APPENDIX L

Original Scoping Comments

a. Submitted via Court Reporter

b. Submitted via Project Website and at Scoping Meetings

c. Submitted via email, fax, or U.S. Mail

ALABAMA-COOSA-TALLAPOOSA RIVER BASIN

PUBLIC HEARING

WATER CONTROL MANUAL UPDATE

SEPTEMBER 15, 2008

Ben Robertson Community Center
2753 Watts Drive
Kennesaw, Georgia

* * *

Debbie C. Hennings, RPR, CCR, B-2007

Certified Court Reporter

P R O C E E D I N G S

THE COURT REPORTER: Please state your name, address and company for the record.

THE SPEAKER: First name is Vince, V-i-n-c-e, Persano, P-e-r-s-a-n-o, P.O. Box 29296, Cartersville 30120. Allatoona Yacht. My comment -- I may have to put it in some other words. As an interim program in lieu of being able to modify the winter pool during drought conditions, to consider a contingency program, where you would modify that winter pool with a long-term program to try and permanently modify that winter pool to maintain more water in the winter pool basin.

Now, with the long-term intent of doing a study in the future, downstream study in the future, to permanently change the law so the winter pool can be modified and leave greater extent of water in the pool. Thank you.

THE COURT REPORTER: Please state your name, address and company for the record.

THE SPEAKER: Steve Manko, M-a-n-k-o. Address is 2426 Doubletree Drive, Acworth, Georgia. I have concerns about the lake levels, especially during the drought periods and the

amount of water that they're releasing downstream to Alabama and Florida.

I would like to make sure that they continue or try to reduce the amount that they allow out to go downstream as much as possible to maintain our water levels as well.

Also, in the winter, I would prefer that the winter pool not be reduced as much as it has been, even if they do that on a temporary basis due to the conditions that we suffered this past year from the drought. Thank you.

THE COURT REPORTER: Please state your name, address and company for the record.

THE SPEAKER: Bert Clements, B-e-r-t, C-l-e-m-e-n-t-s. 122 Kensington, K-e-n-s-i-n-g-t-o-n, Path, P-a-t-h, Dallas, Georgia. Company is Horizon Commercial.

My statement is, my biggest concern is with the drought situation that we have been in in the last few years and not knowing whether or not we're going to have any alleviating this situation, I wonder if there was some way we could maybe even raise the winter levels a little bit to alleviate this drought situation that we are having.

Last year a case in point, where we had such a major drought issue, went down to one of the lowest levels known.

So my opinion is that we keep the levels a little higher than the 823 that we currently keep in the wintertime. So that's -- and you know what, and in the summertime I would really like to see the levels stay where they are.

The 840 is absolutely where I would like to keep those levels. They could even bring it up a little bit, it wouldn't bother me a bit, just to keep -- again, with the drought the way that it is. Thank you very much.

THE COURT REPORTER: Please state your name, address and company for the record.

THE SPEAKER: Charles Lowry, L-o-w-r-y. My address is 44 Summerset Lane, Cartersville, Georgia 30121. Lowry Capital Management. Same comments (as previous speaker), ditto.

THE COURT REPORTER: Please state your name, address and company for the record.

THE SPEAKER: Diane Tatum, T-a-t-u-m, 1304 Marietta Country Club Drive, Kennesaw, Keller Williams.

For the benefit of all the boat owners and

landowners that enjoy the lake, they should keep the levels constant so that there is no problem, no danger with traversing the lakes and the lake looks beautiful at the same time. That's it.

THE COURT REPORTER: Please state your name, address and company for the record.

THE SPEAKER: J.S. Read, R-e-a-d. 218 Lakeshore Circle, Acworth, Georgia 30101. I'm a homeowner.

I would like to see the lake held up higher at pool or above year round. I don't believe it contributes that much to other states' water supplies and I think it will make it a better lake, improve the quality, if we hold it up higher year round. That's it. Thank you.

THE COURT REPORTER: Please state your name, address and company for the record.

THE SPEAKER: My name is Cynthia Rodenbeck, R-o-d-e-n-b-e-c-k. I'm a citizen. My address is 3761 Clear Lake Way, three words. That's in Acworth, Georgia 3011.

I am interested in keeping the lake levels as they are, because of the drought situation that we had last year there was water to share. In the winter if we could raise the lake level a little

bit more, we would have even more water to share.

I'm not against sharing water, but I don't want to see them lower it knowing that the water that we need to keep what we have and maybe even raise it as opposed to lowering the lake level. And having the Corps work more with LAPPA, preservation organization for Lake Allatoona.

THE COURT REPORTER: Please state your name, address and company for the record.

THE SPEAKER: Name is Bob Hovey, H-o-v-e-y. 1165 Ward Creek Drive, Marietta, 30064. Company is retired.

I think that we should expand the capacity of Lake Allatoona by dredging the lake and piling up the dredged material on the top of existing sandbars already in the lake.

The advantage of this would be it can be done immediately. It doesn't expand the footprint, so you don't need new permits. It doesn't require a new dam and it doesn't require taking of any private property by eminent domain.

There are ample sandbars in the existing pool of the lake where they used to be small islands. And when the lake filled, the islands have eroded away and now they're just barely under the surface

of the water, readily visible when the lake is low.

You surround a piece of one of those sandbars with a cofferdam 4 foot, 6 foot high, go get one of the Corps of Engineer dredges out of the inland waterway they already operate, dredge the lake material out, dump it behind there and build the island back up. Build the island maybe even 15 or 20 feet high.

So all this can be done completely within the existing pool of the lake. There is no need to disturb anything, but you get a lot of new lake capacity for cheap.

Takes about two people and some diesel fuel to run one of those dredges 24 hours a day. You can make a big hole. And it's well within the Corps of Engineer's competence because they have been doing it for at least 40 or 50 years that I know of, keeping the inlets open up and down the eastern seaboard and the Mississippi River.

Now, the problem, the kickback that I'm getting is that there are some who claim that there are heavy metals, PCBs, arsenic and possibly lead sequestered in the sediments on the bottom of the existing lake mixed in the mud.

Their concern is that the heavy metals, once dug up and put up above the water level on these new islands, would then become loose of the mud that they're stuck in as they're subjected to the rain and to the wind.

That makes it more costly, but even that's not a complete -- doesn't make it impossible. The idea of lining landfills like we use for land filling can easily be used the same thing here, you just have to put your cofferdam up and put a liner in it to make sure it doesn't go down.

And then once the new island is created, you cover it with clean material with no heavy metal or whatever in it and cap it just like we do a Subtitle D landfill.

And if we did that, we could have a whole lot more water for whichever of the uses that all these people want to argue about and we could do it within the existing lake area.

It could apply to any lake, but it's particularly adaptable to Lake Allatoona because of the large number of very shallow areas in there. That's my idea.

THE COURT REPORTER: Please state your name, address and company for the record.

THE SPEAKER: Ralph Rodenbeck, R-o-d-e-n-b-e-c-k. I'm at P.O. Box 1742 in Cartersville 08820.

I live on the lake and I'm concerned like everybody else about the lake level in the summer as well as in the winter because of the drought. And that's about it, I guess.

THE COURT REPORTER: Please state your name, address and company for the record.

THE SPEAKER: I'm John Ashley. I'm at 2623 English Oaks Lane, Kennesaw.

Well, I think that this is eye-opening. I had never seen this much -- this type of information in one setting, where you could correlate ideas and see the flow of the information.

Some things that I thought, you know, you could look from the macros perspective and not see fine details. I think that demonstration over there about the flow, inflows to the various basins, that kind of opened my eyes up a little bit.

I'm an Alabaman, so I was there when the water wars started. So I used to always wonder -- well, I read in Alabama history and it said that

1/12 of all the fresh water in America flowed through Alabama.

I wondered, well, why do we need to take the water from Lake Lanier to feed into Alabama, you know? I'm still not convinced. I think we can do a better job of conservation.

Plus, you got Coosa River feeding into that area. I lived in Montgomery, so the size of the Alabama River was just mammoth in comparison to the Chattahoochee. You say, well, why do we need so much more water?

I'm thinking, you know, it finally dawned on me that there is no real major natural source that feeds Lake Lanier other than the water that flows out of the mountains, you know, that's caught from rainfall.

That's awesome, you know, to think that much water, whereas Alabama is fed by the Tennessee River 100 some miles in Alabama, nothing but Tennessee River.

And I just don't see -- looks like we could do a better job of managing. But it was enjoyable. I got here late, but thank you.

(Proceedings concluded at 7:51 p.m.)

* * *

CERTIFICATE

STATE OF GEORGIA:

COBB COUNTY:

I hereby certify that the foregoing transcript was taken down, as stated in the caption, and the questions and answers thereto were reduced to typewriting under my direction; that the foregoing pages 1 through 11 represent a true and correct transcript of the evidence given upon said hearing.

This, the 15th day of September 2008.

DEBBIE C. HENNINGS, CCR-B-2007
My commission expires the
31st day of March 2009

ALABAMA-COOSA-TALLAPOOSA RIVER BASIN WATER CONTROL MANUAL UPDATE AND ENVIRONMENTAL IMPACT STATEMENT

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PUBLIC HEARING ORAL COMMENTS

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The oral comments of interested parties, taken at the request of Malcolm Pirnie, Independent Environmental Engineers, Scientists and Consultants, at The Forum, 2 Government Plaza, Rome, Georgia, public hearing commencing at approximately 5:00 p.m., on September 16, 2008, and comments reported before Lynn Smith, court reporter and notary public.

DISCLOSURE

State of Georgia)
County of Floyd)

Pursuant to Article A.B. of the Rules and Regulations of the Board of Court Reporting of the Judicial Council of Georgia I make the following disclosure:

I am a Georgia Certified Court Reporter. I am here as a sole practitioner. I was contacted by the office of Malcolm Pirnie to provide court reporting services for this deposition. I will not be taking this deposition under any contract that is prohibited by O.C.G.A. 15-14-37 (a) and (b).

I have no contract/agreement to provide reporting services with any party to the case, any counsel, or any reporter or reporting agency from whom a referral might have been made to cover this deposition.

I will charge its usual and customary rates to all parties in the case, and a financial discount will not be given to any party to this litigation.

Lynn Smith, CCR# B-1672 September 16, 2008

ORAL COMMENTS

LEIGH ROSS, City Of Rome:

All right. I'm Leigh Ross with the City of Rome, water and sewer division. Rome's concern is twofold. One, that we always have enough minimum flow in our rivers, the Oostanaula and the Etowah, to allow us a good quality and quantity of water for our water treatment plant for the drinking water for the people of the area, and also that we have enough water in the streams to assimilate the waste water that we produce here in Rome.

The other concern we have, though, is on the other end of the spectrum, and that is flood control. We realize it's going to be quite an undertaking, as it always has been, to regulate the pool in the Allatoona and Carters so that the people downstream are protected from floods and yet they still have an adequate water supply. So we just want to emphasize, though, that, in considering water quality and quantity, that flood control is given a high priority.

AL HODGE, Greater Rome Georgia Chamber of Commerce:

I'm Al Hodge. I represent the Greater Rome Georgia Chamber of Commerce, and we would like

to ensure that the water that we enjoy and have been good stewards of continues to be in Rome. We oppose interbasin transfers, but if water is going to be transferred, we would like it treated and returned to the point of origin, the point of origin, which environmentally maintains the flow and the levels of water.

I also want to note that the City of Rome and Floyd County have been good stewards of water, as measured by the amount of money and the infrastructure spent on waste water treatment, as well as corrosion control, sedimentation, and so forth, so that there's been a long history of good and positive stewardship in Rome and I would hate to see the citizens of Rome and Floyd County be penalized for their good stewardship.

It would certainly send the wrong message if the kinds of recommendations that we're making are not followed because of the good stewardship that the community has put money where its mouth is, as well as other time and effort on behalf of good sound environmental principles and policies as it relates to water.

TED TOUCHTONE, Independent Wildlife Biologist:

My name is Ted Touchtone. I am a wildlife biologist. I retired from the State of Georgia. I have a little private consulting business right now, and I believe firmly that any concept of interbasin water transfer is going to ultimately lead to a major problem. As a matter of fact, the whole concept of interbasin transfer, in my opinion, is rooted in the concept of growth, and just growth for the pure sake of growth, I also believe is leading us down a very slippery slope.

If -- example, Atlanta has over exceeded the Little Chattahoochee water supply. Well it appears to me that that should limit the growth right there, but we continue to go -- we have a government here that has gone to China twice in the last year to get more people to move into the metro area industry, and we don't have enough water to fund them anyway without water taken out of this basin, but this river goes into the capital of Alabama, not the capital of Georgia. So you've got these real incredibly complicated political processes as well as ecological.

But in summary, to make it real simple, my

view is we are setting ourselves up for long-term problems with interbasin transfers because you are artificially propping up a population that should -- that has already exceeded or at least reached it's caring capacity. And we're not even going to get into the issues of building dikes on a city that's 15 feet below sea level.

And that's another issue for another day, which is another ecological nightmare, just setting people up for death on down the road when another Cat 5 comes through. It's just there are some things -- there is a limit to human growth and the amount that we can squeeze out of our environment, and at some point we've got to use some wisdom along with the knowledge to figure out where we stop the -- at least reduce the growth rate. Thank you.

