Cavenders Creek			
GA0037508	Long Branch Quarry	Lumpkin County	Lumpkin	Unnamed Tributary Long Branch Creek			
GA0033979	Camp Glisson (No Ga Umc)	Dahlonega	Lumpkin	Unnamed Trib\Cane Creek\Lake Lanier			0.005
GA0026077	Dahlonega Wpcp	Dahlonega	Lumpkin	Yahoola Creek Tributary			1.44
GA0046400	Mountain Lakes Resort, Inc	Helen	White	Lake Qualatchee To Cathy Creek			0.009
GA0023345	Cleveland (Wpcp)	Cleveland	White	Little Niagara Creek Tributary			0.35
GA0000540	Ames Textile Corp Cleveland	Cleveland	White	Little Tesna Creek			
GA0023990	Unicol Outdoor Rec Exp Station	Helen	White	Smith Creek			
GA0026379	Friendship Health Care Center	Cleveland	White	Stephens Branch			0.02
GA0036820	Cleveland Wpcp	Cleveland	White	Tesnatee Crk Tributary to Chestatee Tr			0.75
GA0046311	J.A. Hudson Construction Co	Cleveland	White	Unnamed Trib to Gold Branch-Jenny C			
GA0035467	Camp Coleman-Cleveland	Cleveland	White	Unnamed Trib to Town Creek Tributary			0.01
GA0046302	Long Mountain Quarry	Cleveland	White	Unnamed Tributary to Shoal Creek			
West Fork Little River							
GA0034568	Wauka Mountain Nursing Home	Gainesville	Hall	Little River			0.01
GA0024376	Wayne Poultry Clermont	Clermont	Hall	Little River			
GA0027049	Glover & Baker Mhp	Gainesville	Hall	Little River			0.0076
GA0027057	Baker's Mhp #2	Gainesville	Hall	Little River			
GA0047929	Brookton Catfish School Restr	Gainesville	Hall	Unnamed Tributary to Little River			0.034

* NA -Inactive facilities, Data not available

Source: USEPA, 2001b.

**Table H-2
Mine Locations**

Identification Number	Facility Name	Latitude	Longitude	County	Type	Status	Compound Mined
Chattahoochee River							
0131370002	Habersham Quarry	34.553056	-83.557778	Habersham	Surface	Producer	Stone granite Cb
0131370003	Habersham Quarry	34.584167	-83.543333	Habersham	Surface	Past Producer	Stone granite Cb
0131370004	Stamborough Quarry	34.575833	-83.548889	Habersham	Surface	Producer	Stone granite Cb
0131390006	Armour Prospect	34.491389	-83.729444	Hall	Unknown	Exp Prospect	Manganese
0133110001	Deans Vein	34.697222	-83.738056	White	Unknown	Exp Prospect	Gold
0133110002	Yonah Vein Lot 92	34.675000	-83.748611	White	Unknown	Exp Prospect	Gold
0133110003	Childs Mine	34.703889	-83.688056	White	Surface	Past Producer	Gold
0133110004	Ashbury Property	34.700556	-83.773889	White	Underground	Past Producer	Gold
0133110005	Reaves Property	34.697222	-83.738056	White	Surface	Past Producer	Gold
0133110006	Lot 10 Gold Mine	34.703333	-83.670000	White	Surface	Past Producer	Gold
0133110007	Conley Vein	34.704722	-83.733333	White	Unknown	Past Producer	Gold
0133110008	Henderson Property	34.700000	-83.768611	White	Unknown	Exp Prospect	Gold
0133110009	Reynolds Vein	34.680833	-83.738056	White	Unknown	Raw Prospect	Gold
0133110010	Thompson Vein	34.663333	-83.736111	White	Unknown	Exp Prospect	Gold
0133110011	White Co Mine	34.664167	-83.724167	White	Surf-Underg	Exp Prospect	Gold
0133110012	Glen Comyn Gold Mine	34.746389	-83.688056	White	Placer	Past Producer	Gold
0133110013	Lymdsen Property	34.498611	-83.681111	White	Placer	Past Producer	Gold
0133110014	Mcneer Placers	34.677222	-83.699167	White	Placer	Past Producer	Gold
Chestatee River							
0131870001	Crisson Mine	34.557222	-83.966944	Lumpkin	Surf-Underg	Past Producer	Gold
0131870002	Calhoun Mine	34.491944	-83.982222	Lumpkin	Surface	Temp Shutdown	Gold
0131870003	Colwell Quarry	34.539167	-83.936389	Lumpkin	Surface	Producer	Stone granite Cb Sulfur pyrite copper sulfide zinc sulfide
0131870004	Chestatee Mine	34.546111	-83.883611	Lumpkin	Underground	Past Producer	Gold silver
0131870005	Crown Mountain Mine	34.522778	-83.985000	Lumpkin	Surf-Underg	Past Producer	Gold
0131870006	Bowen Lot	34.524722	-83.988889	Lumpkin	Surf-Underg	Devel Deposit	Gold
0131870007	Capps Mine	34.526389	-83.993056	Lumpkin	Surface	Past Producer	Gold
0131870008	Columbia Mine	34.522778	-83.979722	Lumpkin	Surface	Past Producer	Gold silver
0131870009	Preacher Mine	34.522778	-83.976111	Lumpkin	Surf-Underg	Past Producer	Gold
0131870010	Griscom Mine	34.524167	-83.971944	Lumpkin	Surf-Underg	Past Producer	Gold
0131870011	Bast Mine	34.524167	-83.968889	Lumpkin	Surface	Past Producer	Gold
0131870013	Lockhart Mine	34.528611	-83.962222	Lumpkin	Surf-Underg	Past Producer	Gold
0131870014	Singleton Mine	34.535833	-83.967500	Lumpkin	Surf-Underg	Past Producer	Gold
0131870015	Tahlonka Mine	34.538333	-83.965000	Lumpkin	Surf-Underg	Past Producer	Gold
0131870016	Hand Mine	34.536389	-83.969444	Lumpkin	Surface	Past Producer	Gold

**Table H-2
Mine Locations**

Identification Number	Facility Name	Latitude	Longitude	County	Type	Status	Compound Mined
0131870017	Yahoola Mine	34.541667	-83.970556	Lumpkin	Surface	Past Producer	Gold
0131870018	Mary Henry Mine	34.545278	-83.972778	Lumpkin	Underground	Past Producer	Gold
0131870019	Free Jim Mine	34.534722	-83.972500	Lumpkin	Surf-Underg	Past Producer	Gold
0131870020	Lawrence Mine	34.540556	-83.981111	Lumpkin	Underground	Past Producer	Gold
0131870021	Rider Mine	34.542222	-83.998056	Lumpkin	Underground	Past Producer	Gold
0131870022	Fish Trap Mine	34.523611	-83.987500	Lumpkin	Surf-Underg	Past Producer	Gold
0131870023	Ivey Mine	34.529722	-83.998889	Lumpkin	Surface	Past Producer	Gold
0131870024	Gordon Mine	34.526389	-84.012778	Lumpkin	Surf-Underg	Past Producer	Gold
0131870026	Ralston Mine	34.569444	-84.021111	Lumpkin	Surface	Past Producer	Gold
0131870031	Norrell Mine	34.463333	-84.011667	Lumpkin	Surf-Underg	Past Producer	Gold
0131870032	Turkey Hill Mine	34.485278	-83.991111	Lumpkin	Surf-Underg	Past Producer	Gold
0131870033	Chestatee Mine	34.502222	-83.959444	Lumpkin	Surf-Underg	Past Producer	Gold
0131870034	Cavender Creek Prospect	34.570556	-83.912222	Lumpkin	Unknown	Exp Prospect	Gold
0131870035	Jumbo Mine	34.575833	-83.910278	Lumpkin	Surf-Underg	Past Producer	Gold
0131870036	Cora Lee Prospect	34.565556	-83.913889	Lumpkin	Unknown	Exp Prospect	Gold
0131870037	Garnet Mine	34.584167	-83.895556	Lumpkin	Surface	Past Producer	Gold
0131870038	Boly Field Mine	34.521944	-83.942778	Lumpkin	Surf-Underg	Past Producer	Gold
0131870039	Dry Hollow Mine	34.509167	-83.948611	Lumpkin	Surf-Underg	Past Producer	Gold
0131870040	Old Columbia Mine	34.514167	-83.966111	Lumpkin	Surface	Past Producer	Gold
0131870041	Belle Mine	34.456111	-84.007222	Lumpkin	Surface	Past Producer	Gold
0131870046	Briar Patch Mine	34.489722	-83.995278	Lumpkin	Surface	Past Producer	Gold
0131870047	Mcafee-Lynn Mine	34.491389	-83.999722	Lumpkin	Surface	Past Producer	Gold
0131870048	Beers Mine	34.520556	-83.940278	Lumpkin	Surf-Underg	Past Producer	Gold
0131870049	C M Moore Estate Prospect	34.580278	-84.014167	Lumpkin	Unknown	Exp Prospect	Iron
0131870050	Fields Quarry	34.537222	-83.940556	Lumpkin	Surface	Producer	Stone limestone Cb
0131870051	Chestatee Pyrite Mine	34.598889	-83.881667	Lumpkin	Unknown	Exp Prospect	Sulfur pyrite iron
	Arnold Consolidated Gold Mines						
0131870054	Mines	34.537222	-83.968333	Lumpkin	Surf-Underg	Past Producer	Gold
0131870057	Boyds Mine	34.554722	-83.953889	Lumpkin	Surf-Underg	Past Producer	Gold
0131870058	Consolidated Mine	34.538056	-83.970556	Lumpkin	Surf-Underg	Past Producer	Gold
0131870062	Findley Mine	34.525278	-83.966944	Lumpkin	Surf-Underg	Past Producer	Gold
0131870063	Barlow Mine	34.509444	-84.009444	Lumpkin	Surf-Underg	Past Producer	Gold
0131870064	Crown Mountain	34.509722	-83.980278	Lumpkin	Placer	Past Producer	Gold
0450730012	Unnamed Mica Prospect	34.604167	-83.981389	Oconee	Unknown	Exp Prospect	Mica
	West Fork Little River						
0131390004	Merck Mine	34.371111	-83.871667	Hall	Surf-Underg	Past Producer	Mica

APPENDIX I
MODELING METHODOLOGIES
AND ASSUMPTIONS

APPENDIX I

MODELING METHODOLOGIES AND ASSUMPTIONS

Methodology For Determining Watershed Loading

To quantify the effects of additional loads on the water quality conditions in Lake Lanier, an existing CEQUAL-W2 Lake Lanier model developed by Limno-Tech, Inc.(LTI) for the Upper Chattahoochee Basin Group was used.

The existing model consists of two coupled models, a watershed model and a water quality model. The water quality model is a CEQUAL-W2 model, which is a two dimensional, laterally averaged model. This water quality model uses the watershed inputs simulated from the watershed model. The model predicts the daily lake concentration of Total Nitrogen (TN) and Total Phosphorus (TN) at specified depths. An annual average in-lake concentration of the constituents of concern was calculated for each of the three lake levels—high, medium, and low—for the surface and bottom layers of the lake. Additional details of the assumptions and application of the lake model can be found in the model report prepared for the Upper Chattahoochee Basin Group (LTI, 1998).

Generalized Watershed Loading Function model (GWLF) is the watershed model used. Input necessary for calculating the loads from the watershed required identification of land use alterations, which were used in calculating the difference in loadings from baseline (year 1997) conditions, and from the no action alternative or from the proposed alternative. The land use alterations were distributed proportionally among the numerous direct drainage areas draining into the lake. Loads were calculated for sediment, total phosphorus (TP) and total nitrogen (TN) for each section of the lake and the upper watersheds. These parameters are primarily affected by altered land use conditions. Using the year 1997 as the baseline or reference year, the percent increase in loads was calculated for each constituent of concern (sediment, TP and TN) for both the no action alternative and the preferred alternative. These loads were quantified as an annual average loading condition and represent the long-term effects. More detailed information on the original GWLF model may be found in *Development of Linked Watershed and Water Quality Models for Lake Lanier* (LTI, 1998).

Land use categories were derived from February 1997 satellite imagery (LTI, 1998). Various land use classes were combined for modeling purposes and are presented in Table I-1. Table I-2 presents the 1996–1997 land use distribution in the Lake Lanier watershed broken down by land use and aerial distribution for the three discrete zones of influence that drain to the lake.

**Table I-1
Land Cover Classification for Each Land Cover
in the Lake Lanier Watershed**

Observed Land Use	Grouped Land Use
Open Water	Open Water
Clearcut/Young Pine/Timber Harvest	Construction
Pasture	Pasture
Cultivated/Exposed Earth	Cropland
Low-Density Urban	Low-Density Urban
High-Density Urban	High-Density Urban
Emergent Wetland	Wetland
Scrub/Shrub Wetland	Wetland
Forested Wetland	Wetland
Coniferous Forest	Forest
Mixed Forest	Forest
Hardwood Forest	Forest

Source: LTI, 1998.

**Table I-2
Lake Lanier Watershed Land Use Distribution by Zone**

Land Use	Zone 1 Government Areas (mi²)¹	Zone 2 Non-Government Areas (mi²)	Zone 3 Regional Areas upstream (mi²)	Total Land Use Area (mi²)	Percent of Total
Open Water	60.76	0.00	0.00	60.76	5.90
Low-Density Urban	1.35	17.66	27.74	46.74	4.54
High-Density Urban	0.39	30.74	34.17	65.30	6.34
Forest	23.29	210.22	568.37	801.87	77.86
Pasture	0.39	19.22	27.26	46.87	4.55
Construction	0.00	2.64	3.26	5.90	0.57
Cropland	0.16	0.97	1.34	2.47	0.24
Wetlands	0.00	0.00	0.00	0.00	0.00
Totals	86.35	281.45	662.13	1029.92	100.00

¹ mi² = square miles.

For EIS modeling purposes, the areas classified as high-density were assumed to have the characteristics of commercial land with an associated imperviousness of 85 percent, and the areas classified as low-density urban lands were assumed to be residential in nature and were assigned an imperviousness of 12 percent (1 to 2 houses per acre) based on commonly used modeling standards.

To determine annual average loadings to Lake Lanier, the watershed was broken down into three discrete zones of influence surrounding the project: Zone 1, the principal study area, which includes all government-owned lands and waters constituting the Lake Lanier Project (direct influence); Zone 2, the

nongovernmental lands bordering government lands surrounding the lake (direct influence); and Zone 3, the watershed upstream of Lake Lanier (to address indirect regional issues influencing the lake).

A quantitative determination of the relative impact of various shoreline management actions on water quality in Lake Lanier required developing an existing or baseline loading condition for the lake that can be evaluated relative to various development options. To develop this baseline loading condition, the three zones described above that provide loadings to the lake above the dam were input into the Generalized Watershed Loading Function (GWLF) model (Haith, 1996). The GWLF model was developed for the Upper Chattahoochee Basin Group, which is part of the linked watershed and water quality model for Lake Lanier (LTI, 1998).

For EIS modeling purposes, the GWLF model was updated to include land use distributions from Table I-2 and was executed to determine the average annual loadings for each of the three discrete zones of influence around Lake Lanier.

To quantify the potential water quality impacts, the analysis included the following general assumptions:

- All the new docks are single, one-owner docks and are associated with the addition of one new home each in the immediate watershed.
- Under present zoning conditions at Lake Lanier, lot sizes are a mix of 0.5 to 1 acre; therefore, to come up with a representative acreage, the density of the existing docks within the LDA was used to extrapolate the amount of land use change. A value of 0.72 acre for each dock was used for land use area determinations.
- All the homes are assumed to be within the immediate vicinity of the lake, behind the LDA, and total lot area is assumed to replace an equivalent amount of forested area based on the existing computed density of homes area per dock.
- The increase in land development in the upper watersheds predicted by LTI for tempered land development in their 1998 modeling effort was repeated in this EIS.
- 10% of the residential land that is being converted from forest or agriculture is represented as disturbed.
- The water quality model utilizes actual stream flow and lake levels. Because of the data needs of the model, the three lake levels for the study were chosen from the 5-year critical design period selected

for prior modeling applications (LTI, 1998). This subset of years, from the entire period of record of the water surface elevations dated from 1956 to 2002, contains dry, wet, and medium years

- A septic system failure rate of 15 percent is applied. Repeating the assumption applied by LTI in 1998.
- Flow from the various waste water treatment plants discharging to Lake Lanier was increased as projected in the Clean Lakes study.
- Level of treatment for the treatment plants remained unchanged except for Gwinnett County which is to double their level of treatment.

The assumptions made in determining all potential land use alterations are highly conservative. First, a significant portion of the development might occur independent of whether a dock is installed. Therefore, assuming that a permit for a boat dock will induce the construction of a house not otherwise being built if the permit was denied would significantly overstate the impact of the Corps's permitting action.

Furthermore, some of the additional docks would not result in direct development. It is expected that people commuting from surrounding areas would use some of the new docks, and some might be used by existing houses on the lake. In addition, not all community docks would be built out to their full capacity because of design and space restrictions. Finally, some development associated with additional boat slips will occur outside the immediate watershed area of Lake Lanier.

Six locations, Middle Lake, Lower Lake, Buford Dam, Chattahoochee Upper Arm, Chestatee, and Little River, were selected for analysis of the Lake to analyze the spatial and temporal variability of the constituents. These locations corresponded to the existing water quality sampling locations in the lake. The constituents identified for analysis were algae, dissolved oxygen, total nitrogen and phosphorus. Daily concentrations of each constituent were modeled along the lake and at specified depths for the critical period 1984 to 1988.

The years 1984 to 1988 contain dry, wet, and medium years with a wide range of lake levels. Different lake levels were analyzed to address the effects of the proposed action as well as cumulative effects of other management programs. A water surface elevation graph is provided with statistics (percentile) to illustrate the rationale behind selecting the low-, medium-, and high-flow periods (Figure I-1). As shown in the graph the 5-year period from 1984 to 1988 covers the range of water surface levels that would be expected to occur in the lake. For the analysis the lake was divided into a surface layer and a bottom layer.

