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.

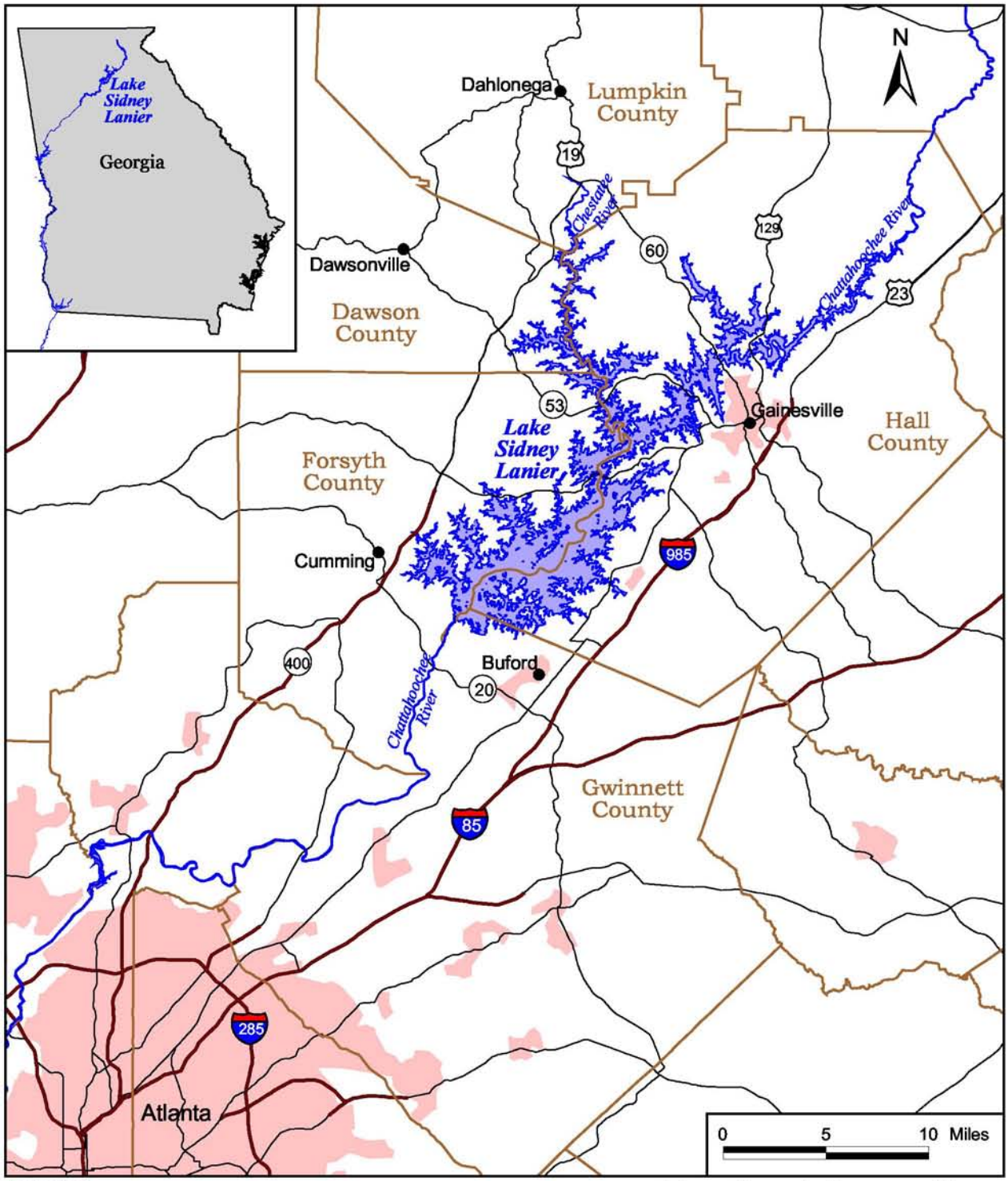
Buford Dam is at river mile 348.3 on the Chattahoochee River in Gwinnett and Forsyth Counties, Georgia, about 35 miles northeast of Atlanta and 4.5 miles northwest of the town of Buford, Georgia (Figure 1-1). Lake Sidney Lanier (known as "Lake Lanier") extends up the Chattahoochee and Chestatee Rivers 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,