JAMIE DOSS, Rome City Commissioner:

Hello. My name is Jamie Doss. I'm a Rome City commissioner. I'm here tonight to support the Rome position. Some of my key concerns are interbasin transfers, certainly transfers out of our own river basin. I have concerns about tampering with the winter pool and Allatoona for

flood control reasons. I also am concerned about the new Paulding County reservoir that could divert water out of the basin to Atlanta with no return, but overall I'm, of course, here to protect our city and make sure that we have water when we need it. Thank you.

[Comments conclude; public hearing concludes 8:00 p.m.]

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CERTIFICATE

STATE OF GEORGIA)
COUNTY OF FLOYD)

I, Lynn Smith, the undersigned, a duly commissioned and qualified notary public within and for the State of Georgia, do hereby certify that the foregoing are the oral comments given at said time and place by said party.

IN WITNESS WHEREOF, I hereunto set my hand and official seal of office at Rome, Georgia, this 17th day of September, 2008.

Lynn Smith, CCR B-1672
Notary Public
My Commission Expires: March 18, 2011

STATE OF ALABAMA, CITY OF GADSDEN,

SENIOR CITIZEN BUILDING,

SEPTEMBER 17, 2008,

5:00 P.M.

MR. KEN SWAFFORD,

(Member of the Neely-Henry Lake Association)

My concern is the water quality coming down to Gadsden from the upper Coosa is not as good a quality of water as we have been having in the past. The water is gone.

My other major concern is the water quantity coming from the upper Coosa to Gadsden is not what it used to be. Our flows are much less. And my concern is that the quality of our water is going to continue to decline is because the water quantity and quality is not what it should be or what it always was before Lake Altoona and Carters was with the other

waters in the area.

My third concern is the City of Atlanta is taking too much water out of the basin, the Coosa basin. This is reducing our quality and quantity of water that is required for us to sustain the lake.

My belief is that the City of Atlanta should look for other resources for their drinking water. Their waste of water from the Atlanta Journal Institution, about four years ago, was in the neighborhood of about sixty percent. The average municipality wastes between fifteen to seventeen percent. Atlanta wastes sixty percent of theirs. So they should fix their problem. Therefore, they wouldn't be getting water from our basin, Coosa basin.

I would like our Neely-Henry Lake waters to be maintained at the current level year-round, which is 507 to 508 elevation.

I believe that covers it.

MR. JAMES OWENS,

(President of Neely-Henry Lake Association)

Our association has several concerns. One is the diverting of water in Georgia. We're fearful that our water quality will decline if that takes place. Last year when we had the drought, our water quality was diminished greatly. And if water is diverted during a drought, I'm scared how it would be.

Our other concern would like to be channels marked with buoys. Power has said the Corps of Engineers is responsible, the Corps of Engineers says it's the power company's responsibilities. We'd like to have someone tell us who is responsible. It is a dangerous river. People can drown if that doesn't happen.

(COMMENTS CONCLUDED.)

oo-0-oo

CERTIFICATE

STATE OF ALABAMA)

ETOWAH COUNTY)

I HEREBY CERTIFY that the above and foregoing transcript was taken down by me in stenotype, and the comments given thereto were transcribed by means of computer-aided transcription, and that the foregoing represents a true and correct transcript of the comments given by said participants.

I FURTHER CERTIFY that I am neither of counsel, nor of relation to the parties to the action, nor am I anywise interested in the result of said cause.

ORIGINAL

CARMEN A. VELEZ
SHORTHAND REPORTER AND
NOTARY PUBLIC ALABAMA-AT-LARGE
MY COMMISSION EXPIRES: 2-13-12

CORPS OF ENGINEERS STATEMENTS

Quality Inn and Suites

2705 E. South Boulevard

Montgomery, Alabama 36116

September 18, 2008

5:00 p.m. - 8:00 p.m.

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Lenous Parker, Page 9

* * * *

JOE B. FAIN, Private Citizen

(Accompanied by daughter, Fredna Watkins)

(No e-mail address or phone number given)

* * * *

MR. FAIN: In 1968, Alabama Power Company built Boulder Dam, and in doing so, they dug a canal by my property. This canal caused erosion by my property, and Alabama Power didn't pay me for the land that was covered by the new lake. The new lake was raised 7 feet -- from 245 to 252. I think the power company got the probate judge to condemn the land, but they didn't pay us -- they didn't pay any of the owners of the land. We had to sell the land, but they didn't pay for it. So in the meantime -- Fredna knows this -- we had the dredge people to dredge land over to

my point to make a beach by 10 yards wide and 25 yards long. For doing that, I let them tie to my trees to stabilize the dredge lines.

MS. WATKINS: This was when they were building the canal.

MR. FAIN: The first year, Fredna and some of her friends swam from that beach, and in 1969, there was no beach.

MS. WATKINS: It had washed away --

MR. FAIN: -- from the erosion. And scientists knew that it was going to erode, and I drove a 2 by 4 in the bank that was left after the beach was eroded. In 1970, no 2 by 4 is there; erosion had gotten the 2 by 4's I had drove in. I've had -- I built a fishing pier in the canal side; I had put steps from the bank down to the fishing pier. I had to put three sets -- three different sets of steps because the bank would erode and the steps would fall in, so I put three different steps to go down to the fishing pier because of erosion.

MS. WATKINS: It's longer and longer each time.

MR. FAIN: There's another bad place that's still eroding, and that's in front of my patio. I've had to put bags of concrete cement in front of that to try to stop the erosion in front of it. I used to mow grass in front of the patio, but it's not -- I don't have -- there's not any land to mow now.

MS. WATKINS: And the patio is cracking.

MR. FAIN: Huh?

MS. WATKINS: The patio is cracking.

MR. FAIN: Yeah. I had to put cement bags in front of it to keep the patio from falling in. The Alabama Power Company knows all of this, and they will not pay me for any damages for erosion or from flooding my property.

MS. WATKINS: When they raised the lake levels.

MR. FAIN: They raised the lake from 245 to 252, and I have a map showing that, and in

some places, I lost 65 -- about 65 feet of land. I have just had the offer -- an offer for my property, and the lady in Montgomery was dealing with me and a man up in north Alabama. He bid -- He was going to give me $825,000.00 for the four lots, cabin and everything. He offered me the $825,000. I have met with two Alabama Power Company ladies that met with me at my cabin about -- let's see. When was it?

MS. WATKINS: I don't know when it was.

MR. FAIN: About August the 15th or something like that -- about a month ago -- and I showed them some of the erosion and I made this offer to them that Alabama -- I would sell my property, including three boats, golf cart, riding lawnmower and all fixtures, beds and everything. I'll just walk out for $900,000, and so far, I haven't heard a word from them.

MS. WATKINS: How is this related to the FERC, though?

MR. FAIN: What?

MS. WATKINS: How is this related to the FERC? What are you getting to?

MR. FAIN: The FERC is supposed to regulate the power company. I have contacted the FERC. In fact, his assistant is supposed to call me in the morning -- his secretary. I called today, and he wasn't in, she said. She said she would get him to call me tomorrow. I've talked to him a number of times about these -- this problem, and the relicensing of lake -- the lakes, and he hadn't done anything, and I hope that the Corps can help me with my problem.

I guess that's it. I would like to take somebody up there from the Corps. I would like to take someone from the Corps up there and show them what has happened to my property.

MS. WATKINS: And it would be good for the different surveys, the different years, to show the erosion. It would be good to show them.

MR. FAIN: Well, I want to show them the

erosion. So far, FERC, they said they're sending somebody to look at the erosion, but I haven't seen them. I just get a letter from them saying they don't see any erosion.

MS. WATKINS: He has paperwork, too, that they might be copying. They're going to make copies, and it will be -- I guess it's background information?

MR. FAIN: Yes. See, this has been since 1968 where it was -- where these -- where the water started coming by my point. My daddy bought this property in 1940, and it's gone down through the family since then.

MS. WATKINS: Did you want to say something about having two dams on one lake? It's kind of unusual? Is that true?

MR. FAIN: No. I think it's obvious. Now, they -- The Alabama Power Company is in the process of relicensing at this time, and they quit for some reason.

MS. WATKINS: Getting their license for what?

MR. FAIN: For a 40-year period or 20.

Some relicensing is 20 years and some is 40 years, but this fellow that I called has told me that they've stop relicensing at the present time.

MS. WATKINS: At the FERC?

MR. FAIN: Huh?

MS. WATKINS: Was that the FERC?

MR. FAIN: Yes.

MS. WATKINS: That they stopped it?

MR. FAIN: Yes. The FERC relicensed the dam.

MS. WATKINS: Okay. For the power company?

MR. FAIN: And they done me wrong. Who's gonna make them do right? Well, right now all I would like for the Corps to do is to go with me to my place on the lake to observe what's happening. I'm retired and I can go any time, day or night.

* * * *

LENOUS PARKER, Private Citizen

lenous@bellsouth.net

* * * *

MR. PARKER: All right. Well, what I am here for is called "desalt." Desalt. There's a river up in North Carolina which feeds to each and every one of the states -- South Carolina, Kentucky, all the way down in Georgia, us in Alabama and also in Florida. Now, take the water out of the ocean, take the salt out of it, and you've got the best fresh water you want to have. If they build this and that way it would fill up all the rivers, all the lakes, all the resources, reservoirs and everything all the way down. It would be actually -- All of our rivers goes to the ocean. It would be taken out of the ocean and recycling it going all the way through. That's it. That's it. Desalt. And one of the men over here told me that they're actually building a plant out in

California, and so rather than arguing about water, as they have the last 40 to 50 years, we've had the worst drought in 100 years, stretching all the way up to North Carolina. This way, would supply North Carolina, South Carolina, Kentucky, Georgia, Alabama -- all the states going down to Florida.

Thank you.

* * * *

REPORTER'S CERTIFICATE

STATE OF ALABAMA

ELMORE COUNTY

I, Anita D. Griffith, Certified Professional Reporter and Notary Public in and for the State of Alabama at Large, do hereby certify on Thursday, September 18, 2008, I reported the foregoing STATEMENTS for the Corps of Engineers; that the foregoing colloquies, statements were reduced to Pages 2-10 under my direction and supervision.

This the 29th day of September, 2008.

_____

Anita D. Griffith ACCR #380
Certified Court Reporter and
Notary Public
Commission expires: 8/17/2011

Comment Date: 09/15/2008
Comment By: Stradford , Eric
Basins: Entire Basin
Categories: Economic Resources, Public Communication, Recreation, Scoping Meetings
Attached Document:
Comment:

I am interested in supporting the mission of the Corps of Engineers Natural Resources Education Foundation. This foundation partners with the Corps of Engineers under a formal MOU.

Comment Date: 09/15/2008
Comment By: Glover , Jeffrey
Basins: Entire Basin
Categories: Baseline Conditions, Economic Resources, Impact Analysis, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

The LAA main focus is on water quality and quantity. We feel lake level is of the utmost importance in preserving the quality of our water and also aides in the decrease of shoreline erosion. Maintaining a more consistant water level will ensure that these will remain constant for generations to come.

Comment Date: 09/15/2008
Comment By: McCOne , Mike
Basins: Entire Basin
Categories: Navigation, Recreation, Water Quantity/Supply
Attached Document:
Comment:

We faced drought conditions just 1 yr ago in 2007 and Corp of Engineers waited too late before reducing water release to minimum levels which endangered the water supply which tens of thousands of people in Georgia depend on. When we have conditions like in 2005 when pool levels were 10 ft above full pool levels why can more of that water be maintained in the resevoir (Lake Allatoona)throughout the winter months and make the lake more drought resistant and more navagable for boat use year round. There has to be a better balance than we have seen in the past 3 years. While water levels are low in winter months there is ample opportunity to dig using heavy equipment especially in the allatoona creek portion of the lake which would allow for much more water to be retained in the lake and improve the appearance of the community year round instead of looking at a giant mud pit 6 months of the year. This could partially be paid for by residents who have dock permits or wish to obtain dock permits in areas of the lake where property owners adjacent to corp land currently don't have water depths that would allow for docks. You could

also double the cost of the dock permits if you were to retain enough water to use the lake year round in all sections.

Comment Date: 09/15/2008
Comment By: Bruton , Angi
Basins: Entire Basin
Categories: Economic Resources, Impact Analysis, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

The main focus should be on water quality. We feel the lake level is of upmost importance in preserving the quailty of our water and also aides in the decrease in shore line erosion. Maintaining a more consistant water level will ensure that these will remain constant for generations to come.

Comment Date: 09/15/2008
Comment By: Bruton , Angi
Basins: Entire Basin
Categories: Economic Resources, Water Quantity/Supply
Attached Document:
Comment:

I have a retail marine business in the area and the lower lake levels have a direct impact on my business. If winter pool was at 830 this would allow for lake usage year round. This would also help the fish population and keep the algae bloom in check.

Comment Date: 09/15/2008
Comment By: Bay , James
Basins: Etowah Drainage Area
Categories: Baseline Conditions, Economic Resources, Navigation
Attached Document:
Comment:

I have a retail marine business in Kennesaw Ga. Droping the water level the typical seventeen feet to winter pool has a drastic impact on our business as well as other marine stores, bait and tackle shops,gas stations, and marinas.