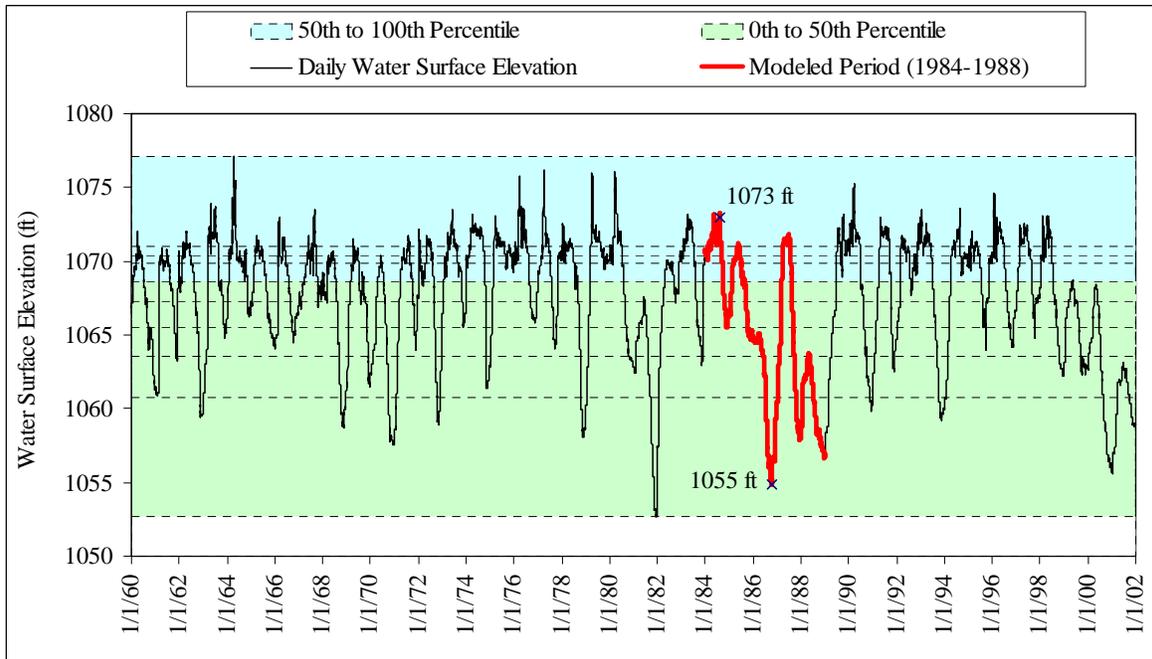


Figure I-1: Flow periods utilized for analysis purposes

Model Results Under The No Action Alternative

The mean annual concentrations and ranges for the low-, medium-, and high-lake level years at the surface and bottom for each of the selected locations, for the baseline and the No Action Alternative condition is shown in Table I-3 and Figure I-2. The average DO in the surface layer is around 6 mg/L and around 4 mg/L in the bottom layer; the concentrations drop as low as 3 mg/L in the surface layer and zero mg/L in the bottom layer for the No Action Alternative. Average phosphorus concentrations in the lake range from approximately 0.01 mg/L in the surface layer to 0.015 mg/L in the bottom layer, with the highest concentrations coming from the headwater of the Chattahoochee, Chestatee, and Little River. Nutrient fluxes from the sediment layer to the water column can be seen at all locations in the lake. The Little River region has the highest nutrient releases and wide fluctuations in the maximum and minimum values. Additional loadings for total phosphorus, total nitrogen, and sediment are broken down by land use in Table I-4.

Table I-3: Mean Annual Concentrations

NO ACTION ALTERNATIVE**Surface (above 14 m)***Low Lake Level*

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	9.00%	13.97%	9.95%	8.89%	8.20%	6.59%
Dissolved Oxygen	-3.09%	-5.07%	-4.12%	-4.09%	-3.18%	-3.44%
Nitrogen	40.02%	25.65%	45.92%	37.42%	39.88%	40.32%
Phosphorous	34.36%	61.54%	45.63%	29.62%	33.97%	33.52%

Medium Lake Level

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	6.51%	14.54%	10.77%	13.25%	5.10%	3.81%
Dissolved Oxygen	-1.89%	-3.00%	-3.26%	-3.26%	-2.16%	-2.46%
Nitrogen	42.62%	15.13%	43.79%	29.23%	41.35%	40.85%
Phosphorous	15.85%	37.45%	24.67%	8.95%	17.40%	19.24%

High Lake Level

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	8.37%	9.07%	11.39%	11.00%	7.84%	6.85%
Dissolved Oxygen	-2.13%	-2.42%	-3.36%	-3.39%	-2.37%	-2.81%
Nitrogen	18.28%	10.40%	21.46%	15.49%	18.15%	18.45%
Phosphorous	11.23%	32.49%	20.47%	10.82%	13.22%	15.90%

Bottom (below 14 m)*Low Lake Level*

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	-3.08%	0.00%	-4.83%	-1.73%	-3.78%	-5.65%
Dissolved Oxygen	-4.06%	0.00%	-3.12%	-2.93%	-3.99%	-3.69%
Nitrogen	37.07%	0.00%	36.06%	29.98%	37.42%	35.90%
Phosphorous	20.20%	0.00%	21.02%	11.78%	21.57%	23.14%

Medium Lake Level

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	0.49%	0.00%	4.76%	4.95%	-0.83%	-2.83%
Dissolved Oxygen	-4.41%	0.00%	-3.57%	-3.99%	-4.49%	-4.50%
Nitrogen	40.30%	0.00%	37.38%	27.90%	39.94%	37.00%
Phosphorous	10.74%	0.00%	9.89%	4.74%	11.79%	11.38%

High Lake Level

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	4.81%	0.00%	9.60%	9.64%	4.66%	4.36%
Dissolved Oxygen	-3.22%	0.00%	-3.66%	-4.03%	-3.13%	-3.29%
Nitrogen	15.01%	0.00%	18.41%	14.90%	15.07%	14.96%
Phosphorous	4.47%	0.00%	9.09%	4.22%	5.15%	5.54%

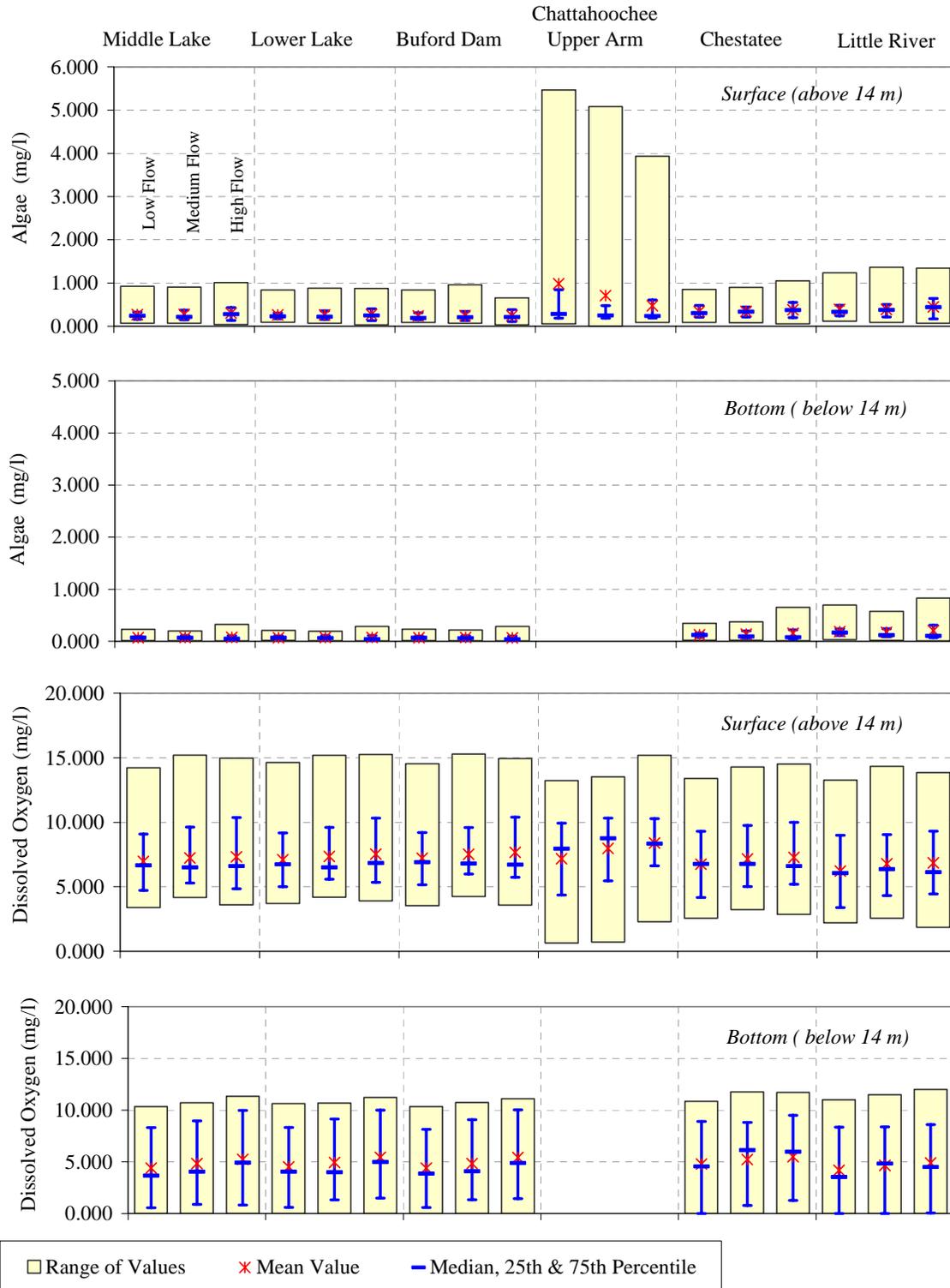


Figure I-2: No Action Alternative

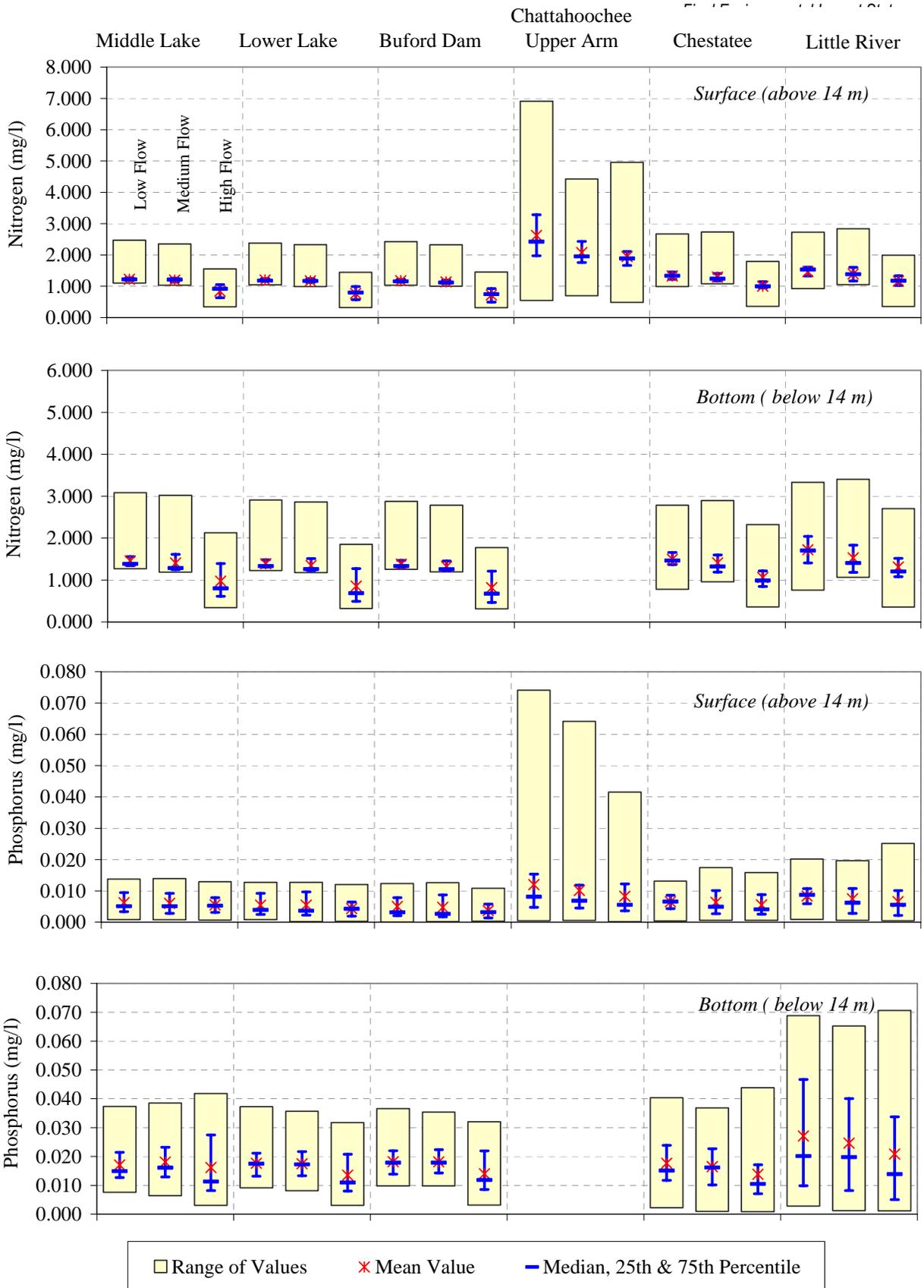


Figure I-2: No Action Alternative (continued)

Table I-4: Additional Loadings by Land Use

Additional Loadings for TP, TN and Sediment Under the No Action Alternative and Preferred Alternative													
Zone 1	LANDUSE	TP (tons/yr)				TN (tons/yr)				Sediment (tons/yr)			
		1997	No Action	% change	Preferred Alt.	1997	No Action	% change	Preferred Alt.	1997	No Action	% change	Preferred Alt.
	Urban (Low)	106.83	108.33	1.45	107.16	0.30	960.98	973.84	1.34	963.63	0.28	0.00	0.00
	Urban (High)	200.68	200.68	0.00	200.68	0.00	1,801.21	1,801.21	0.00	1,801.21	0.00	0.00	0.00
	Forest	358.33	353.98	-1.22	357.86	-0.14	2,712.89	2,703.24	-0.36	2,711.81	-0.04	1,612.70	1,753.28
	Pasture	274.06	274.06	0.00	274.06	0.00	808.03	808.03	0.00	808.03	0.00	11.19	0.00
	Construction	129.4	132.72	2.55	129.94	0.41	320.82	329.02	2.55	322.12	0.41	92.61	67.33
	Crops	375.02	375.02	0.00	375.02	0.00	745.03	745.03	0.00	745.03	0.00	669.14	0.00
	Wetlands	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Septic System	341.10	647.93	89.95	378.18	10.87	11,103.59	21,091.42	89.95	12,310.23	10.87	0.00	0.00
	Groundwater	531.99	524.07	-1.45	531.03	-0.18	53,198.60	52,407.48	-1.49	53,103.45	-0.18	0.00	0.00
	Watershed	2,317.44	2,616.84	12.92	2,353.93	1.57	71,651.14	80,859.25	12.83	72,765.55	1.56	2,385.65	2,500.94

Additional Loadings for TP, TN and Sediment Under the No Action Alternative and Preferred Alternative													
Zone 2	LANDUSE	TP (tons/yr)				TN (tons/yr)				Sediment (tons/yr)			
		1997	No Action	% change	Preferred Alt.	1997	No Action	% change	Preferred Alt.	1997	No Action	% change	Preferred Alt.
	Urban (Low)	1,397.69	2,845.54	103.59	1,572.59	12.51	12,572.60	25,569.24	103.37	14,142.68	12.49	0.00	0.00
	Urban (High)	15,634.43	15,634.43	0.00	15,634.43	0.00	140,325.22	140,325.22	0.00	140,325.22	0.00	0.00	0.00
	Forest	3,234.41	2,910.41	-10.02	3,195.22	-1.21	24,486.21	22,226.02	-9.23	24,213.02	-1.12	131,380.86	118,523.70
	Pasture	13,884.08	13,884.08	0.00	13,884.08	0.00	40,934.69	40,934.69	0.00	40,934.69	0.00	28,152.82	28,152.82
	Construction	9,664.76	13,472.67	39.40	10,125.35	4.77	23,959.35	33,399.31	39.40	25,101.17	4.77	516,544.22	693,808.28
	Crops	2,279.29	2,279.29	0.00	2,279.29	0.00	4,528.18	4,528.18	0.00	4,528.18	0.00	24,718.25	24,718.25
	Wetlands	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Point sources	3,400.00	9,950.00	192.65	9,950.00	192.65	1,543.00	19,896.00	1,189.44	19,869.00	1,187.69	0.00	0.00
	Septic System	3,505.32	6,658.28	89.95	3,886.33	10.87	11,410.69	21,673.12	89.95	12,650.77	10.87	0.00	0.00
	Groundwater	5,466.94	5,385.49	-1.49	5,457.16	-0.18	54,693.78	53,848.52	-1.49	54,571.60	-0.18	0.00	0.00
	Watershed	58,466.92	73,020.18	24.89	65,984.45	12.86	909,148.71	1,042,166.30	14.63	941,335.72	3.54	700,796.14	865,203.05