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, amphitheaters, 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

[1]The terms *Corps*, *USACE*, and *Mobile District* are used interchangeably throughout this document.
[2]Management 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 *et seq.*; 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 *et seq*., 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 *et seq*.	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
Environmental Resources	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	
Recreation	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	
Contract Administration	Construction and Inspection	
	Dam Maintenance	
	Pesticide Tracking	
Planning	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 Effort [1]	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 (*Alteranthera philoxerides*)
- Water hyacinth (*Eichormia crassipes*)

Currently there are no known infestations of these aquatic species at Lake Lanier (Lovelady, 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:

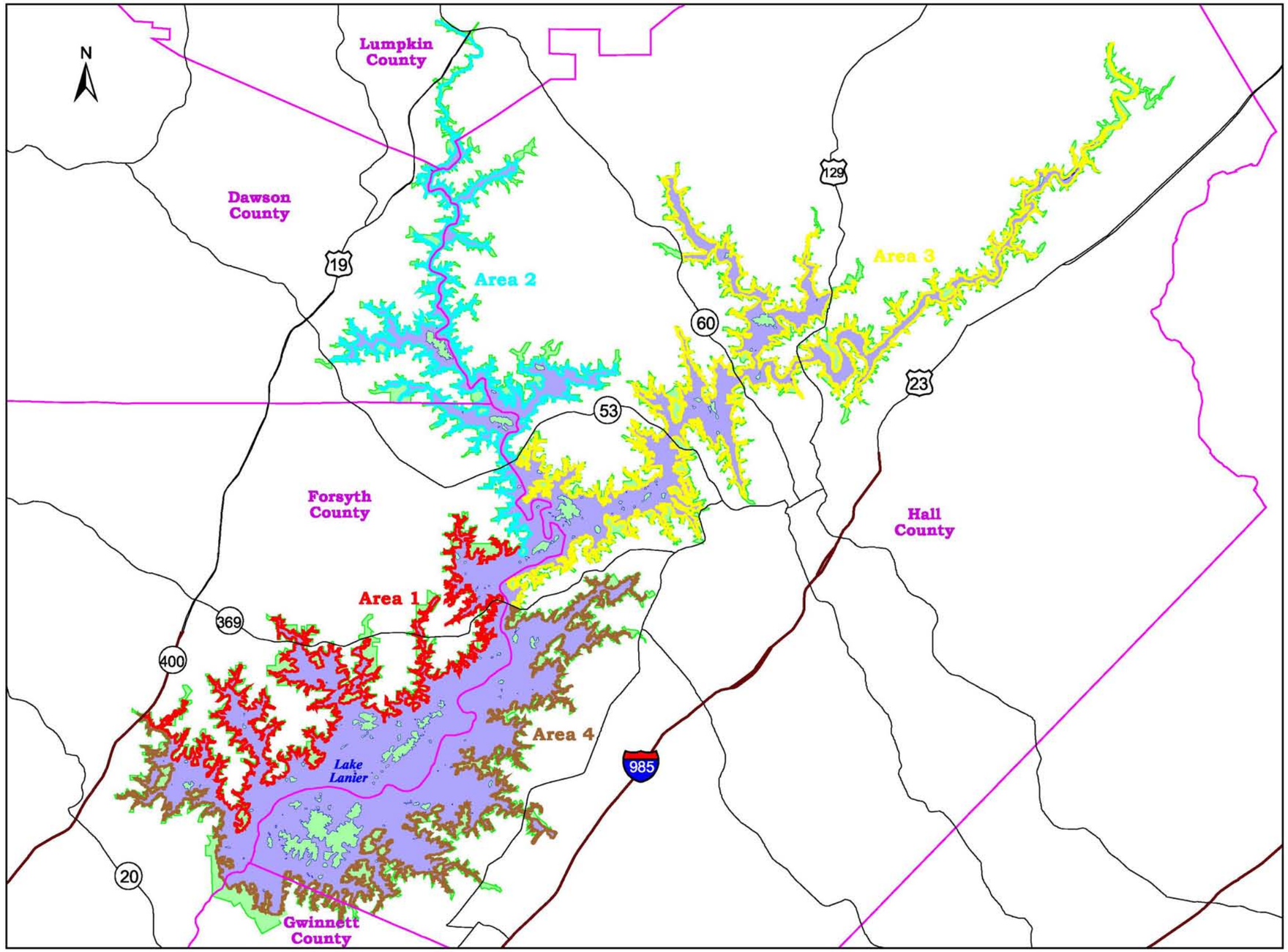
Improvements to the SMP are proposed in the following areas:

(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**

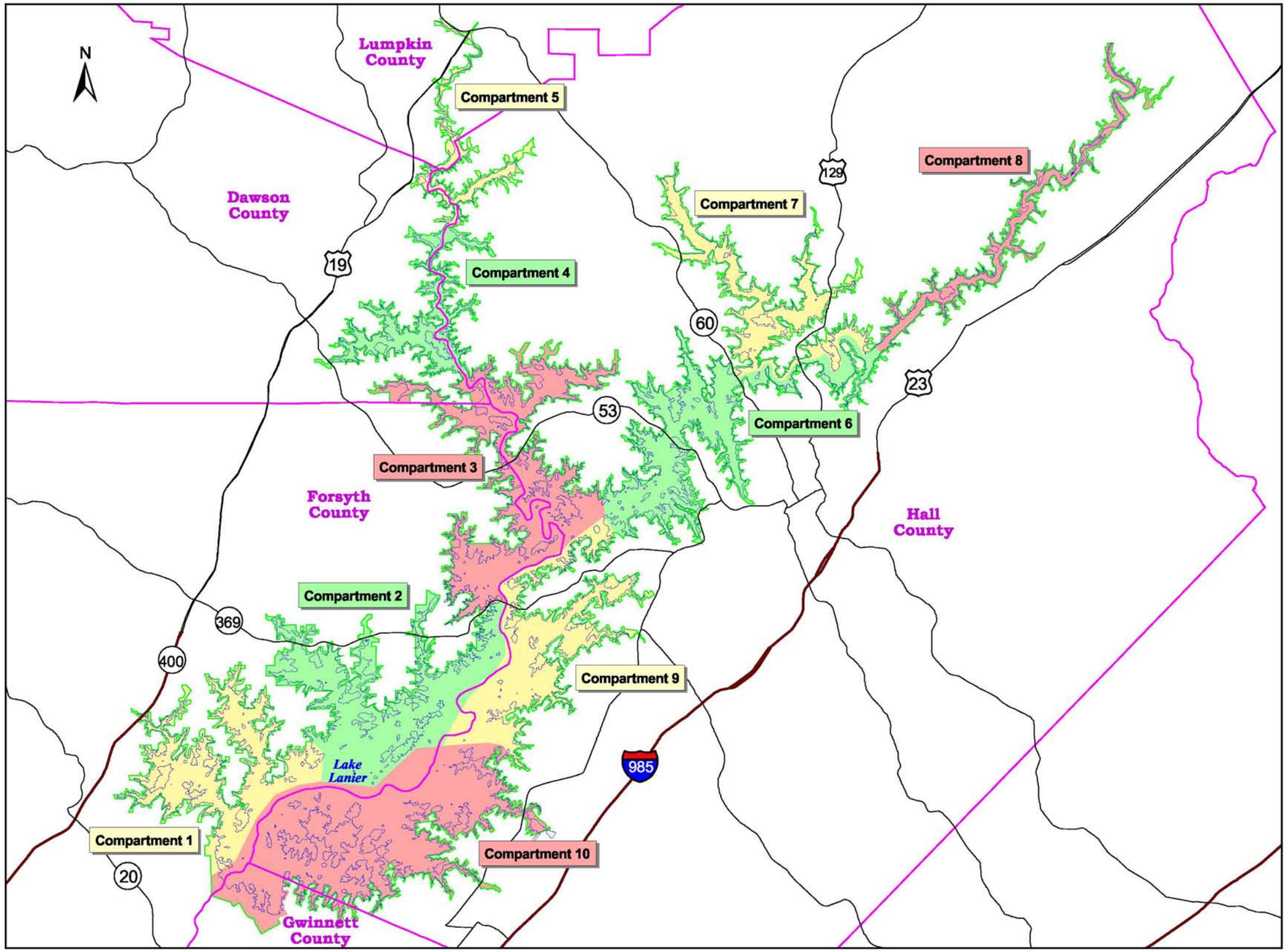
Fulfillment of a multiple-use concept at Lake Lanier led to the development of specific goals based on land use allocations identified in the 1988 SMP (see Shoreline Management for explanation).