Comment Date: 09/15/2008
Comment By: Mayo , Catherine
Basins: Etowah Drainage Area
Categories: Recreation, Scoping Meetings, Threatened and Endangered Species
Attached Document:
Comment:

I'm concerned about the fact that Alabama had no restrictions on water usage while we were unable to use water for any purpose due to a Level 4 drought. I believe in helping to maintain wildlife, but not at the expense of

the humans being not having drinking water.Why isn't Alabama and Florida working on plans for their own water reservoirs?

Comment Date: 09/15/2008
Comment By: Ragsdale , Jennifer
Basins: Tallapoosa Drainage Area
Categories: Recreation
Attached Document:
Comment:

I feel like the full pool level of Lake Allatoona should be raised by several feet. I don't feel like it would have a negative impact on anyone and it would provide more water for recreation throughout the year. It seems that the boating season gets shorter each year as a result of the drought and required water releases. The increase in full pool levels would help offset this to a certain degree.

Comment Date: 09/15/2008
Comment By: Ragsdale , Jennifer
Basins: Tallapoosa Drainage Area
Categories: Water Quality
Attached Document:
Comment:

I am extremely concerned about the quality of the water in Lake Allatoona. It seems that the development around the lake is growing at an alarming rate. The county commissioners in Cobb do not seem to consider the impact to the lake when making zoning decisions. I feel that the Corp of Engineers should be able to take a stand in opposition to development when the property in question is adjacent to Corp property. The county should be required to meet with the Corp to discuss the possible impact to the lake and the quality of our drinking water.

Comment Date: 09/15/2008
Comment By: Ragsdale , Jennifer
Basins: Tallapoosa Drainage Area
Categories: Water Quantity/Supply
Attached Document:
Comment:

With the drought we have experienced over the past several years, it seems to make sense to increase the lake levels throughout the year. When the availability of drinking water is in question, we should provide as much cushion as possible by keeping the lake at as high a level as we can. I understand that the Corp is required to release a certain amount from Lake Allatoona, but if the level was higher throughout the year, we would have more of a cushion for drought situations, recreation, and water quality.

Comment Date: 09/15/2008
Comment By: Settineri , John
Basins: Entire Basin
Categories: Flood Damage Reduction, Hydropower, Navigation, Newsletters, Public Communication, Recreation, Scoping Meetings, Threatened and Endangered Species, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

Seems that much of the basin for the Etowah River is in Alabama. More tha n 50%. Why not have water restrictions there like we do in cobb county Ga? Lake Allatoona should not be held soley responcible for keeping water flowing into the Gulf. In other words, I feel we should keep water levels up for longer periods. Low water not only makes the lake less navigable, but has many impacts on local economy, including property value.

Comment Date: 09/15/2008
Comment By: Anthony , Jeff
Basins: Other
Categories: Water Quantity/Supply
Attached Document:
Comment:

Lake Allatoona Water level. My thoughts are it would be better if we could keep the amount of water higher/greater by a few feet later into the year. Right now it seems like the water is drained to early in and around September, where as it would be better if it was drained maybe in October. This would leave more drinking water in Lake Allatoona longer. Also by leaving more water in the lake longer it may have a more positive impact on business' that are centered around Lake Allatoona, allowing them to generate income longer into the year. Thank you for your time. Great venue to express thoughts and enjoyed being here.ThanksJeff AnthonyAllatoona Boat and Ski Club

Comment Date: 09/15/2008
Comment By: Stinson , Bonnie
Basins: Entire Basin
Categories: Hydropower
Attached Document:
Comment:

I hope that hydropower continues to become the key component to using energy by the basin in the Alabama-Coosa-Tallapoosa River Basin. I was very pleased that the EIS is continually updating environmental requirements and continuing to reevaluate the environmental impact that humans have on the environment. I hope that this action passes and am all for it.

Comment Date: 09/15/2008
Comment By: AuGustin , Andy
Basins: Entire Basin
Categories: Water Quantity/Supply
Attached Document:
Comment:

I think EISs should be continually updated to ensure that all possible environmental impacts are realized.

Comment Date: 09/15/2008
Comment By: Nicholl , Sean
Basins: Coosa Drainage Area, Entire Basin, Etowah Drainage Area, Tallapoosa Drainage Area
Categories: Baseline Conditions, Ecological Resources, Economic Resources, Flood Damage Reduction, Hydropower, Impact Analysis, Newsletters, Recreation, Scoping Meetings, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

The Lake Allatoona level must be kept at a higher level in both the Summer and Winter to reduce the damage to the Lake bank and to reduce the negative impact due to the concentration of pollutants during the Winter drawdown.The Corps does not hold to the Rule curve either during years of above average rainfall or during years of below average rainfall. There doesn't seem to be any logic to this lack of adherence to the Rule Curve.

Comment Date: 09/15/2008
Comment By: Oates , Ray
Basins: Tallapoosa Drainage Area
Categories: Recreation, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

I am a property owner on LAke Allatoona in favor of raising the winter pool levels to create additional recreational opportunites within the lake.

Comment Date: 09/15/2008
Comment By: Crisp , Mark W.
Basins: Entire Basin
Categories: Baseline Conditions, Hydropower
Attached Document:
Comment:

Establishment of the baseline must originate with the original congressional authorizations or following any approved reallocations.The current flood control operations must be revised to reflect the 50 years of basin alterations that have occured since the original design of the flood control operations. Economic analysis of flood control operatons must

reflect the established levee system in the vacinity of Rome, Ga. There must be established priority for releases. Only releases for authorized purposes or releases that have been approved through legislative actions should drive the decision process.

Comment Date: 09/15/2008
Comment By: Newman , Dan
Basins: Coosa Drainage Area
Categories: Water Quantity/Supply
Attached Document:
Comment:

It is disappointing when I travel to Florida to see that they feel they have unlimited water supply and have no restrictions when we are not allowed to wash our car. It would be nice to have similar restrictions throughout the basen. Will that ever happen?

Comment Date: 09/16/2008
Comment By: Prather , Steve
Basins: Etowah Drainage Area
Categories: Navigation, Recreation, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

My main area of concern is the water level in Lake Allatoona. Realizing it has a primary function for down stream flood control, there needs to be a review of the historical data to allow for better management of the lake levels. The two primary focal points being on the lowest level (sea level) required and secondly, the timing/curve of the release of water. The first point - the lowest level required for Allatoona seems substantially lower than what should be required for flood control. There needs to be a re-evaluation on the low limit of the lake to see if this limit could be raised (increased). This would help the lake in the areas of pollution (higher volume of water for disbursement), recreation - higher water levels during off peak season, while maintaining safe flood control based on historical data and lake level limits.The second area is the timing of the releases (the curve). Based on historical weather patterns you now have data to determine the wet seasons and more accurately depict when the lake needs to be at its lowest point. If the curve could be adjusted to keep the water levels higher for later periods during the year the benefits again are the ones listed above relating to pollution and recreation, with the added benefit of drought remediation or protection. Lastly, we would like to see some flexibility built into the model so that during periods of drought or of predicted flooding the levels and release curves could be temporarily adjusted to accomodate the immediate needs. I believe this added flexibility would be an item of high benefit implemented with low cost and effort being one of the easiest changes to achieve with little or no environmental impact. Give the managing authority some flexibility to

temporarily adjust the lake level guide lines to accomodate extreme weather conditions that may occur over a short period of time or possibly over several years.Thank you for considering my comments and input.Best Regards,Steve Prather5212 Dawn DriveAcworth, GA 30101404-317-5561 Cell

Comment Date: 09/16/2008
Comment By: Amos , Betsy
Basins: Etowah Drainage Area
Categories: Agriculture, Cultural Resources, Ecological Resources, Economic Resources, Fisheries, Flood Damage Reduction, Hydropower, Navigation, Recreation, Threatened and Endangered Species, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

My main concern is keeping Lake Allatoona lake levels high for the benefit of all categories checked above. Raising and lowering the lake taxes the water quality, the surrounding agriculture and animal/fish population not to mention navigation and hydropower. The only time the lake level should change is during heavy rains (lower levels for flood control) or drought (high levels to maintain stability of lake).

Comment Date: 09/16/2008
Comment By: Cash , Cheryl
Basins: Entire Basin
Categories: Economic Resources, Hydropower, Public Communication, Recreation, Water Quantity/Supply
Attached Document:
Comment:

I believe that Lake Allatoona should not be lowered to the winter pool it has been in the past. We have been fortunate this year that we had adequate rains,next year we may not be so lucky. We need to be proactive regarding any future deficit. This lake is an important asset to the Cobb/Paulding/Cherokee area for water, etc. Although less important, thousands of people use this lake for local recreation which is needed now more than ever. In the event of flooding rains, the dam can be opened to change waterflow as needed.

Comment Date: 09/16/2008
Comment By: Woodruff , James
Basins: Entire Basin
Categories: Navigation, Recreation, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

The reason for draining Lake Allatoona every fall until spring has been said to be for spring flood control. This explanation never really made any sense and with less average rains in several years, it especially does not

now. If the true reason to drain the lake every fall is to effectively close it down so that there is less management expense for seven months, the community will be better served knowing it is an economic matter. In that way public opinion and democratic processes could help shape resource allocation, as should happen in a democracy. If given the option, most users and lakeside property owners will probably be agreeable to increased user fees to keep the lake open year round.

Comment Date: 10/20/2008
Comment By: Stendahl , Teresa
Basins: Other
Categories: Impact Analysis, Water Quality
Attached Document: EIS Request.07.10.07.2.doc, JFBC revised DRI plan.12.15.06.pdf, REAL ISSUES . cc comm.doc, Z-164 Cut.Fill Analysis.Lake Allatoona.pdf, Z-164.Bill Higgins.ppt
Comment:

I live at Lake Allatoona, Cobb County, GA and have watched changes occur for these past 33 years -- changes that should never be allowed when you consider that Lake Allatoona (LA) provides drinking water for over 500,000 people. In July 2007, Cobb County approved a rezoning application (Z-164) for 65 acres adjacent to LA, allowing almost 1Million sq. ft. of commercial development, just 1700 ft. from the lake. THIS IS RIDICULOUS!! The 65 acres parcel is designated by GA ARC to be a "regional environmentally protected area", yet the proposed site plan was not reviewed by the ARC Environmental & Land Use Committee. The adjacent property owners that will be impacted by this development are USACE and me. In almost ten years of trying to protect Lake Allatoona from irresponsible, unnecessary development, this is the first time we could legally attempt to protect Allatoona through litigation. I exercised my constitutional right to challenge this decision and filed a lawsuit in Aug 2007, seeking to overturn the rezoning decision. In Jan. 2007, Cobb Co Superior Court dismissed our case, refusing to hear the case. We appealed to GA Supreme Court, our appeal was accepted, and we presented our case in Sept. 2008. The site plan provides no environmental protection to the watershed and LIA required the developer to do nothing to protect LA. What I do not understand is the "legal" position that the USACE cannot oppose such a high density/intense use development within a Wildlife Management Area next to a drinking water water supply. The impact of moving 435,000 cu.yd. of dirt will be tremendous -- see attached document. Myself and others fight for years trying to protect a water supply that should be protected by USACE, LIA, the state. If USACE is not the appropriate entity in this particular instance, an adjacent property owner, to protect the watershed, who is? GA EPD is useless when it comes to protecting water quality. If the LIA (Cobb County, GA) continue the present trend in land use that has become prevalent in the last 5-10 yrs around the watershed, there will be nothing to protect. Politics

should not be allowed to govern our watershed; there must be laws put in place to preserve and protect what little land remains around LA before we reach a point of no return, especially in light of LA being on the GA EPD impaired list for several years. USACE should be allowed to protect adjacent land to the watershed and their own land. LIA (Cobb County, GA) and GA EPD need to hear the very loud voice of USACE regarding such important issues. Development has it's appropriate place, but 1M s.f. adjacent to a water supply is INSANE. It should not be left to ordinary citizens w/ limited financial means to underwrite the huge task of preservation and protection, and enforcement of severely weak local/state ordinances. There are some issues, such as water quality, that deserve more attention and we do not want to hear "...we don't have the authority...". Many citizens such as myself as happy to support the USACE in preservation and protection of Lake Allatoona; however, it should not be primarily our "fight"...we need help and we need it now. The recent rezoning in Cobb County (Z-164) has not proceeded to site development stage yet, primarily due to pending litigation. I have attached several important documents regarding this proposed development in the hopes that someone -- anyone -- will say "hey, wait just a minute...we must do something to help these folks and we must do it now." WILL ANYONE HELP US? We cannot and should not be doing this alone so please help us help you. As long as Lake Allatoona serves as a drinking water supply for hundreds of thousands of people, we must wake up to the fact that if left alone to the Local Issuing Authority in Cobb County, there is little hope of its survival. Please do not wait until it's too late. More details can be found at our website: www.ProtectAllatoona.com

Comment Date: 09/17/2008
Comment By: Mozena , Keith
Basins: Entire Basin, Etowah Drainage Area
Categories: Navigation, Newsletters, Public Communication, Water Quantity/Supply
Attached Document:
Comment:

I would like to see a more effective approach to managing the water system to address needs and issues for drinking water in georgia

Comment Date: 09/17/2008
Comment By: Mozena , Keith
Basins: Entire Basin
Categories: Navigation, Water Quantity/Supply
Attached Document:
Comment:

I am very concerned about the policies used to manage the lake level in Lake Allatoona throughout the year. We need a more effective approach to keep the lake levels higher during times of drought, which means we cannot let water through the dam just because it was committed to 45 yrs

ago. Our water management policy has to consider the level of drought in Georgia in a dynamic manner.