Table I-4 (continued): Additional Loadings by Land Use

Zone 3 LANDUSE	Additional Loadings for TP, TN and Sediment Under the No Action Alternative and Preferred Alternative															
	TP (tons/yr)					TN (tons/yr)					Sediment (tons/yr)					
	1997	No Action	Preferred Alt.	% change	1997	No Action	Preferred Alt.	% change	1997	No Action	Preferred Alt.	% change	1997	No Action	Preferred Alt.	% change
Urban (Low)	2,486.47	8,834.66	8,834.66	255.31	22,003.62	78,156.48	78,156.48	255.20	22,003.62	78,156.48	78,156.48	255.20	0.00	0.00	0.00	0.00
Urban (High)	17,784.15	24,431.67	24,431.67	37.38	159,416.88	219,005.07	219,005.07	37.38	159,416.88	219,005.07	219,005.07	37.38	0.00	0.00	0.00	0.00
Forest	5,577.30	4,864.75	4,864.75	-12.78	85,165.14	73,179.69	73,179.69	-14.07	85,165.14	73,179.69	73,179.69	-14.07	24,078.80	21,286.03	21,286.03	-11.60
Pasture	28,085.02	22,246.40	22,246.40	-20.79	84,368.65	66,709.94	66,709.94	-20.93	84,368.65	66,709.94	66,709.94	-20.93	2,138.08	1,687.00	1,687.00	-21.10
Construction	4,428.76	11,609.32	11,609.32	162.13	10,979.07	28,779.98	28,779.98	162.13	10,979.07	28,779.98	28,779.98	162.13	35,151.31	91,610.42	91,610.42	160.62
Crops	3,688.49	2,694.03	2,694.03	-26.96	7,190.25	5,250.11	5,250.11	-26.98	7,190.25	5,250.11	5,250.11	-26.98	3,393.21	2,478.36	2,478.36	-26.96
Wetlands	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Point sources	5,157.00	10,680.00	10,680.00	107.10	103,434.00	128,194.00	128,194.00	23.94	103,434.00	128,194.00	128,194.00	23.94	0.00	0.00	0.00	0.00
Septic System	5,730.72	20,418.50	20,418.50	256.30	186,540.55	664,635.10	664,635.10	256.30	186,540.55	664,635.10	664,635.10	256.30	0.00	0.00	0.00	0.00
Groundwater	9,555.44	9,074.12	9,074.12	-5.02	955,344.20	907,412.20	907,412.20	-5.02	955,344.20	907,412.20	907,412.20	-5.02	0.00	0.00	0.00	0.00
Watershed	82,491.36	114,853.45	114,853.45	39.23	1,614,442.36	2,171,322.56	2,171,322.56	34.49	1,614,442.36	2,171,322.56	2,171,322.56	34.49	64,761.39	117,061.81	117,061.81	80.76

TOTAL LOADS LANDUSE	Additional Loadings for TP, TN and Sediment Under the No Action Alternative and Preferred Alternative															
	TP (tons/yr)					TN (tons/yr)					Sediment (tons/yr)					
	1997	No Action	Preferred Alt.	% change	1997	No Action	Preferred Alt.	% change	1997	No Action	Preferred Alt.	% change	1997	No Action	Preferred Alt.	% change
Urban (Low)	3,990.98	11,788.57	10,514.40	163.45	35,537.20	104,699.55	93,262.84	162.44	35,537.20	104,699.55	93,262.84	162.44	0.00	0.00	0.00	0.00
Urban (High)	33,619.26	40,266.78	40,266.78	19.77	301,543.30	361,131.49	361,131.49	19.76	301,543.30	361,131.49	361,131.49	19.76	0.00	0.00	0.00	0.00
Forest	9,170.06	8,129.14	8,417.83	-8.20	112,364.24	98,108.95	100,104.52	-10.91	112,364.24	98,108.95	100,104.52	-10.91	157,072.35	141,563.01	141,563.01	-9.87
Pasture	42,243.17	36,404.54	36,404.54	-13.82	126,111.36	108,452.65	108,452.65	-14.00	126,111.36	108,452.65	108,452.65	-14.00	30,302.08	29,851.01	29,851.01	-1.49
Construction	14,222.93	25,214.71	21,864.61	53.73	35,259.25	62,508.30	54,203.27	53.73	35,259.25	62,508.30	54,203.27	53.73	551,788.14	785,486.02	785,486.02	42.35
Crops	6,342.80	5,348.34	5,348.34	-15.68	12,463.46	10,523.32	10,523.32	-15.57	12,463.46	10,523.32	10,523.32	-15.57	28,780.60	27,865.75	27,865.75	-3.18
Wetlands	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Point sources	8,557.00	20,630.00	20,630.00	141.09	104,977.00	148,090.00	148,090.00	41.07	104,977.00	148,090.00	148,090.00	41.07	0.00	0.00	0.00	0.00
Septic System	9,577.15	27,724.72	24,683.01	157.73	311,749.83	902,465.64	803,451.10	157.72	311,749.83	902,465.64	803,451.10	157.72	0.00	0.00	0.00	0.00
Groundwater	15,552.37	14,983.68	15,062.32	-3.15	1,555,236.57	1,498,368.20	1,506,231.64	-3.66	1,555,236.57	1,498,368.20	1,506,231.64	-3.66	0.00	0.00	0.00	0.00
To Lake	143,275.72	190,490.48	183,191.83	27.86	2,595,242.21	3,294,348.12	3,185,450.84	26.94	2,595,242.21	3,294,348.12	3,185,450.84	26.94	767,943.18	984,765.79	984,765.79	28.23

Model Results Under The Preferred Action Alternative

The mean annual concentrations and ranges for the low-, medium-, and high lake level years at the surface and bottom for each of the selected locations, for the baseline and the Preferred Alternative condition is shown in Table I-5 and Figure I-3. The average dissolved oxygen concentration is around 7 mg/L in the surface layer and around 5 mg/L in the bottom layer; the concentrations goes as low as 3 mg/L in the surface layer and zero mg/L in the bottom layer for the Preferred Alternative condition. Average phosphorus concentrations in the lake range from approximately 0.01 mg/L in the surface layer to 0.015 mg/L in the bottom layer, with the highest concentrations coming from the headwater at Chattahoochee, Chestatee, and Little River. Nutrient fluxes from the sediment layer to the water column can be seen at all locations in the lake, with the Little River region having the highest nutrient releases and wide fluctuations in the maximum and minimum values. Additional loadings for total phosphorus, total nitrogen, and sediment are broken down by land use in Table I-4.

Table I-5: Mean Annual Concentrations

PREFERRED ALTERNATIVE**Surface (above 14 m)***Low Lake Level*

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	6.76%	13.84%	8.53%	8.16%	6.34%	5.40%
Dissolved Oxygen	-2.36%	-4.46%	-3.33%	-3.31%	-2.44%	-2.69%
Nitrogen	32.61%	23.61%	39.12%	32.10%	32.65%	33.28%
Phosphorous	24.11%	56.01%	35.94%	22.78%	24.30%	24.63%

Medium Lake Level

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	4.63%	13.68%	8.92%	11.87%	3.99%	3.22%
Dissolved Oxygen	-1.30%	-2.58%	-2.65%	-2.65%	-1.57%	-1.90%
Nitrogen	35.03%	13.53%	37.89%	25.37%	34.19%	34.13%
Phosphorous	9.95%	33.05%	19.47%	6.02%	11.55%	13.56%

High Lake Level

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	5.60%	8.86%	8.39%	8.97%	5.63%	5.47%
Dissolved Oxygen	-1.48%	-2.03%	-2.51%	-2.62%	-1.68%	-2.08%
Nitrogen	14.66%	9.47%	18.44%	13.32%	14.73%	15.34%
Phosphorous	6.29%	29.06%	14.74%	6.88%	8.06%	10.78%

Bottom (below 14 m)*Low Lake Level*

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	-0.21%		-2.37%	0.09%	-0.62%	-2.16%
Dissolved Oxygen	-3.16%		-2.44%	-2.16%	-3.16%	-2.91%
Nitrogen	30.24%		30.28%	25.37%	30.54%	29.52%
Phosphorous	14.68%		15.84%	8.78%	15.72%	16.95%

Medium Lake Level

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	1.09%		4.84%	4.82%	0.22%	-1.05%
Dissolved Oxygen	-3.45%		-2.77%	-3.17%	-3.54%	-3.60%
Nitrogen	33.38%		31.93%	24.02%	33.17%	30.91%
Phosphorous	7.52%		6.93%	3.06%	8.32%	8.03%

High Lake Level

Constituent	Buford Dam	Chattahoochee Upper Arm	Chestatee	Little River	Lower Lake	Middle Lake
Algae	4.25%		7.88%	8.27%	4.30%	4.22%
Dissolved Oxygen	-2.43%		-2.88%	-3.12%	-2.39%	-2.57%
Nitrogen	12.59%		16.27%	13.05%	12.73%	12.86%
Phosphorous	2.91%		7.39%	2.93%	3.46%	3.99%

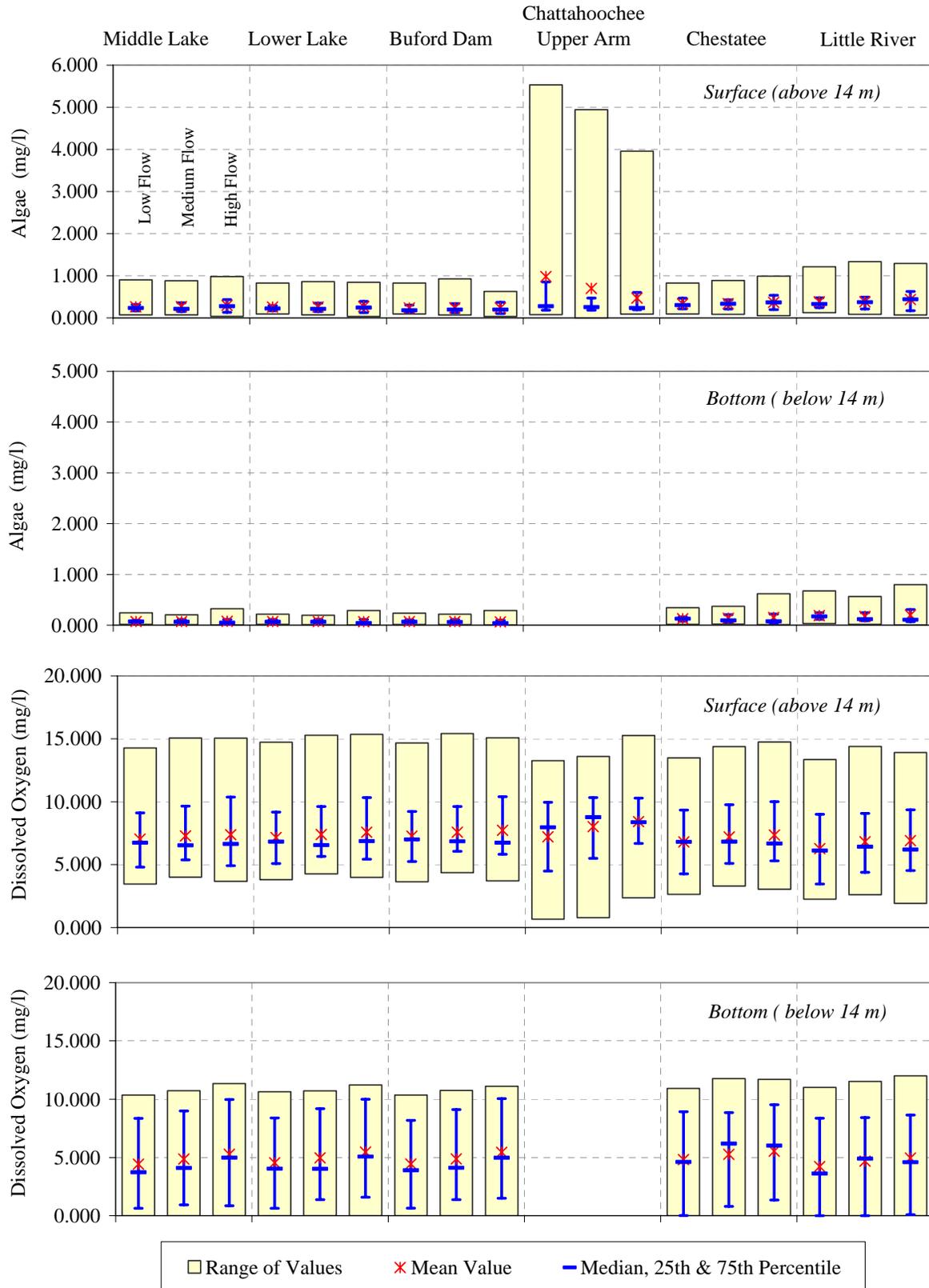


Figure I-3: Preferred Alternative

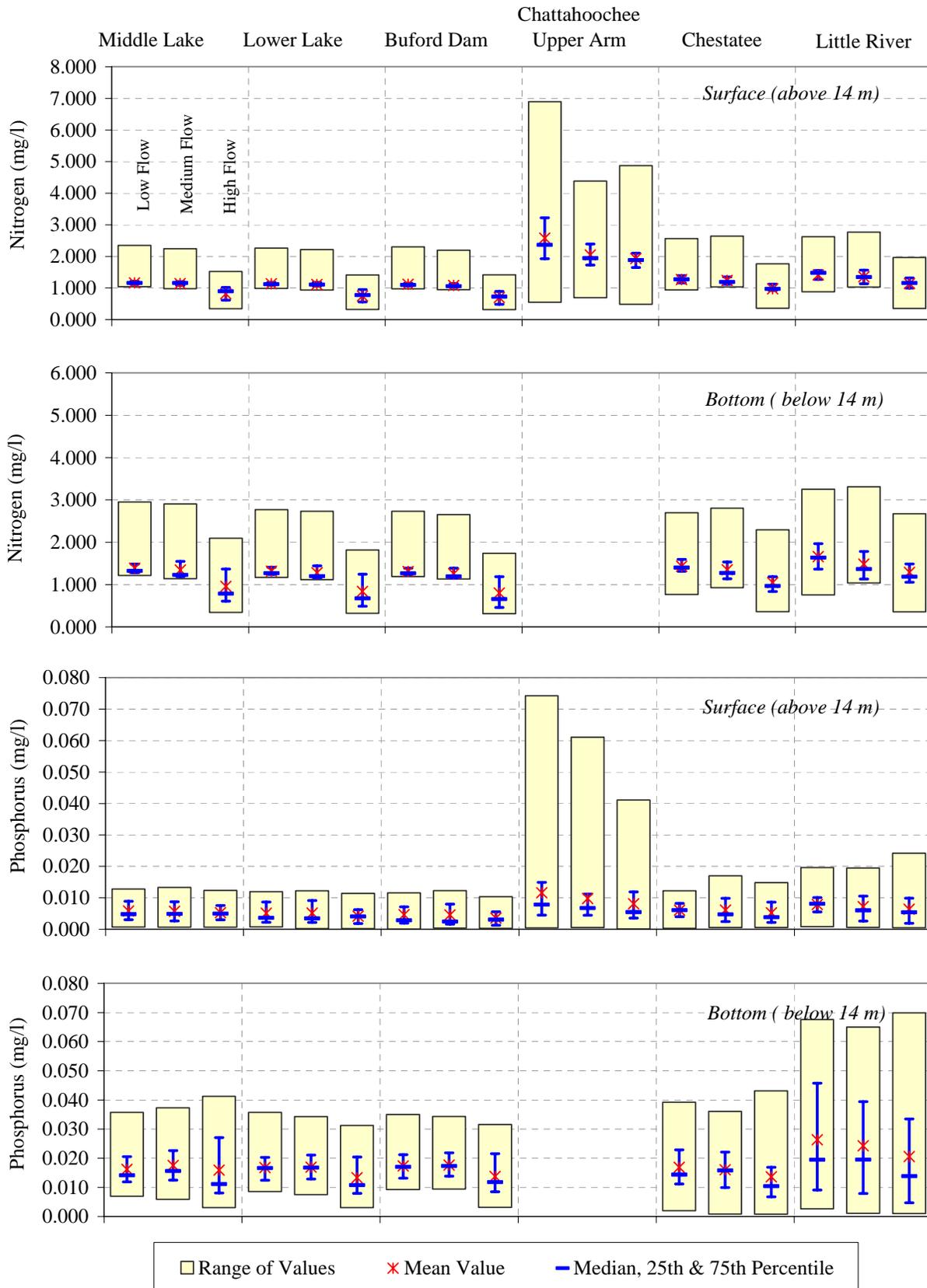


Figure I-3: Preferred Alternative (continued)

Visual and Aesthetic Resources

Visual and aesthetic impact assessments, particularly at the landscape level, can be difficult because of their inherently subjective and somewhat intangible nature. Visual impacts are a function of not only changes to the physical components of natural and man-made landscapes but also the preferences and perceptions of people who see the changes. People with different backgrounds and experiences can be expected to react differently to what they see.

In general, the visual effects of a change in shoreline management practices are more acceptable where there is an existing disturbance to the natural landscape than in places where no change in natural scenery has occurred. Alteration of undisturbed landscapes might be considered negative even if visual quality objectives have been met because the existing visual conditions will be changed. Building additional boat docks on the shoreline of Lake Lanier would change the landscape of the lake's shoreline and the landscape and visual character of the shoreline where boat docks are introduced. Scenic integrity would be lowered, and scenic attractiveness would be reduced. The degree or significance of visual impacts reflects the degree to which these changes are deemed acceptable to residents, lake users, and visitors to the lake and its recreational facilities.

The difficulty lies in the different preferences and perceptions of the landscape viewers, as noted above. People's experiences, values, lifestyles, cultures, and subcultures influence their responses to the visual environment and to changes in that visual environment. Among the myriad factors in the perception of landscapes and landscape change are an individual's previous experience of landscapes, gender, age, education, degree of environmental awareness, and cross-cultural awareness.

The task is potentially even more complicated given the size of Lake Lanier, its different morphology, and the fact that although the shoreline is generally heavily vegetated, there are differences in topography, slope, aspect, vegetative type, and cover. There are also differences in the design, materials, color, and level of maintenance of both the existing docks and the houses and structures on the private land behind and above the shoreline. All these factors affect the visual absorption capacity of the lake's shoreline.