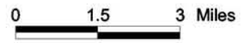
In **Limited Development Areas** (LDAs), the basic forest management goal is to develop and maintain a healthy, vigorously growing, uneven-aged forest that provides sustained public use while conserving most natural resources values. LDAs may be planted with native shrubs and trees under the proper circumstances, 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

[1]N/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.

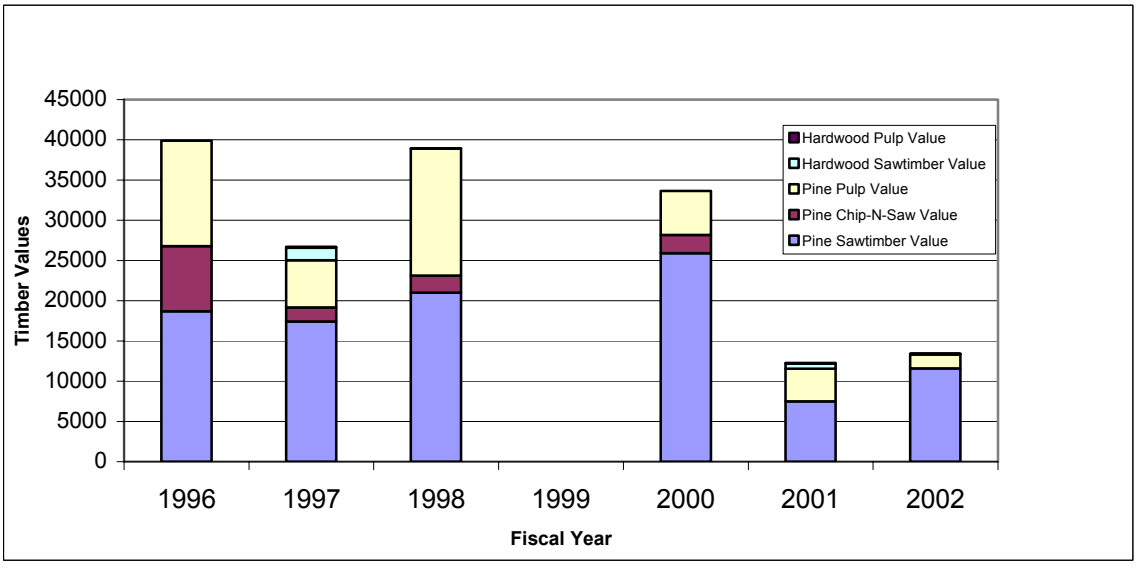


Figure 2-3. Timber Harvest Value Summary, FY 1996–2002.

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.