Comment Date: 09/17/2008
Comment By: Stradford , Stephanie
Basins: Entire Basin
Categories: Public Communication, Scoping Meetings
Attached Document:
Comment:

Scope Meetings & Public Communication: More than 50% of the attendees in Kennesaw, Rome, and Gadsden have expressed their concern that there was no opportunity for public dialogue. There should be a way to maintain control of the meeting, be considerate of the time schedule, and at the same time, allow for public questions and comments. Several persons left early because there was no opportunity to "voice" their concerns to the entire gathering. Some drove several hours with the intent to speak at a public meeting. I am available to discuss alternative demonstration models which might eliminate a future PR problem for the Corps and its consultants.

Comment Date: 09/17/2008
Comment By: Owens , Joseph
Basins: Coosa Drainage Area, Etowah Drainage Area
Categories: Water Quality, Water Quantity/Supply
Attached Document:
Comment:

the coosa river is the main public water supply for the City of Gadsden, Al and 7 other rural and or municipalities. It is imperative that the Gadsden Water Works keep informed and involved with any and all issues relating to the Coosa River.

Comment Date: 09/17/2008
Comment By: McKenzie , J. Thomas
Basins: Coosa Drainage Area
Categories: Hydropower
Attached Document:
Comment:

I appreciate the opportunity to learn more about the study and the process.

Comment Date: 09/18/2008
Comment By: Jordan , Vera
Basins: Alabama River, Coosa Drainage Area, Tallapoosa Drainage Area
Categories: Public Communication, Scoping Meetings
Attached Document:
Comment:

This was a very good and informative session. I wish more people would have known about it.

Comment Date: 09/18/2008
Comment By: Mcgowan , J
Basins: Alabama River, Entire Basin, Tallapoosa Drainage Area
Categories: Agriculture, Alternatives, Baseline Conditions, Cultural Resources, Ecological Resources, Economic Resources, Fisheries, Flood Damage Reduction, Hydropower, Impact Analysis, Navigation, Newsletters, Other, Public Communication, Recreation, Scoping Meetings, Threatened and Endangered Species, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

Thanks for offering to us the opportunity to weigh in on the pending manual updates. The River Region is going to become more important to the area as the foreign automakers build more plants. It is a shame that the turn-out was so low at the MGM public hearing. Thank you for the notice.I had not previously considered the inconnectivity of the rivers and lakes in the region but will read more and add further comments prior to the deadline. Thanks again.

Comment Date: 09/19/2008
Comment By: Barnett , Debbie
Basins: Etowah Drainage Area
Categories: Navigation, Recreation, Threatened and Endangered Species, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

My question is why does the Corp start lowering Allatoona Lake right after July 4th? Some years by Labor Day the lake is so low that it is dangerous to go boating. I do understand that we have been in a drought. But if there is water for drinking and no chance of a flood why couldn't Lake Allatoona be left higher longer. This is the south and we could enjoy the lake well up into the fall.

Comment Date: 09/19/2008
Comment By: Culberson , Jerry
Basins: Coosa Drainage Area
Categories: Economic Resources, Fisheries, Navigation, Recreation, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

Carters and Altoona are Federal Reserviors, built and operated with all taxpayers dollars, not just Georgia's. Atlanta was never a factor in the original plans for Carters and Altoona, but they are taking our water that was meant for the Coosa River Basin citizens and business ? why ? I

fear their interbasin transfers will destroy the Coosa River Basin chain of lakes. Our habitat and water quality is being effected, our cost to purify drinking water will be effected, loss of river flows will reduce oxygen and kill fish, and other aquatic species, etc. You must also consider recreation, which is big business now and contributes greately to our economics. Navigation will also be effected, as will power generation. If Atlanta needs water, why did they vote NO on mandating homebuilters and sellers to upgrade plumbing fixtures a few years ago ? Why don't they repair their own leaky infastructure ? These two things alone would solve their water needs.. We are not asking for anything more, just keep the water in it's own river basin and stop allowing Atlanta to steal whatever they want, whenever they want. One last comment: Why continue to drain Weiss Lake in the winter ? With all the modern weather forecasting, why not leave the lakes full pull or almost full pool year round, and only drop lake levels when necessary for incoming rains ? Then when the rains don't come in the spring - we will have some water in our lakes.

Comment Date: 09/22/2008
Comment By: McInerny , Matthew
Basins: Etowah Drainage Area
Categories: Baseline Conditions, Fisheries, Flood Damage Reduction, Recreation, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

Please consider keeping the water levels in Lake Allatoona up to or near the 840 level. The studies I have seen at the LAPA meetings make it clear that the lower the water level the worse the quality of the water is.

Comment Date: 09/26/2008
Comment By: Greenway , Daniel
Basins: Entire Basin
Categories: Recreation, Scoping Meetings
Attached Document:
Comment:

There are not many campgrounds located inside the Atlanta Metro Area. I would like to see the campgrounds and day use areas that have been closed on Allatoona lake reopened. I believe this is a great opportunity for the community to come together. This will also help families get back in touch with each other by getting them out of the 9-5 routine and into a relaxed environment to talk to each other. We spend millions on other forms of enjoyment that only last a few days or weeks, but camping is a educational experience that will last a lifetime for everyone in the family and you can always learn more from camping. The children of this country need to know that there are more options out there than computers and traffic, the only way they will be able to ejoy the great outdoors is to keep it local. These campgrounds are full most of the summer and they

have to turn away hundreds of visitors. Please look at all the options to get the campgrounds opened back up.

Comment Date: 10/01/2008
Comment By: Kuhn , Maria
Basins: Other
Categories: Recreation, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

As a resident of Victoria Cottages and having a dock on Lake Allatoona at Owl Creek, I am concerned about both the water quality and the water level on the Lake. My children are swimming in water which at times I have seen running down the side of the hill from the street above and flowing directly into the lake. Also, the shore line is eroding quickly away. The value of our home goes down with the level of the water down, no one wants a dock sitting on dry land. I would like to see the water level raised and not taken down so low each Fall.

Comment Date: 10/06/2008
Comment By: Parker , Russell
Basins: Etowah Drainage Area
Categories: Recreation
Attached Document:
Comment:

Recreation is the main reason many people use Lake Allatoona. It brings in many $ to our area. Other issues are also important and could be solved at the same time that recreation is addressed.

Comment Date: 10/06/2008
Comment By: Parker , Russell
Basins: Etowah Drainage Area
Categories: Water Quality, Water Quantity/Supply
Attached Document:
Comment:

Water quality is a majior issue to many people of the area. I think that lake levels in Allatoona should be more stabalized to keep the quality up for drinking water and recreation.

Comment Date: 10/06/2008
Comment By: Parker , Russell
Basins: Etowah Drainage Area
Categories: Water Quantity/Supply
Attached Document:
Comment:

Lake Allatoona has suffered from the drought as have other lakes. We need to allow the upper limit of the level of the lake to be raised to

accomidate more water during rainy times and keep it up more all year. We could raise the level to 843' in summer and 835' in winter and still provide for flood control.

Comment Date: 10/06/2008
Comment By: Morrison , Robert and Happy
Basins: Etowah Drainage Area
Categories: Hydropower, Recreation, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

Water Quality - The very best possible water quality should be a primary goal.Water Quantity - The watershed for Allatoona is too small to make any significant measurable differences in water flows downstream.Hydropower - The economic benefits from hydropower production at Allatoona are minimal compared to recreational uses.Recreation - More emphasis should be placed on recreational uses, and maintaining more stable water levels during the the May through September periods, and higher levels during the winter drawdowns.

Comment Date: 10/06/2008
Comment By: Cox , James M.
Basins: Entire Basin, Etowah Drainage Area
Categories: Water Quality, Water Quantity/Supply
Attached Document:
Comment:

Keep the lake level as high as possible during the fall & winter months.

Comment Date: 10/06/2008
Comment By: Trahan , Michael
Basins: Etowah Drainage Area
Categories: Water Quality, Water Quantity/Supply
Attached Document:
Comment:

I would suggest that you increase the lake level for Allatoona so that the amount of available water is increased and for the improving the water quality.

Comment Date: 10/07/2008
Comment By: Johnson , Nolton
Basins: Coosa Drainage Area, Entire Basin, Etowah Drainage Area
Categories: Impact Analysis, Water Quality
Attached Document:
Comment:

I am pleased that the USACE will initiate the update of the Water Control Plan and EIS that has been needed since 1990 in my opinion. Please be sure to carefully factor in the nutrient loadings from urban activities to

Lake Allatoona, sediment loadings and impact on reduced volume of storage, sudden fluctuations in elevation of water at the lake that worsen the lake shoreline erosion,and faulty septic tank/ leach fields adjacent or on USACE properties at Lake Allatoona. As Chair of the Upper Etowah Basin Alliance, please notify us if we can be of any assistance to the USACE and Mobile District staff on this very important effort.

Comment Date: 10/07/2008
Comment By: stone , Gloria
Basins: Other
Categories: Recreation
Attached Document:
Comment:

Allatoona Lake level in winter

Comment Date: 10/12/2008
Comment By: Inlow , Carey
Basins: Entire Basin
Categories: Water Quality, Water Quantity/Supply
Attached Document:
Comment:

It has become obvious to everyone that Lake Allatoona has been lowered far more than necessary in the Winter. There is no reason to lower it to 823. a drop to 830 is more than sufficient for Flood control. It is well documented that there is plenty of advanced weather information that would allow the lake to be dropped a bit in case of impending storms.. It is also noted that lowering the Lake to this 823 Level causes a great deal of erosion to the banks of the lake and therefore causes more silt to build up on the bottom of the lake. Another problem caused but this lowering of the lake is that it allows several different major Chemical problems to greatly increase as a direct result of the lower level. It makes good sense to stop the level at 830 for all around Lake health. Please consider this information.

Comment Date: 10/12/2008
Comment By: Inlow , Marsha
Basins: Entire Basin
Categories: Water Quality, Water Quantity/Supply
Attached Document:
Comment:

I would like to request that there be consideration of keeping the lake level of Lake Allatoona at 830 feet in the winter as opposed to the 823 that is the present level. It is quite obvious that there is not reason to lower the lake to this level and doing so is to the detriment of the Lake. When the lake is lowered to this level it causes considerable erosion to the lake and also allows dangerous chemical levelsto build up and cause serious danger

to the Lake itself. Please consider making the 830 mark the best winter level for Lake Allatoona

Comment Date: 10/13/2008
Comment By: Winkler , Nancy
Basins: Etowah Drainage Area
Categories: Water Quality, Water Quantity/Supply
Attached Document:
Comment:

need to maintain higher water levels to keep Lake Allatoona cleaner-no ability exisits to control strom water run off so higher water levels allow for more diversification

Comment Date: 10/13/2008
Comment By: Winkler , Nancy
Basins: Etowah Drainage Area
Categories: Recreation
Attached Document:
Comment:

Recreation creates revenue to maintain the area-I prefer that to a tax increase.

Comment Date: 09/15/2008
Comment By: Fyfe , Linda
Basins: Entire Basin, Other
Categories: Ecological Resources, Threatened and Endangered Species, Water Quality
Attached Document: Linda Fyfe.pdf
Comment:

Leave the water level some what level year round. Do not drain it in the winter or any other time of year to nearly dry levels. If there needs to be a short drain in springs then, fine but the rest of the time, leave water in LAKE not selling it to other areas!