Given this degree of complexity, the approach taken in this document is to avoid the debate about landscape preferences and perception and landscape sensitivity and simply measure the change in the acreage of the lake and surrounding land from which one or more boat docks would be visible for each alternative under consideration. These viewsheds are then used as a surrogate for assessing visual impacts. Using this approach, an increase in the number of docks along the shoreline and an increase in the acreage of the lake and surrounding land from which the docks would be clearly visible would

constitute a visual impact. The larger the number of docks and the greater the acreage of viewsheds, the more substantial the adverse impacts. For the purpose of characterizing the landscape visibility impacts of the alternatives as minor or major, a percentage change in lake acreage or land acreage from which docks would be visible of 50 percent has been chosen as a dividing line. That is, only where an alternative would result in a change of 50 percent or more from the existing condition in the acreage of the lake or surrounding land from which docks would be clearly visible are the visual and aesthetic impacts considered major.

Although the mass, scale, and height of most boat docks would be relatively small when viewed individually, their visibility from the surrounding area, particularly from the water, is quite marked. Assuming an effective visibility range of 1.0 mile and a hypothetical straight shoreline, an individual boat dock can be clearly visible from an area totaling 1.6 square miles (approximately 2,010 acres) on the water and up to 1.6 square miles on land, depending on the topography and vegetation surrounding the site. Collectively, new boat docks can thus have a visual impact on the landscape despite their relatively small individual size.

APPENDIX J

HISTORICAL WATER QUALITY SUMMARY DATA

APPENDIX J

HISTORIC WATER QUALITY SUMMARY DATA

Water quality data from the mid-1970s (1974–1979) were obtained from both the USEPA Storage and Retrieval (STORET) database system and the USGS NWISWeb. The STORET database includes sampling data collected by federal and state agencies that sample water quality in the Lake Lanier watershed, and the USGS database includes sampling done by the USGS. Historical water quality was evaluated at six monitoring stations (Table 3-10), four from the STORET database and two from the NWISWeb. Tables J-1 and J-2 summarize the available data.

Table J-1
Summary of Historic Data from Six Monitoring Stations

Parameters	Units	12030001					12038001					12040001			
		Count	Mean	Min	Max		Count	Mean	Min	Max		Count	Mean	Min	Max
Water Temperature	°C	15	15.00	4.00	23.50		20	61.61	84.20	41.00		1	27.00	27.00	27.00
Dissolved Oxygen	mg/L	15	9.73	7.7	12.6		20	7.54	2.00	12.60		1	7.50	7.50	7.50
BOD5	5-day, 20 °C	15	0.73	0.20	1.40		20	0.64	0.10	1.70		1	0.60	0.60	0.60
pH	SU	12	6.43	5.6	7.2		-	-	-	-		-	-	-	-
Turbidity	Hach FTU	15	20.07	6	74		20	7.60	4.00	21.00		1	6.20	6.20	6.20
Nitrogen, Total	mg/L	-	-	-	-		-	-	-	-		-	-	-	-
Total Kjeldahl Nitrogen	mg/L	-	-	-	-		10	0.16	0.00	0.30		-	-	-	-
Ammonia, Total	mg/L	15	0.02	0.02	0.03		20	0.04	0.02	0.14		-	-	-	-
Nitrite plus Nitrate, Total	mg/L	15	0.18	0.11	0.26		21	0.15	0.02	0.50		1	0.10	0.10	0.10
Nitrogen, Total Organic	mg/L	-	-	-	-		-	-	-	-		-	-	-	-
Phosphorus, Total	mg/L	15	0.04	0.02	0.15		20	0.02	0.02	0.03		1	0.02	0.02	0.02
Arsenic, Dissolved	µg/L	-	-	-	-		1	5.00	5.00	5.00		-	-	-	-
Cadmium Dissolved	µg/L	-	-	-	-		1	50.00	50.00	50.00		-	-	-	-
Chromium Dissolved	µg/L	-	-	-	-		1	50.00	50.00	50.00		-	-	-	-
Copper, Dissolved	µg/L	-	-	-	-		1	50.00	50.00	50.00		-	-	-	-
Lead, Dissolved	µg/L	-	-	-	-		1	400.00	400.00	400.00		-	-	-	-
Mercury, Dissolved	µg/L	-	-	-	-		1	400.00	400.00	400.00		-	-	-	-
Zinc, Dissolved	µg/L	-	-	-	-		1	110.00	110.00	110.00		-	-	-	-
Fecal Coliform	#	15	1,832.67	150.00	4,300.00		2	30.00	30.00	30.00		1	10.00	10.00	10.00
Chlorophyll a	mg/sq m	-	-	-	-		-	-	-	-		-	-	-	-

Table J-1 (continued)
Summary of Historic Data from Six Monitoring Stations

Parameters	Units	12041001			2333500			2333000					
		Count	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max
Water Temperature	°C	2	10.25	9.50	11.00	37	14.23	4.5	24.5	11	20.32	11	29
Dissolved Oxygen	mg/L	2	9.90	9.20	10.60	-	-	-	-	-	-	-	-
BOD5	5-day, 20 °C	2	0.80	0.30	1.30	12	1.79	0.6	3.5	-	-	-	-
pH	SU	-	-	-	-	22	6.93	6.4	7.4	11	7.36	6.9	9
Turbidity	Hach FTU	2	3.75	3.70	3.80	-	-	-	-	-	-	-	-
Nitrogen, Total	mg/L	-	-	-	-	13	0.92	0.14	2.8	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	13	0.72	0.1	2.5	9	0.26	0.1	0.46
Ammonia, Total	mg/L	-	-	-	-	13	0.07	0.01	0.15	-	-	-	-
Nitrite plus Nitrate, Total	mg/L	2	0.24	0.19	0.29	13	0.21	0.1	0.3	9	0.10	0.01	0.2
Nitrogen, Total Organic	mg/L	-	-	-	-	13	0.66	0	2.4	-	-	-	-
Phosphorus, Total	mg/L	2	0.04	0.02	0.05	13	0.19	0.01	0.61	-	-	-	-
Arsenic, Dissolved	µg/L	-	-	-	-	11	1	1	1	-	-	-	-
Cadmium Dissolved	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
Chromium Dissolved	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
Copper, Dissolved	µg/L	-	-	-	-	10	3.6	2	7	-	-	-	-
Lead, Dissolved	µg/L	-	-	-	-	6	4.67	3	10	-	-	-	-
Mercury, Dissolved	µg/L	-	-	-	-	-	-	-	-	-	-	-	-
Zinc, Dissolved	µg/L	-	-	-	-	5	20.00	20	20	-	-	-	-
Fecal Coliform	#	2	10.00	10.00	10.00	-	-	-	-	-	-	-	-
Chlorophyll a	mg/sq m	-	-	-	-	-	-	-	-	2	14.265	8.53	20

APPENDIX K

WATER QUALITY ANALYSIS AND TRENDS

APPENDIX K

WATER QUALITY ANALYSIS AND TRENDS

Current Water Quality Data

Data from the stations listed in Table 3-10 were analyzed to determine the current water quality of Lake Lanier and its headwaters. The data were collected over an 8-year period (1992 to 2000) and provide a good representation of conditions in the lake over various seasons and under different meteorological conditions. To analyze a large data set that spans an 8-year period, however, “lumping” of water quality data is required and only general water quality conclusions can be drawn from this approach.

Lake Lanier and its headwaters were divided into eight sections to analyze the available current water quality. Tables K-1 to K-8 summarize the available data.

Results of the Clean Lakes Study Category I Stations

Physical Characteristics. Water transparency was measured by using Secchi disk depths and two photic sensors. Aqualand Marina and Buford Dam had the greatest Secchi depths and photic zone depths, indicating the greatest transparency. Clarks Bridge and Wilkie Bridge, the riverine sections of the lake, showed the highest levels of turbidity and total suspended solids, which is indicative of siltation. The average surface pH measurements were higher than the composite pH values, and in general surface and composite pH levels were highest when chlorophyll a levels were highest. Clarks Bridge and Wilkie Bridge had the highest concentrations of plankton biomass, which coincide with the highest chlorophyll a concentrations. Hardness and alkalinity were within expected levels based on the geology of the Lake Lanier watershed.

Pathogens. Fecal coliform bacteria were reported only rarely in the Category I stations.

Eutrophication. Nutrients sampled included total phosphorus, nitrate plus nitrite, total Kjeldahl nitrogen (TKN), and ammonia, and they were often below the level of detection. Based on the available data, nitrate-nitrite levels were highest at Flat Creek/Balus Creek and ammonia levels

were highest at the Wilkie Bridge station. Biochemical oxygen demand (BOD) was highest at Clarks Bridge and lowest at Buford Dam Pool. Total organic carbon concentrations were fairly uniform for all stations; the only elevated levels were at Clarks Bridge.

Metals. The Clean Lakes Study concluded that lead and mercury were entering Lake Lanier from urban, industrial, and residential; atmospheric deposition; and from former gold mines.

Results of the Clean Lakes Study: Category II Stations

Physical Characteristics. All pH measurements at Category II stations met the water quality standard. The mean pH values ranged from 6.78 to 7.58. Alkalinity in most tributaries was slightly higher than that in the Category I open water stations. Two stations—Limestone and Flat Creek—reported two and three times the normal background levels of alkalinity, respectively. The study suggests that the high levels might be due to the water pollution control plant at Flat Creek and the urban environment surrounding Limestone Creek.

Pathogens. The Clean Lakes Study found that although fecal coliforms were often undetectable in Lake Lanier, the counts in some tributaries could exceed the USEPA recommended value for primary contact waters.

Metals. The Clean Lakes Study concluded that the tributaries entering Lake Lanier have low concentrations of trace metals comparable to 100 percent forested watersheds in North Carolina.

Nutrients. Nutrients sampled included phosphorus, ammonia, nitrite plus nitrate, TKN, and total organic carbon. Flat Creek had the highest levels of phosphorus, ammonia, TKN, and organic carbon. Nitrate-nitrite levels were highest at Six Mile Creek. Dissolved oxygen concentrations were acceptable at all stations, and the lowest concentrations occurred at Flat Creek. Flat Creek had also produced the highest chemical oxygen demand and conductivity.

Comparison of Historic and Current Water Quality

Chattahoochee River Headwaters. The historic water quality in the Chattahoochee River headwaters was determined by analyzing the available data at station 12030001. The current

water quality was determined by analyzing the available data at stations 12030001 and 12030101.

Physical Characteristics. Dissolved oxygen was measured 43 times. The minimum value was 5.0 mg/L, and the maximum value was 12.0 mg/L. All samples met the water quality standard for dissolved oxygen. A chart of the available dissolved oxygen data is included in later in this appendix. Dissolved oxygen levels have generally decreased since the time of the historic data.

Turbidity was measured 30 times, resulting in a minimum value of 2.5 Formazin Turbidity Units (FTU) measured using a Hach measuring apparatus (Hach FTU) and a maximum of 150.0 Hach FTU. The average value for turbidity was 13.83 Hach FTU. Although the average turbidity value has decreased, the maximum turbidity value has increased. Forty-two pH samples were collected. The minimum pH observed was 6.4 and the maximum was 7.99. All pH samples met the water quality standard and have not changed much since the time of the historic data.

Pathogens. Thirty-five fecal coliform samples were collected in current years. The lowest fecal coliform level was zero, while the maximum number of fecal coliforms observed was 2,300. The average geomean met the water quality standard for fecal coliforms. A chart of the available fecal coliform data is included later in this appendix. Levels of fecal coliform have decreased since the time the historic data were collected.

Eutrophication. The 5-day BOD has increased since the time of the historic data. The minimum current BOD was 0.1 mg/L, and the maximum was 0.91 mg/L. No chlorophyll *a* samples were taken at these sites. Total Kjeldahl nitrogen and total nitrite plus nitrate were sampled 11 times. These samples were used to calculate maximum total nitrogen values. All samples met the water quality standard but have increased since the time of the historic data. Total phosphorus was sampled 42 times, resulting in a minimum value of 0.02 mg/L and a maximum value of 0.25 mg/L. Total phosphorus has increased since the time of the historic data. The mean total nitrogen to total phosphorus ratio was 8.4.

Metals. No metals were historically or currently sampled at these sites.

Organics. No organics were historically or currently sampled at these sites.

Chestatee River Headwaters. The historic water quality in the Chestatee River headwaters was determined by analyzing the available data at station 02333500. The current water quality was determined by analyzing the available data at stations 12036501 and 02333500.

Physical Characteristics. Dissolved oxygen was measured 25 times, resulting in a minimum value of 6.7 mg/L and a maximum value of 13.0 mg/L. All samples met the water quality standard for dissolved oxygen and have decreased since the time of the historic data. Turbidity was measured 21 times. The minimum value was 1.7 Hach FTU, and the maximum was 13.0 Hach FTU. The average value for turbidity was 4.7 Hach FTU. No historic turbidity data were collected. Forty-six pH samples were collected. The minimum pH observed was 6.2 and the maximum was 7.6. All pH samples met the water quality standard and have not changed much since the time of the historic data.

Pathogens. Thirty-four fecal coliform samples were collected. The lowest fecal coliform level was zero, while the maximum number of fecal coliforms observed was 1,700. The average geomean met the water quality standard for fecal coliforms. A chart of the available fecal coliform data is included later in this appendix. Levels of fecal coliform have decreased since the time the historic data were collected.

Eutrophication. The 5-day BOD was sampled 18 times. The mean value has generally decreased since the time of the historic data. The minimum BOD was 0.3 mg/L, and the maximum was 5.7 mg/L. Chlorophyll *a* was sampled 21 times, resulting in a minimum value of 1.8 µg/L and a maximum value of 5.1 µg/L. Historic chlorophyll *a* was not collected. Total Kjeldahl nitrogen and total nitrite plus nitrate were sampled 20 times. These samples were used to calculate maximum total nitrogen values, and all but one sample met the water quality standard. Nitrite plus nitrate values have generally increased since the time of the historic data. Total phosphorus was sampled 39 times, resulting in a minimum value of 0.02 mg/L and a maximum value of 0.21 mg/L. The mean value has generally decreased since the time of the historic data. The mean total nitrogen to total phosphorus ratio was 13.

Metals. Arsenic, copper, lead, and zinc were historically sampled in this watershed. All samples were found to be within water quality standards. No metals were sampled at the current stations.

Organics. No organics were historically or currently sampled at these stations.

Little River Headwaters. The current water quality in the Little River headwaters was determined by analyzing the available data at stations 1203141, 1203151, 1203181, and 02332830. No historic water quality data are available for the Little River headwaters.

Physical Characteristics. Dissolved oxygen was measured 126 times. The minimum value was 7.5 mg/L, and the maximum value was 11.6 mg/L. All samples met the water quality standard for dissolved oxygen. Turbidity was not sampled at these stations. To measure pH, 130 samples were collected. The minimum pH observed was 6.95 and the maximum was 7.55. All pH samples met the water quality standard.

Pathogens. Forty-seven fecal coliform samples were collected. The lowest fecal coliform level was zero, while the maximum number of fecal coliforms observed was 16,000. The average geomean exceeded the water quality standard for fecal coliforms. A chart of the available fecal coliform data is included later in this appendix.

Eutrophication. The 5-day BOD was sampled nine times. The minimum BOD was 0.2 mg/L and the maximum was 2.6 mg/L. Chlorophyll *a* was sampled once, resulting in a value of 12 mg/m². Total Kjeldahl nitrogen and total nitrite plus nitrate were sampled simultaneously 35 times. These samples were used to calculate maximum total nitrogen values, and all samples met the water quality standard. Total phosphorus was sampled 163 times, resulting in a minimum value of 0.02 mg/L and a maximum value of 0.53 mg/L. The mean total nitrogen to total phosphorus ratio was 20.3.

Metals. No metals were sampled at these sites.

Organics. No organics were sampled at these sites.

Lake Lanier–Chattahoochee River Arm. Station 12030121 sampling results were considered to be representative of current water quality conditions in the Chattahoochee River arm of Lake Lanier. No historic water quality data are available for the Chattahoochee River arm of Lake Lanier.

Physical Characteristics. Dissolved oxygen was not sampled at this station. Turbidity was sampled 18 times. The minimum result for turbidity was 1.6 Hach FTU, while the maximum result was 16.0 Hach FTU. Eighteen pH samples were collected. The minimum pH observed was 6.98 and the maximum was 8.0. All pH samples met the water quality standard.

Pathogens. Nine fecal coliform samples were collected. The lowest fecal coliform level was zero, while the maximum number of fecal coliforms observed was 40. The geometric mean met the water quality standard for fecal coliforms.

Eutrophication. The 5-day BOD was sampled 18 times. The minimum BOD was 0.2 mg/L and the maximum was 3.0 mg/L. Chlorophyll *a* was sampled 18 times, resulting in a minimum value of 1.16 µg/L and a maximum value of 11.84 µg/L. Total Kjeldahl nitrogen and total nitrite plus nitrate were sampled simultaneously 16 times. These samples were used to calculate maximum total nitrogen values, and all samples met the water quality standard. Total phosphorus was sampled 17 times, resulting in a minimum value of 0.02 mg/L and a maximum value of 0.14 mg/L. The mean total nitrogen to total phosphorus ratio was 11.5.

Metals. No metals were sampled at this station.

Organics. No organics were sampled at this station.

Lake Lanier–Chestatee River Arm. Station 12037001 sampling results were considered to be representative of current water quality conditions in the Chestatee River arm of Lake Lanier. No historic water quality data are available for the Chestatee River arm of Lake Lanier.

Physical Characteristics. Dissolved oxygen was not sampled at this station. Turbidity was sampled 20 times. The minimum result for turbidity was 1.8 Hach FTU, while the maximum result was 7.4 Hach FTU. Nineteen pH samples were collected. The minimum pH observed was 6.3 and the maximum was 7.89. All pH samples met the water quality standard.