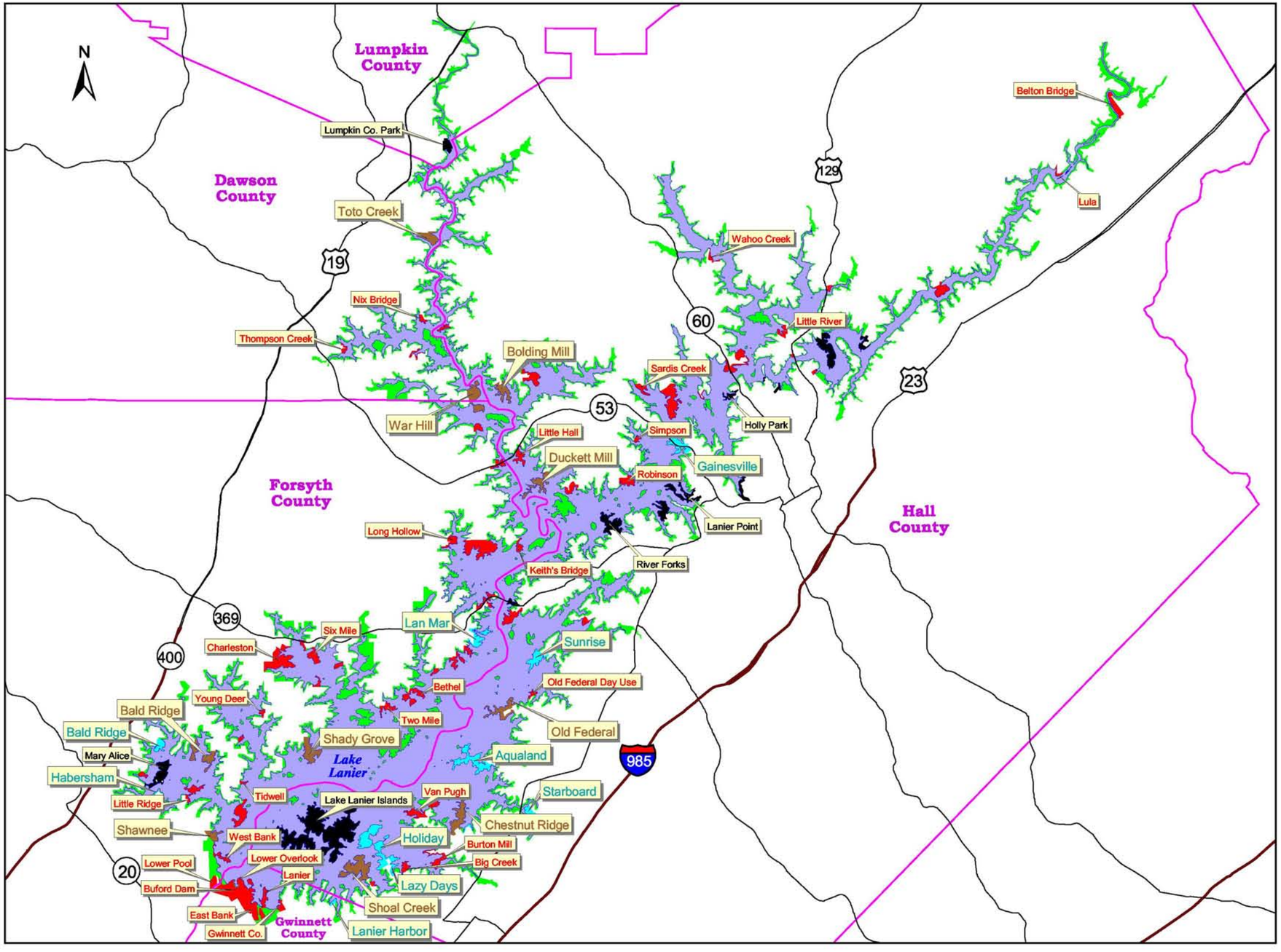
Data recovery was conducted at several prehistoric archeological sites prior to the impoundment creating the lake. Historic resource surveys of Lake Lanier have identified seven historic properties within the federal government property. Since passage of the National Historic Preservation Act in 1966, 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.

0 1.5 3 Miles

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 Leasing[1]

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[CoE1]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
State-Leased Areas		
Lake Lanier Islands	1,101	820
Gainesville (DNR)	7	7
Aqualand (DNR)	4	4
County/City Leased Areas		
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
Private Company Facilities (Marinas/Boat Storage)		
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
Quasi-Public Areas		
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 alternatives[1] 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 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.

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
Environmental Resources	
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	**Vegetation** 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, including destruction of public property and removal of vegetation.
	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 the 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.

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

Operation and Maintenance Category	Proposed Program Improvements
	Private Boat Docks 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.
	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 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 vigorous inspection and enforcement of private and community boat dock maintenance standards.
Shoreline Management (continued)	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.
	Boat Dock Usage 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	Encouraging day uses (e.g., fishing, sunbathing, wading, hiking, swimming, birdwatching, and picnicking).
	Establishing the islands as wildlife conservation areas through vegetation, timber stand, habitat and wildlife management activities.
	Explore the establishment of archery deer hunting to control over abundant deer populations on the islands.
	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.

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	**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.
	Allowing sea walls 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.
	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	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.