Comment Date: 09/15/2008
Comment By: Stapleton , Marilyn
Basins: Entire Basin
Categories: Other
Attached Document: Marilyn Stapleton.pdf, My Corps Comment.doc
Comment:

will email comments

Comment Date: 10/17/2008
Comment By: Stapleton , Marilyn
Basins: Coosa Drainage Area, Entire Basin, Etowah Drainage Area
Categories: Agriculture, Baseline Conditions, Economic Resources, Hydropower, Impact Analysis, Recreation, Water Quality, Water Quantity/Supply

Attached Document:

Comment:

ACT-Water Control Manual/EIS Comments from Marilyn Stapleton, Woodstock, GA Lake Allatoona, which already exceeds Georgia EPD pollution limits, is further threatened if more water is released from the Dam, its level reduced by upstream reservoirs, or water pumped to other watersheds. We, the residents of Cherokee County, Georgia ask the U.S. Army Corps of Engineers to execute commitments in its "Environmental Operating Principles" by providing more water supply storage in Lake Allatoona, including converting storage used for other purposes. The Corps states its principles are consistent with the National Environmental Policy Act, the Army Strategy for the Environment with its emphasis on sustainability and the triple bottom line of mission, environment and community, other environmental statutes, and the Water Resources Development Acts that govern Corps activities.What is the Lake's actual storage capacity today and how much space has been lost to Upper Etowah River sediment where vast grasslands grow in the riverbed near Knox Bridge during drought? How much more has been lost along the shoreline from sediment runoff over the Corps property's narrow buffer caused by poor, adjacent site development? As adjacent landowner, the Corps needs to participate in land use decisions to protect its interests. Has the Corps Hydrologic Engineering Center conducted water supply analyses to manage the Alabama-Coosa-Tallapoosa Watershed in a way to limit water shortages and lessen the impact of long-term drought the Etowah Basin faces? What is the Basin's limit for annual water supply in the current long-term drought? How would water storage capacity of the Lake be affected by new reservoirs and an overabundance of new wells? How does climate change forecasting assess the future of the Lake's storage capacity? The Atlanta Regional Council initially included Cherokee County in the North Georgia Metro (Atlanta) Water District for its potential to supply water to Metro Atlanta and access to the north side of Lake Allatoona and the Etowah River. Metro counties east and south of the Upper Etowah River, in the adjacent ACF Watershed, developed land beyond the capacity of the ACF watershed. Instead of conserving or investing in water infrastructure, they use water transferred from the ACT basin to the Chattahoochee Basin, which eventually provides water downstream to Florida estuaries. We understand the right to reasonable use by residents in the Etowah Drainage Basin so long as it does not diminish the water quality and quantity for downstream users in the ACT Watershed, but object to depletion of our water resource for the benefit of other basins. I propose an Environmental Impact Study led by the U.S. Army Corps of Engineers, in conjunction with the U.S. EPA, to determine the deleterious effect that current, and planned increases of, interbasin transfers have on Lake Allatoona, the Upper Etowah River and the ACT Watershed. Would not Federal agencies supercede states' water rights because three States are involved in interbasin transfers from the ACT to

the ACF? Adjudication is anticipated soon in the interpretation of Congressional Acts regarding the authority of the Corps to set storage allocations for water supply and determine what represents harm to previously authorized purposes of Corps Dams. Does not transferring water out of the basin diminish storage capacity and harm the Dam's original purposes? Will an EIS be prepared to measure actual and potential effects of interbasin transfer out of the ACT Watershed? Will the Country's best environmental law attorneys represent the Corps' case? The Corps-sponsored, ongoing Lake Allatoona/Upper Etowah study measuring the overall heath of the Upper Etowah has fundamental flaws that make it insufficient alone to make water supply decisions for Lake Allatoona and the Upper Etowah. The stakeholders in the Etowah Drainage Basin represent groups with conflicting agendas. Given that household water use pales in comparison to what farmers, electric utilities and factories need to supply households with goods and services, all stakeholders need to present their case. Politically powerful entities must be stopped from bypassing the real cost of water.Does the public know the water demand involved in the Southern Company's plan to spend $3.9 Billion over the next three years to lower coal emissions? How much electric power in the general area of Southern Company's Georgia and Alabama Power subsidiaries is provided by Corps Dams' hydroelectric power generated for the Southeastern Power Administration? Is scarce water being used for hydroelectric generation that could be supplied more efficiently by the Southern Company? Does the Southern Company benefit from hydroelectric power releases by raising downstream river level above the intakes of their coal plant cooling systems? Droughts occur in summer and severely challenge drinking water treatment from an already-impaired lake or river. At what cost to our water resources does summer peak power prices for hydroelectric power benefit SEPA and their preferred customers? What agreements are in place to halt peak releases during drought and seek alternative power sources? Phosphorus-laden storm run-off, from summer applications of chicken litter on pastures, accumulates phosphorus in, and pollutes, Lake Allatoona. All farmers in the Upper Etowah Basin need to dispose of chicken litter in a manner that prevents nutrient run-off into streams. EPD's drought contingency plan in place before the 2007 Georgia drought revealed inadequate planning. The 100-year-low level of the Etowah River raises the question of climate changes affecting rainfall in the Southeast. A rational water policy for the Southeast needs the leadership and resources of the Federal government and we will help in any way we can. Intergovernmental participation, and possible intervention, is essential for the Corps and EPA to comply with the Clean Water Act in Georgia. All of the stakeholders must be empowered to insist everyone pay in a manner that ensures common good. What action has the Corps ACT District taken to adjust fees and charges to ensure that scarce ACT water is not wasted or lost to another watershed? Georgia legislators have totally failed to address interbasin

transfers and procrastinate from enacting and enforcing an operable State Water Plan. Lack of a feasible State Water Plan leaves the Georgia Environmental Protection Agency responding to local political pressures instead of managing water resources efficiently and cost-effectively for the State's future. The State's recent delay tactic authorizes another long planning process for watershed-based regions to develop separate water plans. However, an exception is made for the generic Water Plan written for all the counties in the MetroWater District, in spite of the fact that these counties overlay portions of five different watersheds in the State. Metro Water District counties, like Cherokee County in the ACT Watershed, are powerless in the Metro District and also excluded in the planning of the State's ACT Watershed planning. Water utilities in the Metro Water District continue to withdraw, but not return, water of the Etowah Basin, and have plans to siphon out 200 million more gallons per day. It is not possible for the Etowah headwaters to supply Metro Atlanta, North Georgia, and both Alabama and Florida without destroying the health of Lake Allatoona. The Federal government may not be successful in preventing interbasin transfers between interstate watersheds. Regardless of the litigation outcome, the U.S. Army Corps of Engineers should impose surcharges on water storage that is used to supply landowners contiguous, but outside, the Basin. Non-basin Cobb-Marietta Water and Cartersville users of Lake Allatoona water should pay extra, as well as non-basin Upper Etowah users since the Upper Etowah River supplies 74% of the water flowing into Lake Allatoona and contributes nearly all its nutrient load. The fee should be greater than the infrastructure cost of pumping water back to the basin of origin; and a portion of the surcharge fee could be refunded according to the documented percentage of water returned. The fees would be legitimate compensation for actions necessary to maintain potable water quality in the Lake. In a similar policy, the Allatoona Dam Power Management Agency's contracts to preferred customers should have surcharges on water storage and hydroelectric power generation for the purpose of mitigating environmental deterioration caused by peak flows in the Lower Etowah River. Restoring the Etowah River's habitat to what is was 50 years ago is not realistic, but the future, real cost of this water resource must be shared equitably by its stakeholders, and, proportionately, with stakeholders in the Alabama, Coosa and Tallapoosa River basins.

The fundamental question a developer asks when looking at land is: "Where is the water?" Too often Georgia communities allow the developer to profit and move on somewhere else, leaving behind the communities to pay for the damage to water supply, in addition to the infrastructure debt. Metro Atlanta allows developers to co-opt public funds for water and sewer rather than participate in their cost. The sewer infrastructure and subsequent effluent effects should be part of the cost of the land being developed. I ask the Corps of Engineers that the number one consideration for operating Allatoona Dam, as well as issuing 404

water withdrawal permits in the Upper Etowah, be to allocate storage and flow for a viable Lake Allatoona. If this is done, the Lake will continue to serve drinking water and recreational use. If a healthy lake means higher cost for land development, private docks, marina and boat concessions, and hydroelectric power storage and power generation, then that's as it should be. It is also preferable to a situation where private corporations are supplying U.S. citizens their drinking water. The Corps' Water Supply budget is miniscule even though its Civil Works Fund claims the Corps is transforming to meet the Nation's needs. The budget does not reflect the Corps' goal to prioritize the needs of a national water supply crisis, which is a big one here in the Southeast. The Corps can lead with strategic goals that insure the dam they operate is on a healthy Lake. A dam is no use to anyone on a dried up, polluted Lake.

Comment Date: 09/15/2008
Comment By: Parsons , James
Basins: Etowah Drainage Area
Categories: Water Quality, Water Quantity/Supply
Attached Document: James Parsons.pdf
Comment:

1. Water quality manual should address Municipal Water Supply needs of the Etowah Basin. 2. Water quality of Lake Allatoona and Carters lake should be addressed. 3. Winter pool elevation should be investigated to minimize drought impacts on water supply.

Comment Date: 09/15/2008
Comment By: Shirley , Frank
Basins: Etowah Drainage Area
Categories: Baseline Conditions, Flood Damage Reduction, Recreation, Water Quantity/Supply
Attached Document: Frank Shirley.pdf
Comment:

No additional comments provided.

Comment Date: 09/15/2008
Comment By: Stephenson , Charlotte
Basins: Coosa Drainage Area, Etowah Drainage Area
Categories: Navigation, Recreation, Water Quality, Water Quantity/Supply
Attached Document: Charlotte Stephenson.pdf
Comment:

No additional comments provided.

Comment Date: 09/15/2008
Comment By: Ridley , Helen
Basins: Coosa Drainage Area, Etowah Drainage Area

Categories: Cultural Resources, Ecological Resources, Flood Damage Reduction, Other, Recreation, Threatened and Endangered Species, Water Quality
Attached Document: Helen Ridley.pdf
Comment:

No additional comments provided.

Comment Date: 09/15/2008
Comment By: Calheiros , Carlos
Basins: Etowah Drainage Area
Categories: Scoping Meetings, Water Quantity/Supply
Attached Document: Carlos Calheiros.pdf
Comment:

No additional comments provided.

Comment Date: 09/15/2008
Comment By: Jackson , David
Basins: Etowah Drainage Area
Categories: Navigation, Recreation, Water Quality
Attached Document: David Jackson.pdf
Comment:

It is in the best interest of all concerned to maintain summer pool elevation as long as practical, and to minimize length of time lake is held down in the winter. In general, lake Allatoona is well managed by the corps of engineers. Additional resources need to be given to current staff.

Comment Date: 09/15/2008
Comment By: Fyfe , Robert
Basins: Entire Basin
Categories: Other
Attached Document: Robert Fyfe.pdf
Comment:

Issue is the draining of the lake each fall. The Allatoona Preservation Authority has completed an impact study and determined that you MUST have the lake level constant. If not, the health of the lake will be DEAD in 10 years, that was about 5 years ago. We must take steps to have the lake levels as constant as we can.

Comment Date: 09/15/2008
Comment By: Ragsdale , Steve
Basins: Etowah Drainage Area
Categories: Baseline Conditions, Impact Analysis, Recreation, Water Quality, Water Quantity/Supply
Attached Document: Steve Ragsdale.pdf
Comment:

This opportunity to comment on the outdated regulations policy of lake management is appreciated. 1. Development impact to lakes is area of

concern for lake water quality and not the intention when lake was established. 2. Lake water levels should be INCREASED & MAINTAINED throughout the year. Drought conditions should have taught us that. Forecasting rain amounts with todays technology should not be a problem to control flooding. This should be an easy fix and add to the economy for recreation, throughout the year. 3. Ditto #2!.

Comment Date: 09/15/2008
Comment By: Stringer , Linda
Basins: Entire Basin
Categories: Impact Analysis, Recreation
Attached Document: Linda Stringer.pdf
Comment:

Revise manual - with our new sophisticated pumps - flooding is not a problem. Entire lake could drain in a matter of 72 hours. To prevent erosion lake basin should stay at full pool even in winter. - Lake is a great asset.

Comment Date: 09/15/2008
Comment By: Smith , Roberta
Basins: Entire Basin
Categories: Other
Attached Document: Roberta Smith.pdf
Comment:

Why doesn't the Federal government require all new construction, amendments made this time foward, have a very active recycling program for RAIN RUN OFF from the following : 1. Roofs (commercial & Residential) 2. Parking Lots (Schools, Shops, Industries) 3. Road design to capture and redirect it areas (wetlands?) which could absorb the addition H2O. If we save the "FREE" water, we will have more water that we, all need to keep our life styles. P.S. I am very impressed with tonight's meeting and printed material. I know that Corp of Engineers have a very difficult job and i believe you are doing the best you can under this difficult times.

Comment Date: 09/15/2008
Comment By: Dunn , Joseph
Basins: Entire Basin
Categories: Ecological Resources, Impact Analysis, Recreation
Attached Document: Joseph Dunn.pdf
Comment:

The basin/ Region must have a comprehensive plan. It would be sad if we were in a state water war issue such as what is going on with Georgia, Alabama & Florida over lake lanier water. What are you all doing to prevent this from happening? I am deeply concerned about the polluting of

lake Allatoona & the affect that has on Atlanta's Northern Suburbs & downstream affects.

Comment Date: 09/15/2008
Comment By: Nguyen , Kathy
Basins: Etowah Drainage Area
Categories: Water Quantity/Supply
Attached Document: Kathy Nguyen.pdf
Comment:

Some consideration should be given to a more trigger driven management of lakes during severe low flow events. Something that would incrementally reduce outflows sooner than activated last year. Allatoona was only held to minimum outflows when water supply was already threatened. Recreational use of the lake had been lost months before . Consideation should be given for returns (effluent) in determining allocation of lake Allatoona.

Comment Date: 09/15/2008
Comment By: Cutcliff , Chip
Basins: Coosa Drainage Area, Etowah Drainage Area
Categories: Alternatives, Flood Damage Reduction, Water Quality
Attached Document: Chip Cutcliff.pdf
Comment:

Quality, Flood Control Alternatives : The corps needs to seriously consider raising the lake Allatoona winter pool by at least 4 Feet. This was agreed upon by the corps with input from LAPA and GA EPO in 2004. A major hurricane event in nov 04 caused flooding at the Alabama border, esp. in Rome. The idea of raising levels for winter pool was abandoned after this event. Because of the massive amounts of rain in the ACT, the fact that L. Allatoona was 4' high than normal had absolutely no connection to high water levels in Rome. Rain over the whole ACT was responsible for the flooding, not the decision to keep Allatoona 4' higher going into the winter. I understand Allatoona is here for flood control first, drinking water & recreation second. However both uses can co-exist. With the influx of sediment into the lake, and especially the weathering effect on the bare red clay banks during low winter pool, the lake will continue to be a muddy mess in the spring. Increasing lake levels during the winter months will provide better year round water quality, earlier recreation use in the spring , and increased volume for above uses as well as drinking. There appears to be a little to no "downside" to keeping the lake slightly higher during the winter months. I encourage you to consider it.