Pathogens. Eleven fecal coliform samples were collected. The lowest fecal coliform level was zero, while the maximum number of fecal coliforms observed was 85. The geomean met the water quality standard for fecal coliforms. A chart of the available fecal coliform data is included later in this appendix.

Eutrophication. The 5-day BOD was not sampled at this station. Chlorophyll *a* was sampled 19 times, resulting in a minimum value of 0.74 µg/L and a maximum value of 7.27 µg/L. Total Kjeldahl nitrogen and total nitrite plus nitrate were sampled simultaneously 18 times. These samples were used to calculate maximum total nitrogen values, and all samples met the water quality standard. Total phosphorus was sampled 18 times, resulting in a minimum value of 0.02 mg/L and a maximum value of 0.12 mg/L. The mean total nitrogen to total phosphorus ratio was 10.

Metals. No metals were sampled at this station.

Organics. No organics were sampled at this station.

Lake Lanier–Little River Arm. Station 1203171 sampling results were considered to be representative of current water quality conditions in the Little River arm of Lake Lanier. No historic water quality data are available for the Little River arm of Lake Lanier.

Physical Characteristics. Dissolved oxygen was sampled 12 times at this station. The minimum dissolved oxygen observed was 8.1 mg/L, while the maximum observed was 10.2 mg/L. All samples met the water quality standard. A chart of the available dissolved oxygen data is included later in this appendix. Turbidity was not sampled at this station. Twelve pH samples were collected. The minimum pH observed was 7.01 and the maximum was 7.47. All pH samples met the water quality standard.

Pathogens. Twelve fecal coliform samples were collected. The lowest fecal coliform level was 50, while the maximum number of fecal coliforms observed was 2,060. The geomean exceeded the water quality standard for fecal coliforms. A chart of the available fecal coliform data is included later in this appendix.

Eutrophication. The 5-day BOD was not sampled at this station, and chlorophyll *a* was not sampled. Total Kjeldahl nitrogen and total nitrite plus nitrate were sampled simultaneously 11 times. These samples were used to calculate maximum total nitrogen values, and all samples met the water quality standard. Total phosphorus was sampled a total of 11 times, resulting in a minimum value of 0.04 mg/L and a maximum value of 0.15 mg/L. The mean total nitrogen to total phosphorus ratio was 11.

Metals. No metals were sampled at this station.

Organics. No organics were sampled at this station.

Lake Lanier–Middle Region. The historic water quality in the Middle Region of Lake Lanier was determined by analyzing the available data at station 12038001. The current water quality was determined by analyzing the available data at stations 12030201, 12038001, and 12038701.

Physical Characteristics. Dissolved oxygen was sampled 35 times at this station. The minimum dissolved oxygen observed was 0.3 mg/L, while the maximum observed was 11.9 mg/L. Dissolved oxygen levels have generally increased since the time of the historic data. Turbidity was sampled 85 times. The minimum result for turbidity was 1.0 Hach FTU, while the maximum result for turbidity was 25.0 Hach FTU. Turbidity values have generally decreased since the time of the historic data. Sixty-five pH samples were collected. The minimum pH observed was 6.3 and the maximum was 8.67. All pH samples met the water quality standard. No historic pH data were collected.

Pathogens. Seventy-five fecal coliform samples were collected. The lowest fecal coliform level was zero, while the maximum number of fecal coliforms observed was 170. The geometric mean met the water quality standard for fecal coliforms. A chart of the available fecal coliform data is included later in this appendix. Levels of fecal coliform have decreased since the time the historic data were collected.

Eutrophication. The 5-day BOD was sampled 56 times, with a minimum BOD of 0.2 mg/L and a maximum of 5.0 mg/L. Chlorophyll *a* was sampled 60 times, resulting in a minimum value of

0.36 µg/L and a maximum of 7.63 µg/L. Total Kjeldahl nitrogen and total nitrite plus nitrate were sampled simultaneously 16 times. These samples were used to calculate maximum total nitrogen values, and all samples met the water quality standard. Total phosphorus was sampled 87 times, resulting in a minimum value of 0.0 mg/L and a maximum value of 0.23 mg/L. The mean total nitrogen to total phosphorus ratio was 10.5.

Metals. Arsenic, cadmium, chromium, copper, lead, mercury, and zinc were historically and currently sampled. Of the historic data, cadmium, copper, lead, mercury, and zinc samples exceeded water quality standards. Current data show a decrease in water quality concentrations of all metals except arsenic. Current data also show that cadmium, copper, and mercury still exceed water quality standards.

Organics. No organics were historically or currently sampled at this station.

Lake Lanier–Lower Region. The historic water quality in the Lower Region of Lake Lanier was determined by analyzing the available data at station 12040001. The current water quality in the Lower Region of Lake Lanier was determined by analyzing the available data at stations 135001, 12039401, and 12040001.

Physical Characteristics. Dissolved oxygen was sampled 52 times at these stations. The minimum dissolved oxygen observed was 2.0 mg/L, while the maximum observed was 8.7 mg/L. Dissolved oxygen levels have generally increased since the time of the historic data. Turbidity was sampled 45 times. The minimum result for turbidity was 1.0 Hach FTU, while the maximum result was 7.9 Hach FTU. Turbidity values have generally decreased since the time of the historic data. To measure pH, 103 samples were collected. The minimum pH observed was 6.31 and the maximum was 8.1. All pH samples met the water quality standard. No historic pH data were collected.

Pathogens. Forty-three fecal coliform samples were collected. The lowest fecal coliform level was zero, while the maximum number of fecal coliforms observed was 20. The geometric mean met the water quality standard for fecal coliforms. A chart of the available fecal coliform data is

included later in this appendix. Levels of fecal coliform have decreased since the time the historic data were collected.

Eutrophication. The 5-day BOD was sampled 21 times, resulting in a minimum BOD of 0.0 mg/L and a maximum of 3.0 mg/L. Chlorophyll *a* was sampled 41 times. The minimum value was 0.39 µg/L and the maximum was 4.94 µg/L. Total Kjeldahl nitrogen and total nitrite plus nitrate were sampled simultaneously 43 times. These samples were used to calculate maximum total nitrogen values, and all samples met the water quality standard. Total phosphorus was sampled 42 times, resulting in a minimum value of 0.02 mg/L and a maximum value of 0.14 mg/L. The mean total nitrogen to total phosphorus ratio was 8.4.

Metals. No metals were sampled at this station.

Organics. No organics were historically or currently sampled at this station.

Table K-1
Water Quality at Stations within Lake Lanier—Chattahoochee Arm

Parameter	Unit	Count	Station 12030121		
			Mean	Minimum	Maximum
Water Temperature	°C	-	-	-	-
Dissolved Oxygen	mg/L	-	-	-	-
BOD	5-day, 20 °C	18	1.54	0.20	3.00
pH	standard units	18	7.44	6.98	8.00
Turbidity	Hach FTU	18	5.54	1.60	16.00
Nitrogen Total	mg/L	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	17	0.61	0.10	2.00
Ammonia Total	mg/L	16	0.07	0.03	0.21
Nitrite plus Nitrate Total	mg/L	16	0.09	0.02	0.18
Nitrogen Total Organic	mg/L	-	-	-	-
Phosphorus Total	mg/L	17	0.07	0.02	0.14
Arsenic Total	ug/L	-	-	-	-
Cadmium Total	ug/L	-	-	-	-
Chromium Total	ug/L	-	-	-	-
Copper Total	ug/L	-	-	-	-
Lead Total	ug/L	-	-	-	-
Mercury Total	ug/L	-	-	-	-
Zinc Total	ug/L	-	-	-	-
Fecal Coliform	#	9	2.71	0.00	40.00
Chlorophyll a	ug/L	18	5.81	1.16	11.84
Chlorophyll a	mg/sq m	-	-	-	-

Table K-2
Water Quality at Stations within Chattahoochee River Headwaters

Parameter	Unit	Station 135001			Station 12039401			Station 12040001			All Stations		
		Count	Mean	Min Max	Count	Mean	Min Max	Count	Mean	Min Max	Count	Mean	Min Max
Water Temperature	°C	54	11.78	10.10 13.60	-	-	-	3	24.33	21.80 28.60	57	18.06	10.10 28.60
Dissolved Oxygen	mg/L	49	2.76	2.00 5.60	-	-	-	3	8.40	7.90 8.70	52	5.58	2.00 8.70
BOD	5-day, 20 °C standard	-	-	-	-	-	-	21	1.43	0.00 3.00	21	1.43	0.00 3.00
pH	units	59	6.44	6.31 6.75	20	7.13	6.88 7.43	24	7.24	6.82 8.10	103	6.94	6.31 8.10
Turbidity	Hach FTU	-	-	-	21	1.97	1.00 6.00	24	1.95	1.00 7.90	45	1.96	1.00 7.90
Nitrogen Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl	mg/L	-	-	-	19	0.25	0.10 0.60	24	0.44	0.10 3.60	43	0.34	0.10 3.60
Nitrogen	mg/L	-	-	-	20	0.05	0.03 0.10	24	0.06	0.03 0.30	44	0.05	0.03 0.30
Ammonia Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Nitrite plus Nitrate	mg/L	-	-	-	20	0.16	0.08 0.27	24	0.16	0.06 0.43	44	0.16	0.06 0.43
Nitrogen Total Organic	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus Total	mg/L	-	-	-	20	0.06	0.02 0.10	22	0.06	0.02 0.14	42	0.06	0.02 0.14
Arsenic Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chromium Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Copper Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Lead Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Mercury Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Zinc Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Fecal Coliform	#	-	-	-	20	1.00	0.00 0.00	23	1.94	0.00 20.00	43	1.47	0.00 20.00
Chlorophyll a	ug/L	-	-	-	20	1.50	0.44 4.00	21	1.31	0.39 4.94	41	1.41	0.39 4.94
Chlorophyll a	mg/sq m	-	-	-	-	-	-	-	-	-	-	-	-

Table K-3
Water Quality at Stations within Little River Headwaters

Parameter	Unit	Station 12030141			Station 12030151			Station 12030181					
		Count	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max
Water Temperature	°C	12	19.00	9.00	24.00	12	19.33	10.00	24.00	12	18.67	11.00	23.00
Dissolved Oxygen	mg/L	12	9.35	7.90	11.60	12	9.06	8.00	11.30	12	9.09	7.50	11.40
BOD	5-day, 20 °C standard units	-	-	-	-	-	-	-	-	-	-	-	-
pH		12	7.27	7.09	7.55	12	7.14	6.95	7.39	12	7.22	7.08	7.46
Turbidity	Hach FTU	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	12	0.70	0.00	4.48	12	0.32	0.10	0.90	11	0.60	0.10	1.90
Ammonia Total	mg/L	12	0.05	0.03	0.17	12	0.09	0.03	0.56	12	0.04	0.03	0.10
Nitrite plus Nitrate Total	mg/L	12	1.31	0.04	1.89	12	0.90	0.50	1.21	12	1.06	0.82	1.70
Nitrogen Total Organic	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus Total	mg/L	12	0.11	0.03	0.20	12	0.12	0.07	0.25	12	0.11	0.02	0.19
Arsenic Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chromium Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Copper Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Lead Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Mercury Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Zinc Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Fecal Coliform	#	12	548.10	220.00	1180.00	11	267.16	0.00	2,740.00	12	665.91	180.00	2,520.00
Chlorophyll a	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chlorophyll a	mg/sq m	-	-	-	-	-	-	-	-	-	-	-	-

**Table K-3 (continued)
Water Quality at Stations within Little River Headwaters**

Parameter	Unit	Station 2332830				All Stations			
		Count	Mean	Min	Max	Count	Mean	Min	Max
Water Temperature	°C	96	0.2	26	14.79479	132	14.30	9.00	24.00
Dissolved Oxygen	mg/L	90	7.1	13.6	9.406667	126	8.65	7.50	11.60
BOD	5-day, 20 °C	9	0.2	2.6	1.122222	9	0.20	2.60	1.12
pH	standard units	94	6.2	7.3	6.779787	130	6.96	6.95	7.55
Turbidity	Hach FTU	-	-	-	-	-	-	-	-
Nitrogen Total	mg/L	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	117	0.57	0.10	5.00	152	0.55	0.00	5.00
Ammonia Total	mg/L	10	0.062	0.03	0.17	46	0.06	0.03	0.56
Nitrite plus Nitrate Total	mg/L	10	1.61	1.2	2	46	1.22	0.04	2.00
Nitrogen Total Organic	mg/L	-	-	-	-	-	-	-	-
Phosphorus Total	mg/L	127	0.01	5.6	0.529031	163	0.09	0.02	0.53
Arsenic Total	ug/L	-	-	-	-	-	-	-	-
Cadmium Total	ug/L	-	-	-	-	-	-	-	-
Chromium Total	ug/L	-	-	-	-	-	-	-	-
Copper Total	ug/L	-	-	-	-	-	-	-	-
Lead Total	ug/L	-	-	-	-	-	-	-	-
Mercury Total	ug/L	-	-	-	-	-	-	-	-
Zinc Total	ug/L	-	-	-	-	-	-	-	-
Fecal Coliform	#	12	279.04	50	16,000	47	440.05	0.00	16,000.00
Chlorophyll a	ug/L	-	-	-	-	-	-	-	-
Chlorophyll a	mg/sq m	1	12	12	12	1	12.00	12.00	12.00

**Table K-4
Water Quality at Stations within Lake Lanier Little River Arm
Station 12030171**

Parameter	Unit	Station 12030171		
		Count	Mean	Minimum Maximum
Water Temperature	°C	12	18.92	9.00 24.00
Dissolved Oxygen	mg/L	12	9.17	8.10 10.20
BOD	5-day, 20 °C	-	-	-
pH	Standard units	12	7.17	7.01 7.47
Turbidity	Hach FTU	-	-	-
Nitrogen Total	mg/L	-	-	-
Total Kjeldahl Nitrogen	mg/L	12	0.49	0.10 1.96
Ammonia Total	mg/L	12	0.06	0.03 0.30
Nitrite plus Nitrate Total	mg/L	11	0.61	0.39 0.78
Nitrogen Total Organic	mg/L	-	-	-
Phosphorus Total	mg/L	11	0.10	0.04 0.15
Arsenic Total	ug/L	-	-	-
Cadmium Total	ug/L	-	-	-
Chromium Total	ug/L	-	-	-
Copper Total	ug/L	-	-	-
Lead Total	ug/L	-	-	-
Mercury Total	ug/L	-	-	-
Zinc Total	ug/L	-	-	-
Fecal Coliform	#	12	718.79	50.00 2,060.00
Chlorophyll a	ug/L	-	-	-
Chlorophyll a	mg/sq m	-	-	-

**Table K-5
Water Quality at Stations within Chestatee River Headwaters**

Parameter	Unit	Station 12036501				Station 2333500				All Stations			
		Count	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max
Water Temperature	°C	-	-	-	-	85	15.04824	0.4	24	85	15.04824	0.4	24
Dissolved Oxygen	mg/L	-	-	-	-	25	9.204	6.7	13	25	9.204	6.7	13
BOD	5-day, 20 °C standard units	-	-	-	-	18	1.083333	0.3	5.7	18	1.083333	0.3	5.7
pH		21	7.13	6.75	7.56	25	6.956	6.2	7.6	46	7.043238	6.2	7.6
Turbidity	Hach FTU	21	4.70	1.70	13.00	-	-	-	-	21	4.7	1.7	13
Nitrogen Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	20	0.66	0.10	4.80	-	-	-	-	20	0.662	0.1	4.8
Ammonia Total	mg/L	20	0.04	0.03	0.13	19	0.036316	0.01	0.11	39	0.040158	0.01	0.13
Nitrite plus Nitrate Total	mg/L	20	0.03	0.02	0.09	19	0.294737	0.2	0.5	39	0.164368	0.02	0.5
Nitrogen Total Organic	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus Total	mg/L	20	0.07	0.02	0.21	19	0.026316	0.02	0.1	39	0.048908	0.02	0.21
Arsenic Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chromium Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Copper Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Lead Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Mercury Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Zinc Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Fecal Coliform	#	12	1.95	0.00	30.00	22	77.87	20	1700	34	39.90903	0	1,700
Chlorophyll a	ug/L	21	5.10	1.80	13.11	-	-	-	-	-	-	-	-
Chlorophyll a	mg/sq m	-	-	-	-	-	-	-	-	-	-	-	-

Table K-6
Water Quality at Stations within Lake Lanier Chestatee River Arm

Parameter	Unit	Station 12037001		
		Count	Mean	Minimum Maximum
Water Temperature	°C	-	-	-
Dissolved Oxygen	mg/L	-	-	-
BOD	5-day, 20 °C standard units	-	-	-
pH		19	7.04	6.30 7.89
Turbidity	Hach FTU	20	2.91	1.80 7.40
Nitrogen Total	mg/L	-	-	-
Total Kjeldahl Nitrogen	mg/L	19	0.62	0.10 2.80
Ammonia Total	mg/L	19	0.06	0.03 0.16
Nitrite plus Nitrate Total	mg/L	18	0.07	0.02 0.29
Nitrogen Total Organic	mg/L	-	-	-
Phosphorus Total	mg/L	18	0.06	0.02 0.12
Arsenic Total	ug/L	-	-	-
Cadmium Total	ug/L	-	-	-
Chromium Total	ug/L	-	-	-
Copper Total	ug/L	-	-	-
Lead Total	ug/L	-	-	-
Mercury Total	ug/L	-	-	-
Zinc Total	ug/L	-	-	-
Fecal Coliform	#	11	2.81	0.00 85.00
Chlorophyll a	ug/L	19	2.73	0.74 7.27
Chlorophyll a	mg/sq m	-	-	-