Comment Date: 09/15/2008
Comment By: Dupree , Mike
Basins: Etowah Drainage Area
Categories: Impact Analysis, Recreation, Water Quality, Water Quantity/Supply

Attached Document: Mike Dupree.pdf
Comment:

We have a club we lease land from the corps. It is Allatoona Boat & Ski Club. Our club would like to see the lake level stay up all year at least as much as our rain fall and water usgae would allow. I also feel this would help the Ecology of the lake. I am not a scientist but I feel like it would - it at least looks cleaner when its full.

Comment Date: 09/15/2008
Comment By: Blair , Susan
Basins: Entire Basin
Categories: Recreation, Water Quality, Water Quantity/Supply
Attached Document: Susan Blair.pdf
Comment:

The lake quality this year seemed to be very good this summer. Lake level was great all summer long, enough to accommodate the many recreational boats. Quality of water & water levels are very important to the local residents. Release of the water to our neighboring states is important but not to the point when it effects the local residents needs.

Comment Date: 09/15/2008
Comment By: Biasetti , Wayne
Basins: Etowah Drainage Area
Categories: Ecological Resources, Flood Damage Reduction, Recreation, Water Quality, Water Quantity/Supply
Attached Document: Wayne Biasetti.pdf
Comment:

Lake levels produce a direct impact on water quality and foster a positive get involved attitude that is far reaching beyond just admiration for Allatoona.

Comment Date: 09/16/2008
Comment By: Bennett , John
Basins: Coosa Drainage Area, Etowah Drainage Area, Oostanaula Drainage Area
Categories: Flood Damage Reduction, Water Quality, Water Quantity/Supply
Attached Document: John Bennett.pdf
Comment:

CONCERNS : 1. Transfers without return of treated waste water. 2. Flood potential of Rome if Winter pool is raised. 3. Change in minimum flows for water supply & waster water treatment.

Comment Date: 09/16/2008
Comment By: Hofer , Joe E.
Basins: Etowah Drainage Area
Categories: Hydropower
Attached Document: Joe E. Hofer.pdf

Comment:

No additional comments provided.

Comment Date: 09/16/2008
Comment By: Kauffmann , Michael
Basins: Entire Basin, Etowah Drainage Area, Tallapoosa Drainage Area
Categories: Water Quantity/Supply
Attached Document: Michael Kauffmann.pdf
Comment:

When weighing the various needs of the water resources under control of the Corps, the C.E. needs to keep in mind that their decisions impact communities well beyond the boundaries of the basin itself. Water & power may still be supplied with a multitude of local entities but those entities become more tied together with each passing year. Restricting water allocations to a supplier at lake Allatoona can affect water suppliers several counties away. I am sure this happens throughout the basin and the needs of all concerned should be weighed.

Comment Date: 09/16/2008
Comment By: Hovey , Bob
Basins: Etowah Drainage Area
Categories: Water Quantity/Supply
Attached Document: Bob Hovey.pdf
Comment:

THE SPEAKER: Name is Bob Hovey, H-o-v-e-y.1165 Ward Creek Drive, Marietta, 30064. Company is retired. I think that we should expand the capacity of Lake Allatoona by dredging the lake and piling up the dredged material on the top of existing sandbars already in the lake. The advantage of this would be it can be done immediately. It doesn't expand the footprint, so you don't need new permits. It doesn't require an new dam and it doesn't require taking of any private property by eminent domain. There are ample sandbars in the existing pool of the lake where they used to be small islands. And when the lake filled, the islands have eroded away and now they're just barely under the surface of the water, readily visible when the lake is low. You surround a piece of one of those sandbars with a cofferdam 4 foot, 6 foot high, go get one of the Corps of Engineer dredges out of the inland waterway they already operate, dredge the lake material out, dump it behind there and build the island back up. Build the island maybe even 15 or 20 feet high. So all this can be done completely within theexisting pool of the lake. There is no need to disturb anything, but you get a lot of new lakecapacity for cheap. Takes about two people and some diesel fuel to run one of those dredges 24 hours a day. You can make a big hole. And it's well within the Corps of Engineer's competence because they have been doing it for at least 40 or 50 years that I know of, keeping the inlets open up and down the eastern seaboard and the Mississippi River. Now, the problem, the kickback that I'm getting is

that there are some who claim that there are heavy metals, PCBs, arsenic and possibly lead sequestered in the sediments on the bottom of the existing lake mixed in the mud. Their concern is that the heavy metals, once dug up and put up above the water level on thesenew islands, would then become loose of the mud that they're stuck in as they're subjected to therain and to the wind. That makes it more costly, but even that's not a complete -- doesn't make it impossible. The idea of lining landfills like we use for land filling can easily be used the same thing here, you just have to put your cofferdam up and put a liner in it to make sure it doesn't go down. And then once the new island is created, you cover it with clean material with no heavy metal or whatever in it and cap it just like we do a Subtitle D landfill. And if we did that, we could have a whole lot more water for whichever of the uses that all these people want to argue about and we could do it within the existing lake area. It could apply to any lake, but it's particularly adaptable to Lake Allatoona because of the large number of very shallow areas inthere. That's my idea.

Comment Date: 09/17/2008
Comment By: Owens , James
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

Our association has several concerns. One is the diverting of water in Georgia. We're fearful that our water quality will decline if that takes place. Last year when we had the drought, our water quality was diminished greatly. And if water is diverted during a drought, I'm scared how it would be. Our other concern would like to be channels marked with buoys. Power has said the Corps of Engineers is responsible, the Corps of Engineers says it's the power company's responsibilities. We'd like to have someone tell us who is responsible. It is a dangerous river. People can drown if that doesn't happen.

Comment Date: 09/17/2008
Comment By: Owens , James
Basins: Coosa Drainage Area
Categories: Navigation, Water Quality
Attached Document: James Owens.pdf
Comment:

We at the Neely Henry Lake Association are concerned about water being diverted in Georgia. Our quality of water would deteriorate greatly if the water level was reduced because of This action. The drought last summer took a toll on our water quality, as well as, it did elsewhere. If water was diverted on top of a drought it would be scary to think what the water quality would be at that point. We also would like a response on why we

cannot get channel marker for Neely Henry Lake. This is a very dangerous river and the channel needs to be marked.

Comment Date: 09/18/2008
Comment By: Hamilton , Janice
Basins: Coosa Drainage Area, Entire Basin, Etowah Drainage Area
Categories: Baseline Conditions, Economic Resources, Hydropower, Newsletters, Public Communication, Scoping Meetings, Water Quality, Water Quantity/Supply
Attached Document: Janice Hamilton.pdf
Comment:

No additional comments provided.

Comment Date: 09/18/2008
Comment By: Stejskal , David
Basins: Mobile Bay
Categories: Water Quantity/Supply
Attached Document: David Stejskal.pdf
Comment:

No additional comments provided.

Comment Date: 09/18/2008
Comment By: Sutton , Sabra
Basins: Entire Basin
Categories: Flood Damage Reduction, Hydropower, Water Quality, Water Quantity/Supply
Attached Document: Sabra Sutton.pdf
Comment:

No additional comments provided.

Comment Date: 09/18/2008
Comment By: Fain , Joe
Basins: Entire Basin
Categories: Other
Attached Document: Joe Fain.pdf
Comment:

See document attached.

Comment Date: 09/18/2008
Comment By: Fain , Joe
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

JOE B. FAIN, Private Citizen(Accompanied by daughter, Fredna Watkins)MR. FAIN: In 1968, Alabama Power Companybuilt Boulder Dam, and in doing so, they duga canal by my property. This canal

causederosion by my property, and Alabama Powerdidn't pay me for the land that was coveredby the new lake. The new lake was raised 7feet -- from 245 to 252. I think the powercompany got the probate judge to condemn theland, but they didn't pay us -- they didn'tpay any of the owners of the land. We had tosell the land, but they didn't pay for it.So in the meantime -- Fredna knows this -- wehad the dredge people to dredge land over tomy point t o make a beach by 10 yards wide and25 yards long. For doing that , I let themtie to my trees to stabilize the dredge lines.MS. WATKINS: This was when they werebuilding the canal.MR. FAIN: The first year, Fredna andsome of her friends swam from that beach, andin 1969, there was no beach.MS. WATKINS: It had washed away --MR. FAIN: -- from the erosion . Andscientists knew that it was going to erode,and I drove a 2 by 4 in the bank that wasleft after the beach was eroded. In 1970, no2 by 4 is there ; erosion had gotten the 2 by4's I had drove in . I've had -- I built afishing pier in the canal side; I had putsteps from the bank down to the fishing pier.I had to put three sets -- three differentsets of steps because the bank would erodeand the steps would fallin , so I put threedifferent steps to go down to the fishingpier because of erosion.MS. WATKINS: It's longer and longer each time.MR. FAIN: There's another bad placethat's still eroding, and that's in front ofmy patio. I've had to put bags of concretecement in front of that to try to stop theerosion in front of it. I used to mow grassin front of the patio, but it's not -- Idon't have -- there's not any land to mow now.MS. WATKINS: And the patio is cracking.MR. FAIN: Huh?MS. WATKINS: The patio is cracking.MR. FAIN: Yeah. I had to put cementbags in front of it to keep the patio fromfalling in. The Alabama Power Company knowsall of this, and they will not pay me for anydamages for erosion or from flooding myproperty.MS. WATKINS: When they raised the lake levels.MR. FAIN: They raised the lake from 245to 252, and I have a map showing that, and insome places , I lost 65 -- about 65 feet ofland. I have just had the offer -- an offerfor my property, and the lady in Montgomerywas dealing with me and a man up in northAlabama. He bid -- He was going to give me$825,000.00 for the four lots, cabin andeverything. He offered me the $825,000. Ihave met with two Alabama Power Companyladies that met with me at my cabin about --let's see . When was it?MS. WATKINS: I don't know when it was.MR. FAIN: About August the 15th orsomething lik e that -- about a month ago --and I showed them some of the erosion and Imade this offer to them that Alabama -- Iwould sell my property, including threeboats, golf cart , riding lawnmower and allfixtures , beds and everything. I'll justwalk out for $900,000, and so far, I haven'theard a word from them.MS. WATKINS: How is this related to theFERC, though?MR. FAIN: What?MS. WATKINS: How is this related to theFERC? What are you getting to?MR. FAIN: The FERC is supposed toregulate the power company. I have contactedthe FERC. In fact, his assistant is supposedto call me in the morning -- his secretary.I called today, and he wasn't in, she said.She said she would get him to call

metomorrow. I've talked to him a number oftimes about these -- this problem, and therelicensing of lake -- the lakes , and hehadn't done anything, and I hope that theCorps can help me with my problem.I guess that's it. I wouldlike to take somebody up there from theCorps. I would like to take someone fromthe Corps up there and show them what hashappened to my property.MS. WATKINS: And it would be good forthe different surveys, the different years,to show the erosion. It would be good toshow them.MR. FAIN: Well, I want to show them theerosion. So far, FERC, they said they'resending somebody to look at the erosion, butI haven't seen them. I just get a letterfrom them saying they don't see any erosion.MS. WATKINS: He has paperwork, too, thatthey might be copying. They're going to makecopies, and it will be -- I guess it'sbackground information?MR. FAIN: Yes. See, this has been since1968 where it was -- where these -- where thewater started coming by my point. My daddybought this property in 1940, and it's gonedown through the family since then.MS. WATKINS: Did you want to saysomething about having two dams on one lake?It's kind of unusual? Is that true?MR. FAIN: No. I think it's obvious.Now, they -- The Alabama Power Company is inthe process of relicensing at this time, andthey quit for some reason.MS. WATKINS: Getting their license for what?MR. FAIN: For a 40-year period or 20.Some relicensing is 20 years and some is 40years, but this fellow that I called has toldme that they've stop relicensing at thepresent time.MS. WATKINS: At the FERC?MR. FAIN: Huh?MS. WATKINS: Was that the FERC?MR. FAIN: Yes.MS. WATKINS: That they stopped it?MR. FAIN: Yes. The FERC relicensed thedam.MS. WATKINS: Okay. For the powercompany?MR. FAIN: And they done me wrong. Who'sgonna make them do right? Well, right nowall I would like for the Corps to do is to gowith me to my place on the lake to observewhat's happening. I'm retired and I can goany time, day or night.

Comment Date: 09/18/2008
Comment By: Bartels , Tom
Basins: Entire Basin
Categories: Hydropower
Attached Document: Tom Bartels.pdf
Comment:

Encourage the corps to define an appropriate baseline. This is not necessarily the way the basin has been operating. Certainly the congressionally authorized purposes need to take precedent over the incidental purposes that may have been added on since the projects were placed in service. Hydropower either needs to get its capacity and energy from the projects or be compensated fairly for the loss... compensation meaning cost of replacement power.