Table K-7
Water Quality at Stations within Lake Lanier Middle Section

Parameter	Unit	Station 12030201			Station 12038001			Station 12038701			All Stations		
		Count	Mean	Min Max	Count	Mean	Min Max	Count	Mean	Min Max	Count	Mean	Min Max
Water Temperature	°C	-	-	-	32	16.35	7.40 29.00	-	-	-	32	16.35	7.40 29.00
Dissolved Oxygen	mg/L	-	-	-	35	8.29	0.30 11.90	-	-	-	35	8.29	0.30 11.90
BOD	5-day, 20 °C standard	-	-	-	56	1.08	0.20 5.00	-	-	-	56	1.08	0.20 5.00
pH	units	21	7.10	6.59 8.67	25	7.15	6.30 8.45	19	7.00	6.65 7.48	65	7.08	6.30 8.67
Turbidity	Hach FTU	20	2.99	1.70 7.60	45	2.45	1.00 25.00	20	2.58	1.00 8.40	85	2.67	1.00 25.00
Nitrogen Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	19	0.57	0.10 2.80	33	0.26	0.10 1.10	19	0.38	0.02 1.70	71	0.40	0.02 2.80
Ammonia Total	mg/L	19	0.08	0.03 0.30	50	0.07	0.03 0.60	19	0.10	0.03 0.20	88	0.09	0.03 0.60
Nitrite plus Nitrate Total	mg/L	19	0.19	0.02 2.00	51	0.21	0.02 0.95	20	0.25	0.15 0.34	90	0.22	0.02 2.00
Nitrogen Total Organic	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus Total	mg/L	19	0.06	0.02 0.10	49	0.05	0.00 0.19	19	0.06	0.02 0.23	87	0.06	0.00 0.23
Arsenic Total	ug/L	-	-	-	1	36.00	36.00 36.00	-	-	-	1	36.00	36.00 36.00
Cadmium Total	ug/L	-	-	-	1	1.00	1.00 1.00	-	-	-	1	1.00	1.00 1.00
Chromium Total	ug/L	-	-	-	1	10.00	10.00 10.00	-	-	-	1	10.00	10.00 10.00
Copper Total	ug/L	-	-	-	1	7.00	7.00 7.00	-	-	-	1	7.00	7.00 7.00
Lead Total	ug/L	-	-	-	1	1.00	1.00 1.00	-	-	-	1	1.00	1.00 1.00
Mercury Total	ug/L	-	-	-	1	0.20	0.20 0.20	-	-	-	1	0.20	0.20 0.20
Zinc Total	ug/L	-	-	-	1	20.00	20.00 20.00	-	-	-	1	20.00	20.00 20.00
Fecal Coliform	#	11	1.52	0.00 20.00	44	6.18	0.00 170.00	20	1.26	0.00 10.00	75	2.99	0.00 170.00
Chlorophyll a	ug/L	21	3.62	0.96 7.63	19	2.37	0.36 5.07	20	2.61	0.38 5.02	60	2.87	0.36 7.63
Chlorophyll a	mg/sq m	-	-	-	-	-	-	-	-	-	-	-	-

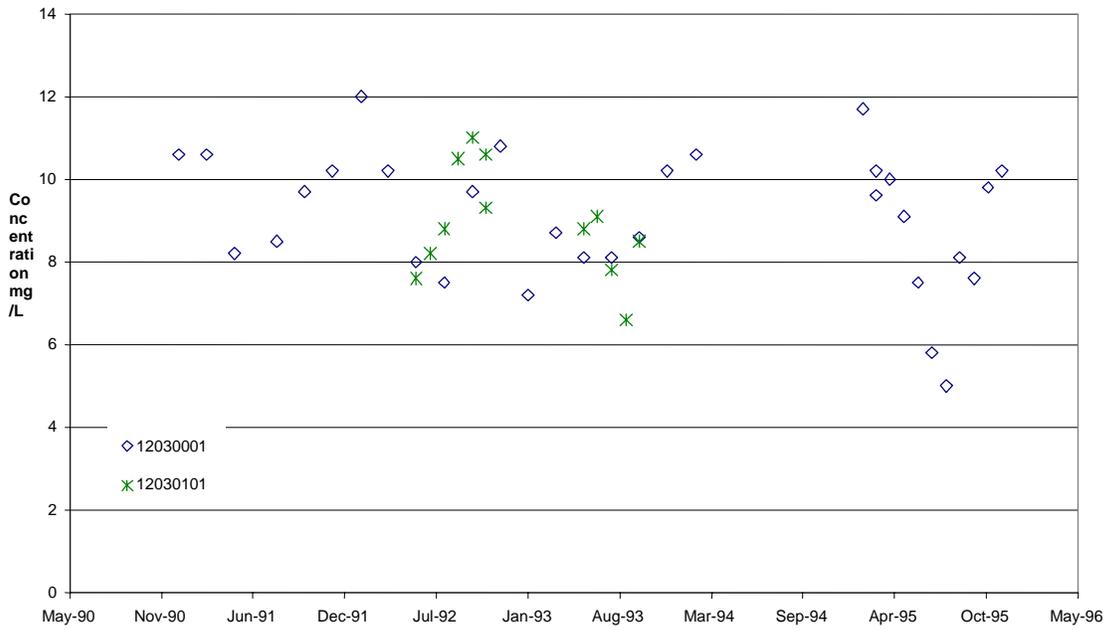
**Table K-8
Water Quality at Stations within Lake Lanier Lower Section**

Parameter	Unit	Station 135001			Station 12039401			Station 12040001			All Stations						
		Count	Mean	Min	Max	Count	Mean	Min	Max	Count	Mean	Min	Max				
Water Temperature	°C	54	11.78	10.10	13.60	-	-	-	-	3	24.33	21.80	28.60	57	18.06	10.10	28.60
Dissolved Oxygen	mg/L	49	2.76	2.00	5.60	-	-	-	-	3	8.40	7.90	8.70	52	5.58	2.00	8.70
BOD	5-day, 20 °C	-	-	-	-	-	-	-	-	21	1.43	0.00	3.00	21	1.43	0.00	3.00
pH	standard units	59	6.44	6.31	6.75	20	7.13	6.88	7.43	24	7.24	6.82	8.10	103	6.94	6.31	8.10
Turbidity	Hach FTU	-	-	-	-	21	1.97	1.00	6.00	24	1.95	1.00	7.90	45	1.96	1.00	7.90
Nitrogen Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	19	0.25	0.10	0.60	24	0.44	0.10	3.60	43	0.34	0.10	3.60
Ammonia Total	mg/L	-	-	-	-	20	0.05	0.03	0.10	24	0.06	0.03	0.30	44	0.05	0.03	0.30
Nitrite plus Nitrate Total	mg/L	-	-	-	-	20	0.16	0.08	0.27	24	0.16	0.06	0.43	44	0.16	0.06	0.43
Nitrogen Total Organic	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus Total	mg/L	-	-	-	-	20	0.06	0.02	0.10	22	0.06	0.02	0.14	42	0.06	0.02	0.14
Arsenic Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fecal Coliform	#	-	-	-	-	20	1.00	0.00	0.00	23	1.94	0.00	20.00	43	1.47	0.00	20.00
Chlorophyll a	ug/L	-	-	-	-	20	1.50	0.44	4.00	21	1.31	0.39	4.94	41	1.41	0.39	4.94
Chlorophyll a	mg/sq m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

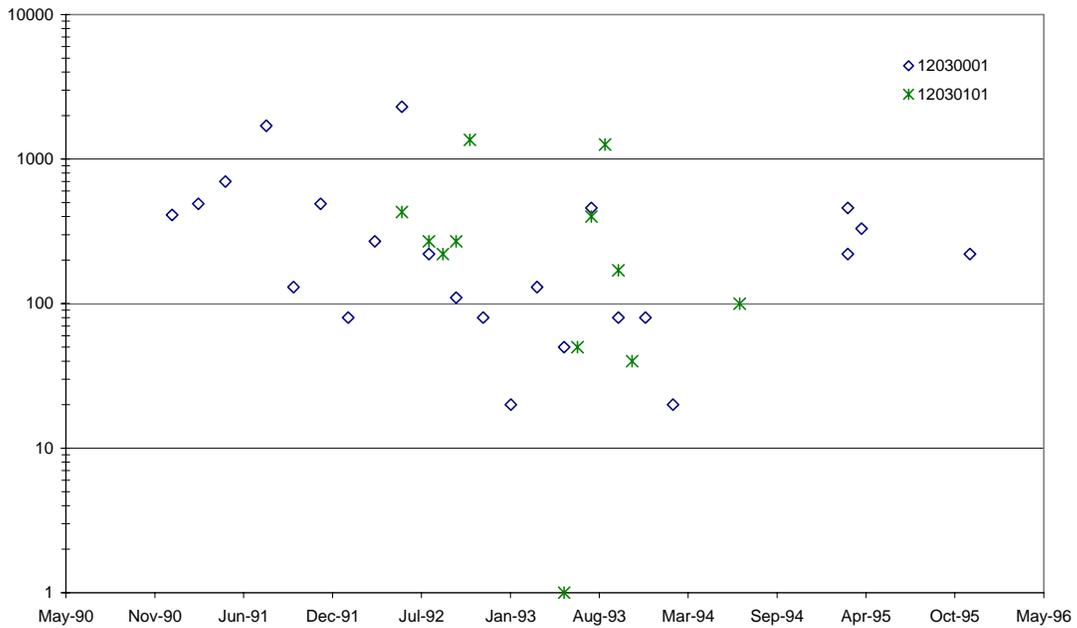
Dissolved Oxygen And Fecal Coliform Charts

Lake Lanier was divided into eight sections to analyze the available dissolved oxygen and fecal coliform data to determine whether any localized trends were shown.

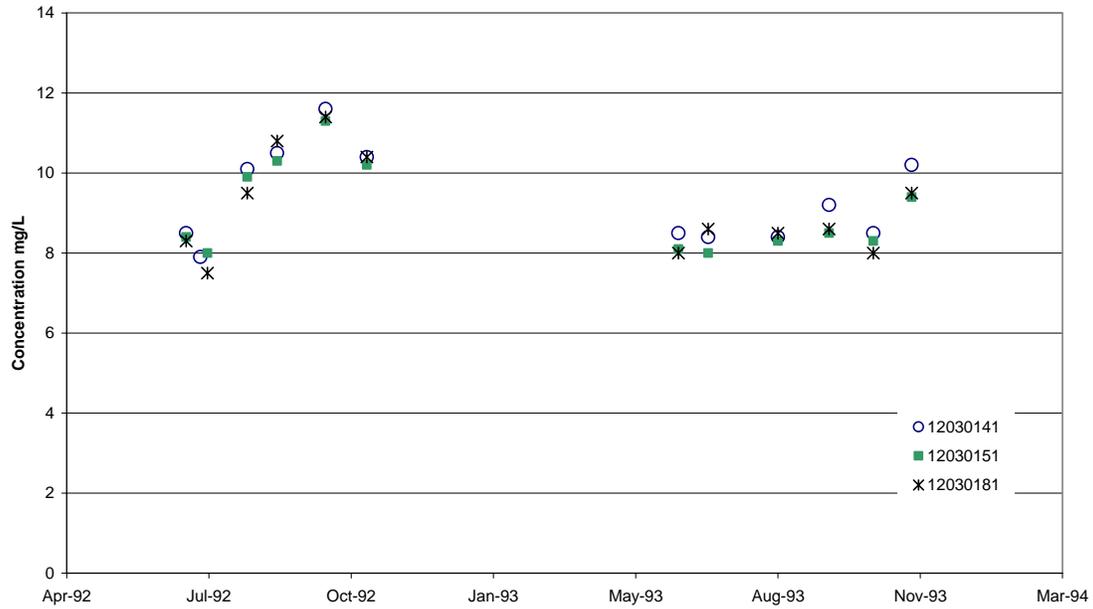
**Dissolved Oxygen
Chattahoochee River Headwaters**



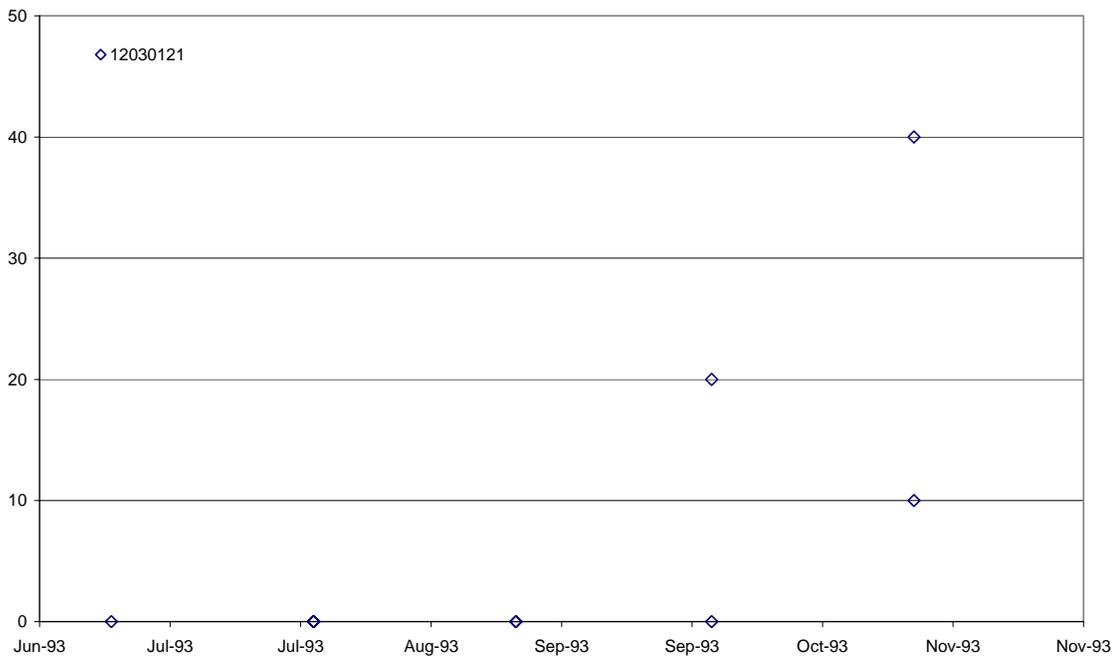
**Fecal Coliform Counts
Chattahoochee River Headwaters**



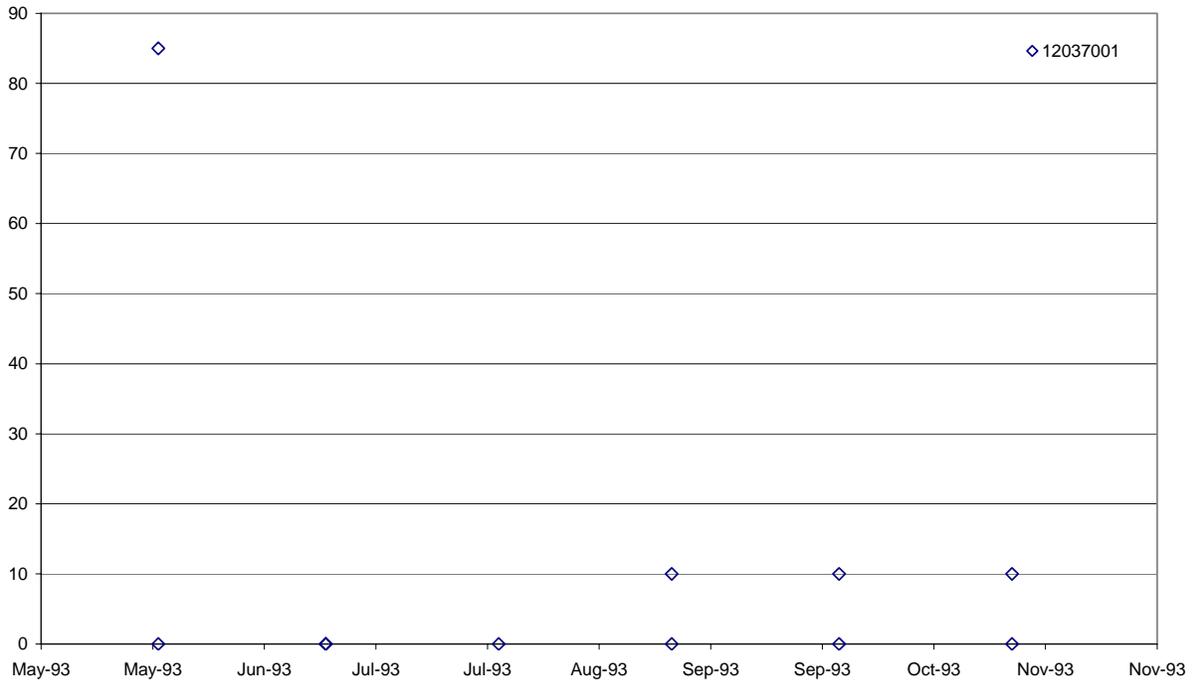
**Dissolved Oxygen
Little River Headwaters**