Comment Date: 09/15/2008
Comment By: Read , James

Basins: Other
Categories: Cultural Resources, Navigation, Other, Recreation, Scoping Meetings, Water Quality
Attached Document: James Read.pdf
Comment:

Lake Allatoona should be held at 840 summer pool or higher year round.

Comment Date: 10/15/2008
Comment By: Steinmetz , John
Basins: Coosa Drainage Area, Entire Basin, Etowah Drainage Area
Categories: Water Quantity/Supply
Attached Document:
Comment:

LAKE ALLATOONA 1. CHANGE WINTER DRAW DOWN FROM 823' MSL TO 830'MSL2. CHANGE SUMMER POOL (MAY THRU OCT) FROM 840' MSL TO 842'MSL

Comment Date: 10/15/2008
Comment By: Steinmetz , Patricia
Basins: Coosa Drainage Area, Entire Basin, Etowah Drainage Area
Categories: Baseline Conditions, Water Quantity/Supply
Attached Document:
Comment:

1. change winter level of lake allatoona from 823'msl to 830'msl 2. change summer level of lake allatoona from 840'msl to 842'msl

Comment Date: 09/18/2008
Comment By: Atkins , Brian
Basins: Entire Basin
Categories: Other
Attached Document: Brian Atkins.pdf
Comment:

See document attached

Comment Date: 10/10/2008
Comment By: Waldon , Don
Basins: Alabama River, Mobile Bay
Categories: Impact Analysis, Navigation, Newsletters, Public Communication
Attached Document: Waldon.PDF
Comment:

Operation of the AL. R. under a new water control manual should generate the highest output of benefits associated with those project purposes specifically authorized by the Congress. Other goals and needs are extraneous. In the case of navigation, the Corps has not provided the necessary funding or other needs to provide cost effective and reliable commercial navigation. The new manual and EIS need to address these

deficiencies and incorporate those requirements to fully restore navigation, the primary purpose of the project. Any economic reanalysis that may be conducted as part of the EIS process should comply with the part of the EIS process should comply with the new Principles and Guidelines authorized in WRDA 2007, especiallly the use of multiple planning objectives, including public safety and regional economic development past capital investments in the project should be treated as sunk costs in such a reanalysis while recognizing the waterway's unused transport capacity relative to other modes and resulting environmental and social benefits.

Comment Date: 10/10/2008
Comment By: Brascho , Donn
Basins: Coosa Drainage Area
Categories: Economic Resources, Fisheries, Flood Damage Reduction, Hydropower, Recreation, Water Quality, Water Quantity/Supply
Attached Document: brascho.PDF
Comment:

See Attachment

Comment Date: 09/18/2008
Comment By: Sailors , Jerry L.
Basins: Entire Basin
Categories: Other
Attached Document: Jerry Sailors.pdf
Comment:

See document attached.

Comment Date: 10/01/2008
Comment By: Cook , Joe
Basins: Entire Basin
Categories: Other
Attached Document: CRBI letter.pdf
Comment:

See document attached.

Comment Date: 10/08/2008
Comment By: Kendall , Dart
Basins: Entire Basin
Categories: Other
Attached Document: Kendall.PDF
Comment:

See Attachment

Comment Date: 10/15/2008
Comment By: Dobrovolsky , Sylvia

Basins: Other
Categories: Recreation, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

Am not sure which area but my concern is with lake Allatoona. I still do not understand why you drain the lake each winter, to give Alabama boating in the winter?? Am very concerned with future development in northwest Cobb county. I do not approve of. Water quality and quantity is a must to have.

Comment Date: 10/16/2008
Comment By: Anderson , Paul
Basins: Etowah Drainage Area
Categories: Ecological Resources, Flood Damage Reduction, Scoping Meetings, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

I have lived within 2 miles of Lake Allatoona for over 20 years now. I regularly hike the shores and fish the lake and Etowah River. I understand that progress must happen, but it appears to me that in recent years it has gotten out of control with development encroaching on the Core property. It does not seem like the county development boards and zoning officials care about protecting one of the most valuable and fragile resources around here. Recently Cobb County approved commercial zoning that would directly generate runoff from parking lots into Lake Allatoona forgoing requirements for pollution control that the applicants had already agreed to (the board felt it was a financial burden). This is outrageous! This decision was made apparently without Army Core involvement and one of the board members even tried to stop the vote but was overruled. The Army Core of Engineers is the steward of the lake from which I receive my drinking water and on good days a nice fish filet. PLEASE keep the current trend of unbridled growth in check!Thank you, sincerelyPaul Anderson

Comment Date: 09/15/2008
Comment By: Clements , Bert
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

My statement is, my biggest concern is with the drought situation that we have been in in the last few years and not knowing whether or not we're going to have any alleviating this situation, I wonder if there was some way we could maybe even raise the winter levels a little bit to alleviate this drought situation that we are having. Last year a case in point, where we had such a major drought issue, went down to one of the lowest levels

known. So my opinion is that we keep the levels a little higher than the 823 that we currently keep in the wintertime. So that's -- and you know what, and in the summertime I would really like to see the levels stay where they are. The 840 is absolutely where I would like to keep those levels. They could even bring it up a little bit, it wouldn't bother me a bit, just to keep -- again, with the drought the way that it is. Thank you very much.

Comment Date: 09/15/2008
Comment By: Manko , Steve
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

I have concerns about the lake levels, especially during the drought periods and the amount of water that they're releasing downstream to Alabama and Florida. I would like to make sure that they continue or try to reduce the amount that they allow out to go downstream as much as possible to maintain our water levels as well. Also, in the winter, I would prefer that the winter pool not be reduced as much as it has been, even if they do that on a temporary basis due to the conditions that we suffered this past year from the drought. Thank you.

Comment Date: 09/15/2008
Comment By: Persano , Vince
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

I may have to put it in some other words. As an interim program in lieu of being able to modify the winter pool during drought conditions, to consider a contingency program, where you would modify that winter pool with a long-term program to try and permanently modify that winter pool to maintain more water in the winter pool basin. Now, with the long-term intent of doing a study in the future, downstream study in the future, to permanently change the law so the winter pool can be modified and leave greater extent of water in the pool. Thank you.

Comment Date: 09/15/2008
Comment By: Lowry , Charles
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

Same comments (as previous speaker)Biggest concern is with the drought situation that we have been in in the last few years and not knowing

whether or not we're going to have any alleviating this situation, I wonder if there was some way we could maybe even raise the winter levels a little bit to alleviate this drought situation that we are having. Last year a case in point, where we had such a major drought issue, went down to one of the lowest levels known. So my opinion is that we keep the levels a little higher than the 823 that we currently keep in the wintertime. So that's -- and you know what, and in the summertime I would really like to see the levels stay where they are. The 840 is absolutely where I would like to keep those levels. They could even bring it up a little bit, it wouldn't bother me a bit, just to keep -- again, with the drought the way that it is. Thank you very much.

Comment Date: 09/15/2008
Comment By: Tatum , Diane
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

For the benefit of all the boat owners and landowners that enjoy the lake, they should keep the levels constant so that there is no problem, no danger with traversing the lakes and the lake looks beautiful at the same time. That's it.

Comment Date: 09/15/2008
Comment By: Read , J.S.
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

I would like to see the lake held up higher at pool or above year round. I don't believe it contributes that much to other states' water supplies and I think it will make it a better lake, improve the quality, if we hold it up higher year round. That's it. Thank you.

Comment Date: 09/15/2008
Comment By: Rodenbeck , Cynthina
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

I am interested in keeping the lake levels as they are, because of the drought situation that wehad last year there was water to share. In the winter if we could raise the lake level a little bit more, we would have even more water to share. I'm not against sharing water, but I don't want to see them lower it knowing that the water that we need to keep what we have and maybe even raise it as opposed to lowering the lake level. And

having the Corps work more with LAPPA, preservation organization for Lake Allatoona.

Comment Date: 09/15/2008
Comment By: Rodenbeck , Ralph
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

I live on the lake and I'm concerned like everybody else about the lake level in the summer as well as in the winter because of the drought. And that's about it, I guess.

Comment Date: 09/15/2008
Comment By: Ashley , John
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

I'm John Ashley. I'm at 2623 English Oaks Lane, Kennesaw. Well, I think that this is eye-opening. I had never seen this much -- this type of information in one setting, where you could correlate ideas and see the flow of the information. Some things that I thought, you know, you could look from the macros perspective and not see fine details. I think that demonstration over there about the flow, inflows to the various basins, that kind of opened my eyes up a little bit. I'm an Alabaman, so I was there when the water wars started. So I used to always wonder -- well, I read in Alabama history and it said that 1/12 of all the fresh water in America flowed through Alabama. I wondered, well, why do we need to take the water from Lake Lanier to feed into Alabama, you know? I'm still not convinced. I think we can do a better job of conservation. Plus, you got Coosa River feeding into that area. I lived in Montgomery, so the size of the Alabama River was just mammoth in comparison to the Chattahoochee. You say, well, why do we need so much more water? I'm thinking, you know, it finally dawned on me that there is no real major natural source that feeds Lake Lanier other than the water that flows out of the mountains, you know, that's caught from rainfall. That's awesome, you know, to think that much water, whereas Alabama is fed by the Tennessee River 100 some miles in Alabama, nothing but Tennessee River. And I just don't see -- looks like we could do a better job of managing. But it was enjoyable. I got here late, but thank you.

Comment Date: 09/17/2008
Comment By: Swafford , Ken
Basins: Entire Basin
Categories: Other

Attached Document:
Comment:

My concern is the water quality coming down to Gadsden from the upper Coosa is not as good a quality of water as we have been having in the past. The water is gone. My other major concern is the water quantity coming from the upper Coosa to Gadsden is not what it used to be. Our flows are much less. And my concern is that the quality of our water is going to continue to decline is because the water quantity and quality is not what it should be or what it always was before Lake Altoona and Carters was with the other waters in the area. My third concern is the City of Atlanta is taking too much water out of the basin, the Coosa basin. This is reducing our quality and quantity of water that is required for us to sustain the lake. My belief is that the City of Atlanta should look for other resources for their drinking water. Their waste of water from the Atlanta Journal Institution, about four years ago, was in the neighborhood of about sixty percent. The average municipality wastes between fifteen to seventeen percent. Atlanta wastes sixty percent of theirs. So they should fix their problem. Therefore, they wouldn't be getting water from our basin, Coosa basin. I would like our Neely-Henry Lake waters to be maintained at the current level year-round, which is 507 to 508 elevation. I believe that covers it.

Comment Date: 09/18/2008
Comment By: Parker , Lenous
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

All right. Well, what I am here for is called "desalt." Desalt. There's a river up in North Carolina which feeds to each and every one of the states -- South Carolina, Kentucky, all the way down in Georgia, us in Alabama and also in Florida. Now, take the water out of the ocean, take the salt out of it, and you've got the best fresh water you want to have. If they build this and that way it would fill up all the rivers, all the lakes, all the resources, reservoirs and everything all the way down. It would be actually -- All of our rivers goes to the ocean. It would be taken out of the ocean and recycling it going all the way through. That's it. That's it. Desalt. And one of the men over here told me that they're actually building a plant out in California, and so rather than arguing about water, as rhey have the last 40 to 50 years, we've had the worst drought in 1CO years, stretching all the way up to North Carolina. This way, would supply North Carolina, South Carolina, Kentucky, Georgia, Alabama -- all the states going down to Florida.

Comment Date: 10/16/2008
Comment By: Walsh , Noreen

Basins: Other
Categories: Other
Attached Document: NoreenWalshCommentFWS.pdf
Comment:

See Attached

Comment Date: 09/16/2008
Comment By: Ross , Leigh
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

All right. I'm Leigh Ross with the City ofRome, water and sewer division. Rome's concernis two fold. One, that we always have enoughminimum flow in our rivers, the Oostanaula andthe Etowah, to allow us a good quality andquantity of water for our water treatment plantfor the drinking water for the people of thearea, and also that we have enough water in thestreams to assimilate the waste water that weproduce here in Rome.The other concern we have, though, is onthe other end of the spectrum, and that is flooccontrol. We realize it's going to be quite anundertaking, as it always has been, to regulatethe pool in the Allatoona and Carters so thatthe people downstream are protected from floodsand yet they still have an adequate watersupply. So we just want to emphasize, though,that, in considering water quality and quantity,that flood control is given a high priority.

Comment Date: 09/16/2008
Comment By: Hodge , Al
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

I'm A1 Hodge. I represent the Greater RomeGeorgia Chamber of Commerce, and we would liketo ensure that the water that we enjoy and havebeen good stewards of continues to be in Rome.We oppose interbasin transfers, but if water isgoing to be transferred, we would like ittreated and returned to the point of origin, thpoint of origin, which environmentally maintainthe flow and the levels of water.I also want to note that the City of Romeand Floyd County have been good stewards ofwater, as measured by the amount of money andthe infrastructure spent on waste watertreatment, as well as corrosion control,sedimentation, and so forth, so that there'sbeen a long history of good and positivestewardship in Rome and I would hate to see thecitizens of Rome and Floyd County be penalizedfor their good stewardship.It would certainly send the wrong messageif the kinds of recommendations that we'remaking are not followed because of the goodstewardship that the community has put

moneywhere its mouth is, as well as other time andeffort on behalf of good sound environmentalprinciples and policies as it relates to water.