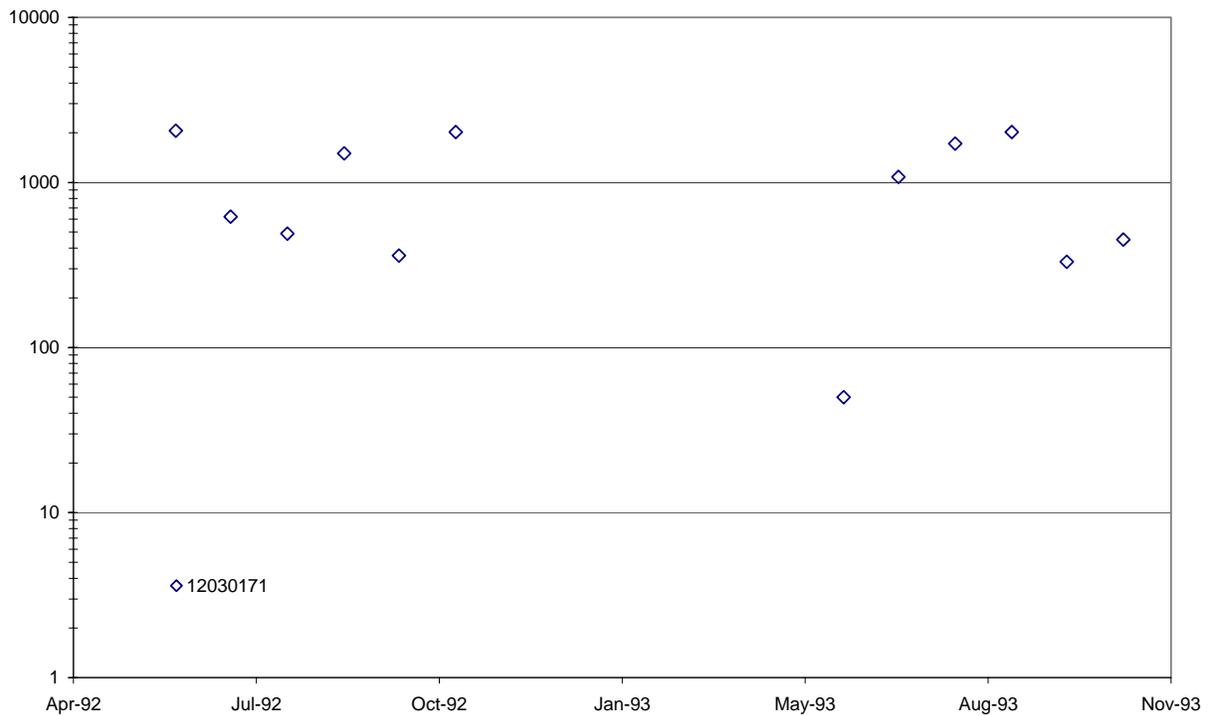
**Fecal Coliform Counts
Lake Lanier - Chattahoochee River Arm**



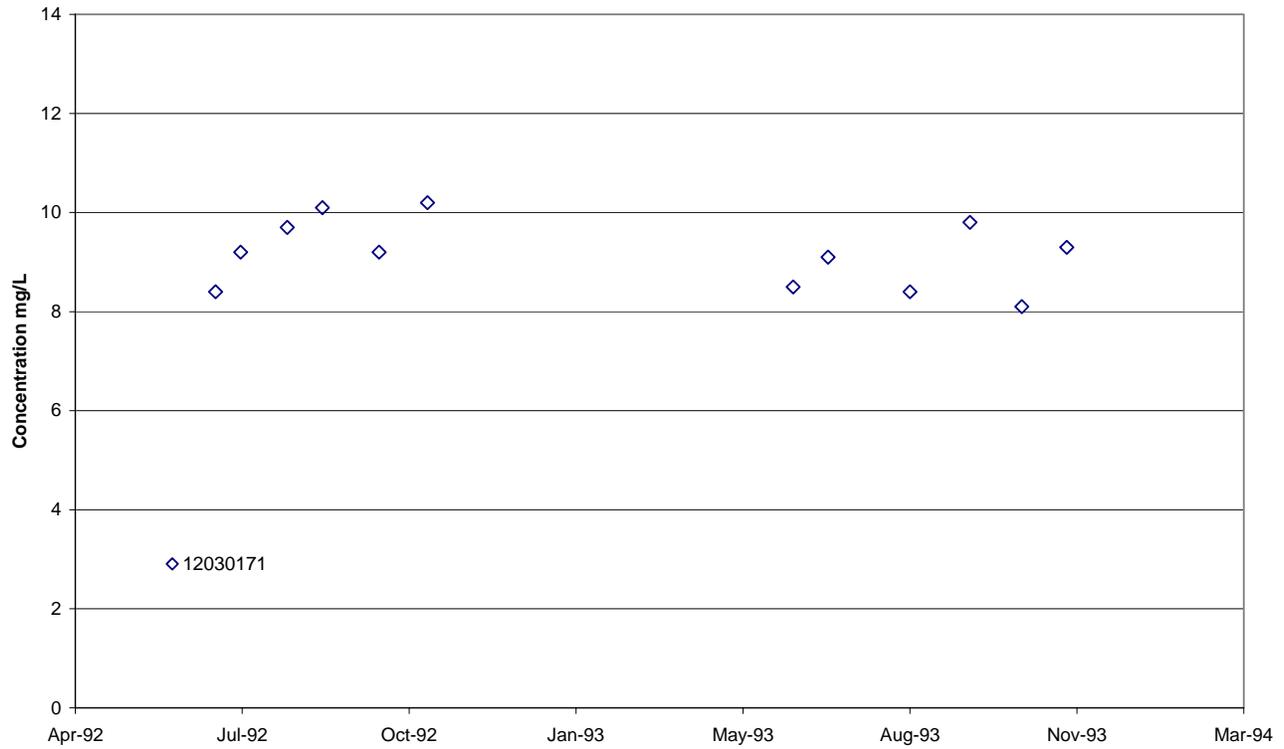
**Fecal Coliform Counts
Lake Lanier - Chestatee River Arm**



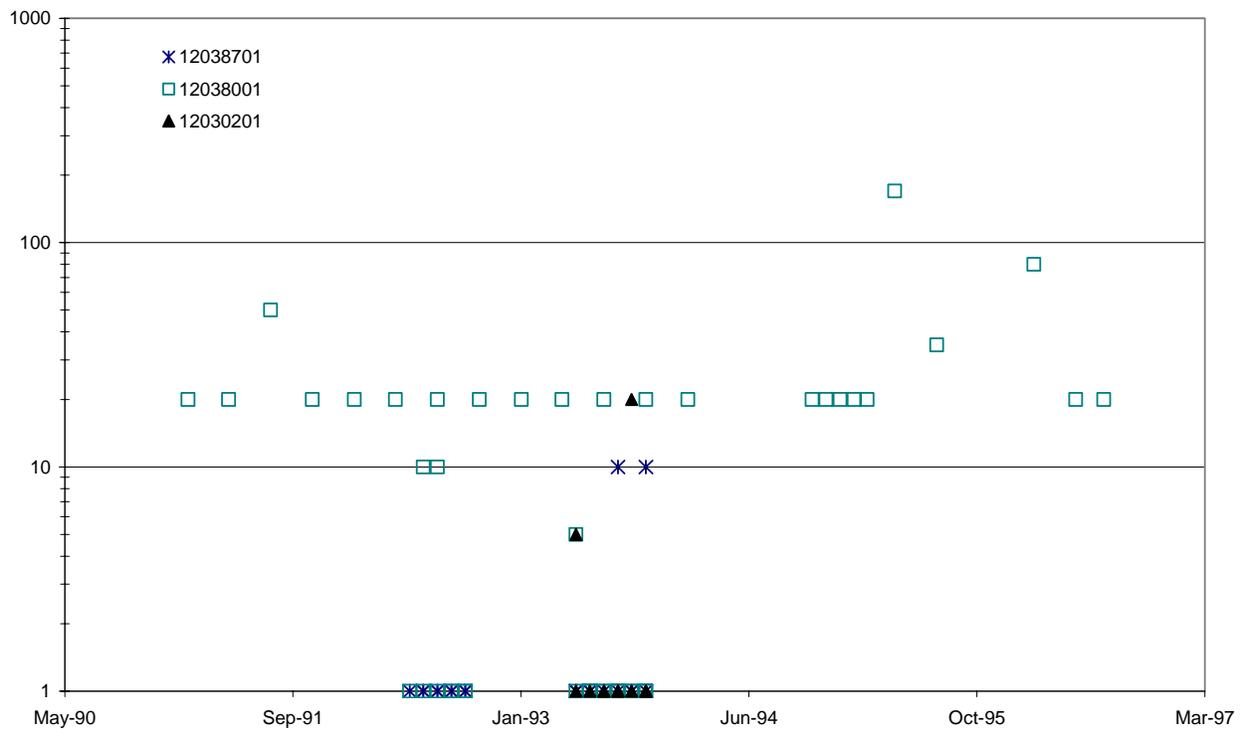
**Fecal Coliform Counts
Lake Lanier - Little River Arm**



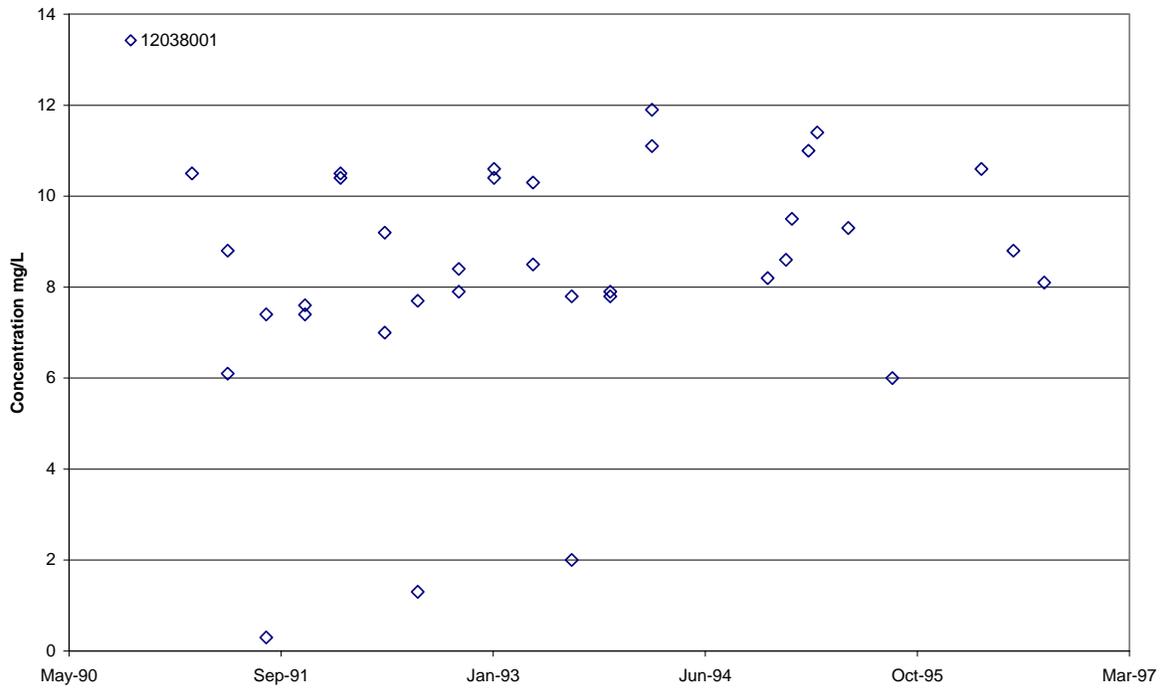
**Dissolved Oxygen
Lake Lanier - Little River Arm**



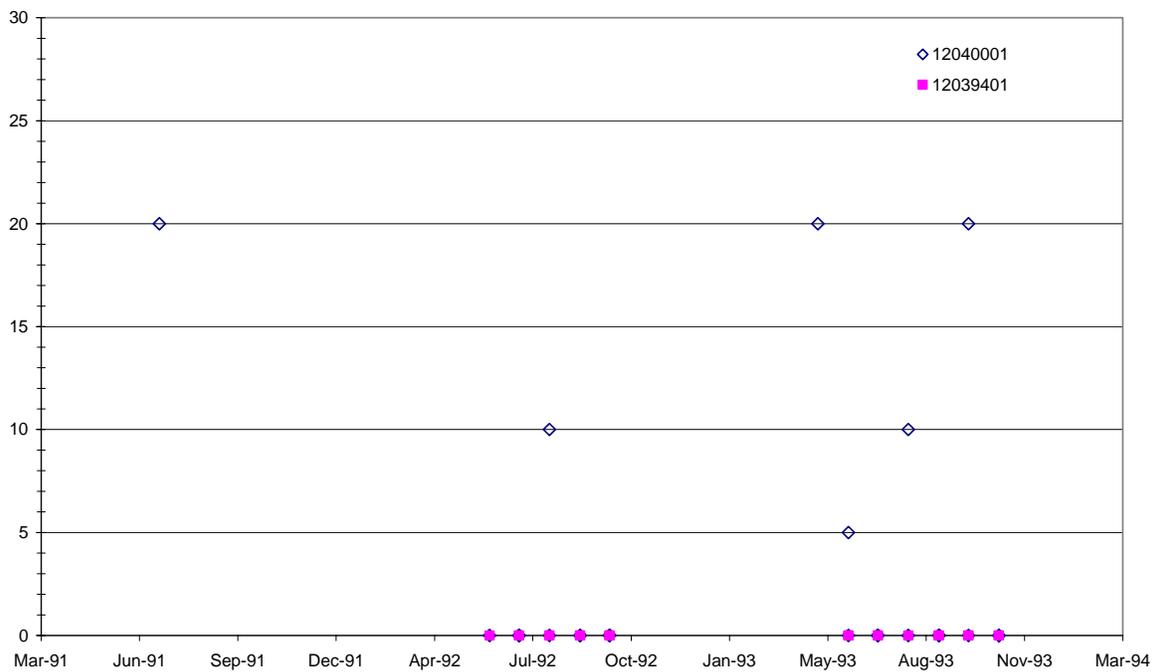
**Fecal Coliform Counts
Lake Lanier - Middle Region**



**Dissolved Oxygen
Lake Lanier - Middle Region**



**Fecal Coliform Counts
Lake Lanier - Lower Region**



Historic And Current Water Quality Comparison

Historical and current data from four stations, two in Lake Lanier and one each on the Chattahoochee and Chestatee River arms of the lake, were analyzed to determine the change in water quality in the lake and its headwaters.

These data are summarized in Table K-9 below for each station.

Summary of Water Quality Trends

Four monitoring stations had both historical and current water quality data. All available data on the above-mentioned parameters were assembled and are provided in Table K-9. Dissolved oxygen, BOD, nitrogen, phosphorus, and pathogen data were analyzed to determine whether any trends exist. The results of the analysis are discussed below by station.

Station 12030001: Chattahoochee River Headwaters. The dissolved oxygen range has increased, which indicates an increase in algal productivity (eutrophication). Phosphorus levels have also increased, but pathogen levels appear to have decreased.

Station 02333500: Chestatee River Headwaters. No data regarding dissolved oxygen are available. Phosphorus levels appear to have decreased, and nitrogen and pathogen levels have increased.

Station 12038001: Lake Lanier–Middle Region. As with Station 12030001, the dissolved oxygen range has increased, indicating an increase in algal productivity (eutrophication). BOD has also increased, as have nitrogen and phosphorus.

Station 12040001: Lake Lanier–Lower Region. No data regarding dissolved oxygen are available. Both phosphorus and nitrogen have increased, and pathogen levels have decreased.

Table K-9

Parameter	Unit	12030001						12038001					
		Minimum		Maximum		Average		Minimum		Maximum		Average	
		Historic	Current										
Water Temperature	°C	4.00	-0.90	23.50	24.00	15.00	14.37	84.20	7.40	41.00	29.00	61.61	16.35
Dissolved Oxygen	mg/L	7.7	5.00	12.6	12.00	9.73	9.10	2.00	0.30	12.60	11.90	7.54	8.29
BOD	5-day, 20 °C	0.20	0.10	1.40	1.80	0.73	0.91	0.10	0.20	1.70	5.00	0.64	1.08
pH	standard units	5.6	6.40	7.2	7.34	6.43	6.89	-	6.30	-	8.45	-	7.15
Turbidity	Hach FTU	6	2.50	74	150.00	20.07	13.83	4.00	1.00	21.00	25.00	7.60	2.45
Nitrogen Total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	-	-	-	-	-	-	0.00	0.10	0.30	1.10	0.16	0.26
Ammonia Total	mg/L	0.02	0.03	0.03	0.09	0.02	0.04	0.02	0.03	0.14	0.60	0.04	0.07
Nitrite plus Nitrate Total	mg/L	0.11	0.04	0.26	0.53	0.18	0.34	0.02	0.02	0.50	0.95	0.15	0.21
Nitrogen Total Organic	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus Total	mg/L	0.02	0.02	0.15	0.25	0.04	0.07	0.02	0.00	0.03	0.19	0.02	0.05
Arsenic Total	ug/L	-	-	-	-	-	-	5.00	36.00	5.00	36.00	5.00	36.00
Cadmium Total	ug/L	-	-	-	-	-	-	50.00	1.00	50.00	1.00	50.00	1.00
Chromium Total	ug/L	-	-	-	-	-	-	50.00	10.00	50.00	10.00	50.00	10.00
Copper Total	ug/L	-	-	-	-	-	-	50.00	7.00	50.00	7.00	50.00	7.00
Lead Total	ug/L	-	-	-	-	-	-	400.00	1.00	400.00	1.00	400.00	1.00
Mercury Total	ug/L	-	-	-	-	-	-	400.00	0.20	400.00	0.20	400.00	0.20
Zinc Total	ug/L	-	-	-	-	-	-	110.00	20.00	110.00	20.00	110.00	20.00
Fecal Coliform	#	150.00	20.00	4300.00	2300.00	1832.67	199.84	30.00	0.00	30.00	170.00	30.00	6.18
Chlorophyll a	ug/L	-	-	-	-	-	-	-	0.36	-	5.07	-	2.37
Chlorophyll a	mg/sq m	-	-	-	-	-	-	-	-	-	-	-	-

Table K-9 (continued)

Parameter	Unit	12040001						02333500					
		Minimum		Maximum		Average		Minimum		Maximum		Average	
		Historic	Current										
Water Temperature	°C	27.00	21.80	27.00	28.60	27.00	24.33	4.5	0.4	24.5	24	14.23	15.05
Dissolved Oxygen	mg/L	7.50	7.90	7.50	8.70	7.50	8.40	-	6.7	-	13	-	9.20
BOD	5-day, 20 °C	0.60	0.00	0.60	3.00	0.60	1.43	0.6	0.3	3.5	5.7	1.79	1.08
pH	standard units	-	6.82	-	8.10	-	7.24	6.4	6.2	7.4	7.6	6.93	6.96
Turbidity	Hach FTU	6.20	1.00	6.20	7.90	6.20	1.95	-	-	-	-	-	-
Nitrogen Total	mg/L	-	-	-	-	-	-	0.14	-	2.8	-	0.92	-
Total Kjeldahl Nitrogen	mg/L	-	0.10	-	3.60	-	0.44	0.1	-	2.5	-	0.72	-
Ammonia Total	mg/L	-	0.03	-	0.30	-	0.06	0.01	0.01	0.15	0.11	0.07	0.04
Nitrite plus Nitrate Total	mg/L	0.10	0.06	0.10	0.43	0.10	0.16	0.1	0.2	0.3	0.5	0.21	0.29
Nitrogen Total Organic	mg/L	-	-	-	-	-	-	0	-	2.4	-	0.66	-
Phosphorus Total	mg/L	0.02	0.02	0.02	0.14	0.02	0.06	0.01	0.02	0.61	0.1	0.19	0.03
Arsenic Total	ug/L	-	-	-	-	-	-	1	-	1	-	1	-
Cadmium Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chromium Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Copper Total	ug/L	-	-	-	-	-	-	2	-	7	-	3.6	-
Lead Total	ug/L	-	-	-	-	-	-	3	-	10	-	4.67	-
Mercury Total	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Zinc Total	ug/L	-	-	-	-	-	-	20	-	20	-	20.00	-
Fecal Coliform	#	10.00	0.00	10.00	20.00	10.00	1.94	10.00	20	10.00	1700	10.00	77.87
Chlorophyll a	ug/L	-	0.39	-	4.94	-	1.31	-	-	-	-	-	-
Chlorophyll a	mg/sq m	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX L

***SENSITIVE PLANT SPECIES KNOWN FROM
THE VICINITY OF LAKE LANIER***

APPENDIX L

SENSITIVE PLANT SPECIES KNOWN FROM THE VICINITY OF LAKE LANIER

Table L-1
Rare, Threatened, and Endangered Plants Known from the Vicinity of Lake Lanier

Common Name	Species	Federal Status	State Status	Heritage Rank	County	Habitat
Alexander rock aster	<i>Aster avitus</i>			G3 S3	Gwinnett ¹	
Bay star-vine	<i>Schisandra glabra</i>		ST	G3 S2	Gwinnett ¹	Twining on subcanopy and understory trees/shrubs in rich alluvial woods
Black-spored quillwort	<i>Isoetes melanospora</i>	LE	SE	G1 S1	Gwinnett	Shallow pools on granite outcrops, where water collects after a rain; pools are less than 1 foot deep and rock-rimmed
Broadleaf white spiraea	<i>Spiraea alba</i> var. <i>latifolia</i>			G5 T5 S1	Hall ²	Historical record ²
Broad-toothed hedgenettle	<i>Stachys latidens</i>			G4 G5 S2?	Dawson ²	Cove hardwoods and mesic forests ²
Eastern turkeybeard	<i>Xerophyllum asphodeloides</i>		SR	G4 S1	Dawson Lumpkin	Dry oak-hickory forests with a strong pine component due to past fire
Georgia aster	<i>Aster georgianus</i>	C		G2 G3 S2	Forsyth ² Dawson ²	Upland oak-hickory-pine forests especially with <i>Echinaceaea laevigata</i> ²
Golden seal	<i>Hydrastis canadensis</i>		SE	G4 S2	Dawson Gwinnett Hall	Rich woods and cove forests in the mountains
Granite rock stonecrop	<i>Sedum pusillum</i>		ST	G3 S3	Gwinnett	Granite outcrops among mosses in partial shade under red cedar trees
Hairy blueberry	<i>Vaccinium hirsutum</i>			G3 S2 S3	Dawson ¹	Upland oak-hickory forests
Indian olive	<i>Nestronia umbellula</i>		T	G4 S2	Hall	Mixed with dwarf shrubby heaths in oak-hickory-pine woods, often in transition areas between flatwoods
Little amphianthus (also pool sprite and snorklewort)	<i>Amphianthus pusillus</i>	LT	ST	G2 S2	Gwinnett	Shallow pools on granite outcrops, where water collects after a rain; pools are less than 1 foot deep and rock-rimmed
Manhart sedge	<i>Carex manhartii</i>		ST	G3 S2 S3	Lumpkin ¹	Middle elevation (2,000–4,000 ft) in slightly acidic to circumneutral soils supporting cove hardwoods of basswood, yellow buckeye, and silverbell

Table L-1
Rare, Threatened, and Endangered Plants Known from the Vicinity of Lake Lanier

Common Name	Species	Federal Status	State Status	Heritage Rank	County	Habitat
Michaux's sumac	<i>Rhus michauxii</i>	LE	SE	G2 S1	Gwinnett	Sandy or rocky open woods, usually on ridges with a disturbance history (periodic fire, prior agricultural use, maintained rights-of-way); the known population of this species in Gwinnett County has been extirpated
Ozark bunchflower	<i>Melanthium woodii</i>			G5 S2	Hall	Mesic hardwood forests over basic soils
Piedmont barren strawberry	<i>Waldsteinia lobata</i>		ST	G2 S2	Dawson Forsyth Gwinnett	Stream terraces and adjacent gneiss. Rocky acidic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods outcrops
Small-headed pipewort	<i>Eriocaulon kornickianum</i>			G2 S1	Gwinnett ¹	Granite outcrops and upland sandhill acid seeps
White fringeless orchid	<i>Platanthera integrilabia</i>	C	ST	G2 G3 S1 S2	Forsyth	Red maple-blackgum swamps; also on sandy damp stream margins; or on seepy, rocky, thinly vegetated slopes

¹ Species of USFWS management concern.

² Data from Georgia Department of Natural Resources letter August 3, 2001 (Krakow, 2001).

Source: Adapted from USFWS letter August 13, 2001 (Tucker, 2001). For an explanation of heritage codes see Table K-2.

Table L-2
Explanation of Heritage and USFWS Codes

1. Global Heritage Rank. This is a conservation rank used by State Heritage Programs and The Nature Conservancy. The rank indicates the relative rarity of an element throughout its range. The following codes are used: G1 = critically imperiled globally because of extreme rarity (5 or fewer occurrences); G2 = imperiled globally because of rarity (6 to 20 occurrences); G3 = either very rare and local throughout its range or found locally (21 to 100 occurrences); G4 = apparently secure globally, though it might be quite rare in parts of its range, especially at the periphery; and G5 = demonstrably secure globally, though it might be quite rare in parts of its range, especially at the periphery.
 2. A “T” subrank is given to a global rank when a subspecies, variety, or race is considered at the state level. The subrank consists of a “T” plus a number or letter (1, 2, 3, 4, 5, H, U, X) with the same ranking rules as a full species.
 3. A “Q” in the global rank indicates that the element’s taxonomic classification as a species is a matter of conjecture among scientists. “HYB” means “species is of hybrid origin.” A “U” in a state or global rank indicates that the element is currently unrankable because of a lack of information or because of substantially conflicting information about status or trends.
 4. State Heritage Rank. This is a conservation rank used by State Heritage Programs and The Nature Conservancy. The rank indicates the relative rarity of an element throughout Georgia. The following codes are used: S1 = extremely rare (5 or fewer occurrences in the state); S2 = very rare (5 to 20 occurrences in the state); S3 = rare to uncommon (20 to 100 occurrences in the state); S4 = common (100 or more occurrences in the state); and S5 = demonstrably widespread, common, and secure in the state.
 5. A question mark (?) is used temporarily when there is some indecision regarding the rank assignment or when an element has not been ranked. “B” stands for “breeding status”; “N” is “nonbreeding status.”
 6. Federal status under the ESA. This field provides information on whether the species is listed as endangered or threatened by the USFWS. The following codes are used: LE = Listed Endangered (the USFWS has listed the species as endangered under the ESA); LT = Listed Threatened (the USFWS has listed the species as threatened under the ESA); C = Candidate Species; PD = Proposed for Delisting (the USFWS has proposed the species for delisting as endangered or threatened).
 7. State Status. This field provides information on whether the species is listed as endangered or threatened by the Georgia Department of Natural Resources. These codes are used: SE = State Endangered; ST = State Threatened; SR = State Rare.
-

APPENDIX M
SENSITIVE ANIMAL SPECIES KNOWN FROM
THE VICINITY OF LAKE LANIER

APPENDIX M

SENSITIVE ANIMAL SPECIES KNOWN FROM THE VICINITY OF LAKE LANIER

Table M-1
Rare, Threatened, and Endangered Animals Known from the Vicinity of Lake Lanier

Common Name	Species	Federal Status	State Status	Heritage Rank ¹	County	Habitat
Appalachian Bewick's wren	<i>Thyromanes bewickii altus</i>		SR	G5 SU	Lumpkin ²	Dense undergrowth, thickets, overgrown fields, and brush in open or semi-open habitat; feeds primarily on insects
Bald eagle	<i>Haliaeetus leucocephalus</i>	LT	SE	G4 S2	Dawson Forsyth Gwinnet Hall Lumpkin	Inland waterways and estuarine areas in Georgia
Bachman's sparrow	<i>Aimophila aestivalis</i>		SR	G3 S3	Forsyth	Abandoned fields with scattered shrubs, pines, or oaks
Bluestripe shiner	<i>Cyprinella callitaenia</i>		ST	G2 G3 S2	Dawson ² Forsyth Gwinnett ² Hall ² Lumpkin ²	Brownwater streams
Cherokee darter	<i>Etheostoma scotti</i>	T	ST	G2 S2	Dawson Lumpkin	Shallow water (0.1–0.5 m) in small to medium warm-water creeks (1–15 m wide) with predominantly rocky bottoms. Usually found in sections with reduced current, typically runs above and below riffles and at ecotones of riffles and backwaters
Etowah darter	<i>Etheostoma etowahae</i>	E	ST	G1 S2	Dawson Lumpkin	Shallow riffle habitat, with large gravel, cobble, and small boulder substrates. Usually found in medium and large cool-water creeks or small rivers (15–30 m wide) with moderate or high gradients and rocky bottoms
Frecklebelly madtom	<i>Noturus munitus</i>		SE	G3 S1	Dawson Forsyth	Rivers with moderate to swift current over substrates ranging from coarse gravel to boulders, submerged trees, and brush
Holiday darter	<i>Etheostoma brevirostrum</i>		ST	G2 S2	Dawson ² Lumpkin ²	Small rocky creeks to moderate-sized rivers
Northern pine snake	<i>Pituophis melanoleucus melanoleucus</i>			G4 T4 S3	Gwinnett ²	Dry pine or pine-hardwood forests

Table M-1
Rare, Threatened, and Endangered Animals Known from the Vicinity of Lake Lanier

Common Name	Species	Federal Status	State Status	Heritage Rank ¹	County	Habitat
Peregrine falcon	<i>Falco peregrinus</i>		SE	G4 S1	Dawson Lumpkin	<i>F. p. anatum</i> nests on cliffs, high hills, or tall buildings; <i>F. p. tundrius</i> primarily seen in Georgia migrating along the coast
Red-cockaded woodpecker	<i>Picoides borealis</i>	LE	SE	G3 S2	Forsyth Gwinnett Hall	Nest in mature pine with low understory vegetation (<1.5 m); forage in pine and pine hardwood stands >30 years of age, preferably > 10 in. dbh
Southern Appalachian eastern woodrat	<i>Neotoma floridana haernatoreia</i>			G5 T4Q S3	Dawson ² Lumpkin ²	Rockslides, cliffs, and caves. High-elevation forests: rock ledges

¹ Refer to Table L-2.

² Species of USFWS management concern.

Source: Adapted from USFWS letter August 13, 2001 (Tucker, 2001).

Table M-2
Explanation of Heritage and USFWS Codes

1. Global Heritage Rank. This is a conservation rank used by State Heritage Programs and The Nature Conservancy. The rank indicates the relative rarity of an element throughout its range. The following codes are used: G1 = critically imperiled globally because of extreme rarity (5 or fewer occurrences); G2 = imperiled globally because of rarity (6 to 20 occurrences); G3 = either very rare and local throughout its range or found locally (21 to 100 occurrences); G4 = apparently secure globally, though it might be quite rare in parts of its range, especially at the periphery; and G5 = demonstrably secure globally, though it might be quite rare in parts of its range, especially at the periphery.
 2. A "T" subrank is given to a global rank when a subspecies, variety, or race is considered at the state level. The subrank consists of a "T" plus a number or letter (1, 2, 3, 4, 5, H, U, X) with the same ranking rules as a full species.
 3. A "Q" in the global rank indicates that the element's taxonomic classification as a species is a matter of conjecture among scientists. "HYB" means "species is of hybrid origin." A "U" in a state or global rank indicates that the element is currently unrankable because of a lack of information or because of substantially conflicting information about status or trends.
 4. State Heritage Rank. This is a conservation rank used by State Heritage Programs and The Nature Conservancy. The rank indicates the relative rarity of an element throughout Georgia. The following codes are used: S1 = extremely rare (5 or fewer occurrences in the state); S2 = very rare (5 to 20 occurrences in the state); S3 = rare to uncommon (20 to 100 occurrences in the state); S4 = common (100 or more occurrences in the state); and S5 = demonstrably widespread, common, and secure in the state.
 5. A question mark (?) is used temporarily when there is some indecision regarding the rank assignment or when an element has not been ranked. "B" stands for "breeding status"; "N" is "nonbreeding status."
 6. Federal status under the ESA. This field provides information on whether the species is listed as endangered or threatened by the USFWS. The following codes are used: LE = Listed Endangered (the USFWS has listed the species as endangered under the ESA); LT = Listed Threatened (the USFWS has listed the species as threatened under the ESA); C = Candidate Species; PD = Proposed for Delisting (the USFWS has proposed the species for delisting as endangered or threatened).
 7. State Status. This field provides information on whether the species is listed as endangered or threatened by the Georgia Department of Natural Resources. These codes are used: SE = State Endangered; ST = State Threatened; SR = State Rare.
-

APPENDIX N
ACRONYMS AND ABBREVIATIONS

APPENDIX N

ACRONYMS AND ABBREVIATIONS

ACF	Apalachicola-Chattahoochee-Flint	FTU	Farmazene turbidity unit
ACT	Alabama-Coosa-Tallapoosa	FY	fiscal year
a.m.	ante meridiem	GFLPO	Greers Ferry Lake Project Office
AQCR	Air Quality Control Region	GIS	geographic information system
AHPA	Archeological and Historical Preservation Act	GORP	Great Outdoor Recreation Pages
ARPA	Archeological Resources Protection Act	GRP	gross regional product
BEA	Bureau of Economic Analysis	hp	horsepower
BMP	best management practice	HSPF	Hydrologic Simulation Program-Fortran
BOD	biological oxygen demand	HUC	hydrologic unit code
B.P.	before present	INV	Inventory Element
BTEX	benzene, toluene, ethylbenzene, and total xylene	L	liter
ca	circa	lb	pound
CAA	Clean Air Act	LDA	Limited-Development Area
cc	cubic centimeter	LE	Listed Endangered
CEQ	Council on Environmental Quality	LMP	Lakeshore Management Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	LT	Listed Threatened
CFR	Code of Federal Regulations	m	meter
cfs	cubic feet per second	mg	milligram
ci	cubic inch	mgd	million gallons per day
CPR	cardiopulmonary resuscitation	mg/L	milligrams per liter
CWA	Clean Water Act	mi ²	square miles
dB	decibel	mL	milliliter
DDE	dichlorodiphenyldichloroethylene	MOU	Memorandum of Understanding
DDT	dichloro-diphenyl-trichloroethane	MPN	most probable number
DO	dissolved oxygen	MSD	marine sanitation device
DNR	Department of Natural Resources	MSDS	Material Safety Data Sheets
DSO	District Safety Office	MSL	mean sea level
EA	Environmental Assessment	N/A	not available
EIS	environmental impact statement	NAAQS	National Ambient Air Quality Standards
EM	engineer manual	NEPA	National Environmental Policy Act
EO	Executive Order	NFPA	National Fire Protection Association
EP	engineer pamphlet	NGVD	National Geodetic Vertical Datum
EPA	Environmental Protection Agency	NPDES	National Pollutant Discharge Elimination System
EPD	Environmental Protection Division	NPSM	Nonpoint Source Loading Model
ER	Engineer Regulation	NRCS	Natural Resources Conservation Service
ESA	Endangered Species Act	NRHP	National Register of Historic Places
°C	degree Celsius	NWI	national wetlands inventory
°F	degree Fahrenheit	NWISWeb	National Water Information System Web
FC	fecal coliform	OAQPS	Office of Air Quality Planning and Standards
FNSI	Finding of No Significant Impact	OH	old highway
FPPA	Farmland Protection Policy Act		

O&M	operation and maintenance
PAH	polycyclic aromatic hydrocarbon
PD	Proposed for Delisting
p.m.	post meridiem
PMO	project management office
PWC	personal watercraft
RCCS	recreational carrying capacity study
RCRA	Resource Conservation and Recovery Act
REAS	Recreation Economic Assessment System
REMI	Regional Economic Models, Inc.
ROD	Record of Decision
ROI	region of influence
SH	state highway
SHPO	State Historic Preservation Office
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SMP	shoreline management plan
SOP	Statement of Purpose
SR	State Route
SSURGO	Soil Survey Geographic [Database]
ST	State Threatened
STORET	Storage and Retrieval [System]
SU	standard units
TES	threatened and endangered species
TMDL	Total Maximum Daily Load
TN	total nitrogen
TP	total phosphorus
TSS	total suspended solids
µg	microgram
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDOC	U.S. Department of Commerce
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
WHO	World Health Organization
WPA	Work Projects Administration
yr	year