Comment Date: 09/16/2008
Comment By: Touchtone , Ted
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

My name is Ted Touchtone. I am a wildlifebiologist. I retired from the State of Georgia.I have a little private consulting businessright now, and I believe firmly that any conceptof interbasin water transfer is going toultimately lead to a major problem. As a matteof fact, the whole concept of interbasintransfer, in my opinion, is rooted in theconcept of growth, and just growth for the puresake of growth, I also believe is leading usdown a very slippery slope.If -- example, Atlanta has over exceededthe Little Chattahoochee water supply. Well itappears to me that that should limit the growthright there, but we continue to go -- we have agovernment here that has gone to China twice inthe last year to get more people to move intothe metro area industry, and we don't haveenough water to fund them anyway without watertaken out of this basin, but this river goesinto the capital of Alabama, not the capital ofGeorgia. So you've got these real incrediblycomplicated political processes as well asecological.But in summary, to make it real simple, myview is we are setting ourselves up for longtermproblems with interbasin transfers becauseyou are artificially propping up a populationthat should -- that has already exceeded or atleast reached it's caring capacity. And we'renot even going to get into the issues ofbuilding dikes on a city that's 15 feet belowsea level.And that's another issue for another day,which is another ecological nightmare, justsetting people up for death on down the roadwhen another Cat 5 comes through. It's justthere are some things -- there is a limit tohuman growth and the amount that we can squeezeout of our environment, and at some point we'vegot to use some wisdom along with the knowledgeto figure out where we stop the -- at leastreduce the growth rate. Thank you.

Comment Date: 09/16/2008
Comment By: Doss , Jamie
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

Hello. My name is Jamie Doss. I'm a RomeCity commissioner. I'm here tonight to supportthe Rome position. Some of my key concerns areinterbasin transfers, certainly transfers out ofour own river basin. I have concerns abouttampering with the winter pool and Allatoona forflood control reasons. I also am concernedabout the new Paulding County

reservoir thatcould divert water out of the basin to Atlantawith no return, but overall I'm, of course, herto protect our city and make sure that we havewater when we need it. Thank you.

Comment Date: 10/17/2008
Comment By: Forehand , Steve
Basins: Entire Basin
Categories: Agriculture, Alternatives, Baseline Conditions, Cultural Resources, Ecological Resources, Economic Resources, Fisheries, Flood Damage Reduction, Hydropower, Impact Analysis, Navigation, Recreation, Threatened and Endangered Species, Water Quality, Water Quantity/Supply
Attached Document:
Comment:

LAKE MARTIN RESOURCE ASSOCIATION, INC.(LMRA)ALEXANDER CITY, ALABAMAALABAMA-COOSA-TALLAPOOSA RIVER BASINWATER CONTROL MANUAL UPDATECOMMENTS ON THE PROPOSED UPDATE TO THE WATER CONTROL MANUAL FOR THE ALABAMA-COOSA-TALLAPOOSA RIVER BASINOCTOBER 17, 2008The Lake Martin Resource Association, Inc. (LMRA) is a non-profit organization founded in 1970 and has worked for the betterment of Lake Martin since its inception. LMRA has enjoyed the support of many individual and business members through the years. As of October, 2008 LMRA's membership counts over 1200 members. Some of LMRA's causes and activities are as follows:• Advocates stabilization of Summer and Winter lake levels and higher levels for longer time periods (the "shoulder" months).• Promotes environmental education through lake clean-up and re-cycling efforts.• Purchases, places and maintains hazard and marking buoys on Lake Martin.• Promotes and offers education to improve boating safety.•Sponsors a $5,000 Reward and Crime Prevention Program for LMRA members for information leading to the arrest and conviction of anyone breaking and entering a member's residence.• Sponsors a lakeside E911 address sign project.•

Publishes periodic newsletters and holds an annual meeting to inform membership of lake related issues and LMRA activities.• Works with all appropriate agencies and organizations towards a better lake and lake community.• Has member representation on the State of Alabama Water Resources Commission.LMRA urges the Army Corps of Engineers (COE) to immediately suspend the revision of the Water Control Manual (WCM) until such time as the current litigation between Alabama and Georgia is resolved by the courts. The lead case in this litigation is State of Alabama v. United States Army Corps of Engineers, CV-90-BE-1331-E (N.D. Ala. 1990). The ultimate resolution of this litigation will determine many aspects of water resource allocation between these two states and possibly Florida. The results of the revision of the WCM at this time could be rendered moot by the court proceedings. A much better use of taxpayer

resources could be made by waiting until the court determines the resolution of water allocation issues before attempting to revise the WCM.Although the COE may believe it is following the law by revising the WCM, the results of the above-referenced litigation very likely will determine the law of the land with regard to many issues that will be of great relevance to the WCM. The COE has not revised the WCM since the 1950's. If the creation of a fair and balanced manual is the objective, there will certainly be no harm in waiting until the current litigation is resolved before completing this revision.Respectfully submitted,LAKE MARTIN RESOURCE ASSOCIATION, INC.Steve R. Forehand, Legal Officer

Comment Date: 10/20/2008
Comment By: Allen , John
Basins: Entire Basin
Categories: Alternatives, Hydropower, Other, Water Quantity/Supply
Attached Document: Georgia's ACT Scoping Comments.pdf
Comment:

Please see attached comment letter.

Comment Date: 10/17/2008
Comment By: Cunningham , Jesse M
Basins: Entire Basin
Categories: Other
Attached Document: Cunningham-(ACT-WCM_Comments_101708).doc
Comment:

See Attachment

Comment Date: 10/20/2008
Comment By: Bowers , Willard L.
Basins: Entire Basin
Categories: Other
Attached Document: Bowers.pdf
Comment:

See Attachment

Comment Date: 10/20/2008
Comment By: Page , Glenn M.
Basins: Entire Basin
Categories: Other
Attached Document: Page.pdf
Comment:

See Attachment

Comment Date: 10/17/2008
Comment By: Rogers , Gilbert
Basins: Entire Basin

Categories: Other
Attached Document: Rogers.pdf
Comment:

See Attachment.

Comment Date: 10/20/2008
Comment By: Bartels , Thomas
Basins: Entire Basin
Categories: Other
Attached Document: Bartels.pdf
Comment:

See Attachment

Comment Date: 10/13/2008
Comment By: Minick , Diane
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

The management of the ACT basins over the next 20 years will be critical to the survival of many communities. I believe that protection of the water sources as well as wise management of the waters will enable the waters in the basins to be sustainable. 1. The most significant impact on the water availability is that of Interbasin Transfers.Since Interbasin transfers are allowed, it is my opinion that Interbasin Returns (my way of describing the process) should be required. By that I mean that any water transferred from one basin to the next should be returned to the basin of origin after use and clean-up. (Ex: If Cobb County gets 250 mgd from the Etowah watershed, then they should return 250 mgd to the Etowah watershed.) When water is taken from a basin and not returned, the downstream loss of water in the basin of origin will be significant. Not only will the river and tributaries be affected, but also any other lakes/reservoirs below the removal site. This removal of water from one basin is a loss that will never be recovered. There is evidence of the significant effects of interbasin transfers on downstream areas already in existence in the West at the Colorado River. 2. A shoreline stabilization program should be developed that incorporates the use of plant-based stabilization of bank areas with regulations that prevent high speed approach to shorelines (no wake rules). Sea walls create more destruction when large wakes hit them. The use of riprap to do this creates more problems than it solves. 3. During winter drawdown of the lake levels, sediment removal and re-sculpting of lake bed to create a more gradual slope to shoreline should occur. This will help to dissipate the energy of wave action, much like the coast of Georgia. These are a few point that I feel are important to consider. Kind regards, Diane Minick

Comment Date: 10/16/2008
Comment By: Clark , Diane
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

My husband and I would like to see regulations regarding further development around the water shed of Lake Allatoona. The phosphate level is so high that the algae in Lake Allatoona last summer made the water look like pea soup. Also, we would like to be able to have not only drinking water but enough water to be able to use outdoor water to maintain our property in the event of a drought period. We would also like the Manual to insure Wildlife Protection.The Atlanta area has grown tremendously in the last 15 years. The Army Corp of Engineers must take that into account and allow enough water to stay in Lake Allatoona to insure water quality, quantity, and ecological preservation.Thank you for your consideration of my request.

Comment Date: 10/20/2008
Comment By: Krautler , Charles
Basins: Entire Basin
Categories: Other
Attached Document: Krautler.pdf
Comment:

See Attachment

Comment Date: 10/20/2008
Comment By: Atkins , Brian
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

To Whom It May Concern:These supplemental comments are submitted by J. Brian Atkins, Director of the Alabama Office of Water Resources, on behalf of the State of Alabama. These supplemental comments are in addition to the State of Alabama's initial comments submitted to the Corps of Engineers on September 18, 2008.The State of Alabama understands that the Corps intends to develop a ResSim modeling platform to develop the water control manuals for the Alabama-Coosa-Tallapoosa River Basin. The State of Alabama believes the Corps and the States of Alabama and Georgia should agree upon the computer model that will be used to evaluate the impact of any changes to the baseline operations. As a result, the Corps should use the agreed upon HEC-5 model developed during the Comprehensive Study and used in the negotiations of the allocation formula under the ACT River Basin Compact or develop a new model that is agreed upon by the Corps and the states. During the Comprehensive

Study and the negotiations under the ACT Compact, a significant amount of work was done in the development of the HEC-5 model and the assumptions underlying the model runs. The States and the Corps agreed to use the HEC-5 model as the modeling tool for evaluating the allocation formula negotiations. The technical staffs of Alabama and Georgia are able to evaluate the results of HEC-5 model runs and to identify potential inconsistencies between the modeled output and anticipated results.
At this time, the State of Alabama understands that revisions to the Water Control Manuals will be evaluated using the ResSim model. The ResSim model should only replace the HEC-5 model after the technical staffs of the three states and the Corps agree that the ResSim model is a better tool to evaluate the ACT system. It would be inappropriate and premature for the Corps to develop the ResSim model without input from the states on the assumptions underlying the model and without sufficient time for each of the states to develop the experience and expertise required to evaluate the results generated by the ResSim. The State of Alabama respectfully requests that the Corps hold a public meeting to discuss with and hear from interested parties regarding the appropriate modeling platform for the ACT water control manual development.

Comment Date: 10/16/2008
Comment By: UNKNOWN , Anita
Basins: Entire Basin
Categories: Other
Attached Document:
Comment:

I have lived on the edge of corp property on Lake Allatoona since April 1997. I have not been happy with the way water is released every winter. This results in a good portion of the lake looking like a giant mud hole for about 4 months out of the year. This is not only a huge eyesore but it limits our enjoyment of the lake during those mild days of winter that occur from time to time. There are many parks that should not be rendered unpleasant because of the policies of water management. These parks are for the community to enjoy the outdoors and that includes a beautiful lake . Also it is not uncommon for people to want to go boating during the winter - yet the ramps on certain parts of the lake are completely unusable. Considering that I back up to corp property - I would like to be able to look out onto an actual lake and not a mud hole. I also think it's very difficult to truly sell a house as a 'lake' house when there is no water in a good portion of that lake for 4 months out of the year. Without a great deal of rain in the spring, the lake does not have the ability to refill what was released. This only makes portions of the lake unusable for even longer than 4 months of the year. Due to the drought situation of late and the increased population growth it would be prudent to keep more water in the lake instead of releasing huge amounts at a time

because of fears of a 'potential' flood in Rome or to allow people in Alabama the ability to get on the water during the winter months.

Comment Date: 10/17/2008
Comment By: Cook , Stanley F.
Basins: Entire Basin
Categories: Other
Attached Document: Cook.PDF
Comment:
See Attachment.

Comment Date: 10/23/2008
Comment By: Blalock , Tanya
Basins: Entire Basin
Categories: Other
Attached Document: Blalock.PDF
Comment:
See Attachment.

Comment Date: 10/24/2008
Comment By: Couch , Carol
Basins: Entire Basin
Categories: Other
Attached Document: Couch.pdf
Comment:
See Attachment

Comment Date: 10/20/2008
Comment By: Cockrell , Gary
Basins: Other
Categories: Other
Attached Document: CoE 101508 Manual Rev Comments.doc
Comment:
See Attached.

Alabama-Coosa-Tallapoosa River Basin
Water Control Manual Update
and Environmental Impact Statement

COMMENT FORM

Go To: www.act-wcm.com to submit comments via the web OR
By fax: 205.930.5707
By email: comments@act-wcm.com
By post: Attn: ACT WCM Comments
2170 Highland Ave Suite 250
Birmingham, AL 35205

All comments on the scoping efforts should be received by October 20th, 2008.

Date: 9/18/08

Information About You

First Name: Joe Last Name: Fain

Title:

Organization

☐ Agency (federal, state, or local) ☐ Congressional ☐ Company ☐ General Public

Organization:

Preferred Method of Communication

☐ Email:

☐ Mailing Address: 2600 Royal Downing Ct Montgomery, AL 36117

Comment Categories

☐ Ecological Resources
☐ Cultural Resources
☐ Threatened and Endangered Species
☐ Fisheries
☐ Water Quality
☐ Agriculture
☐ Other
☐ Water Quantity/Supply
☐ Hydropower
☐ Navigation
☐ Flood Control
☐ Recreation
☐ Impact Analysis
☐ Scoping Meetings
☐ Newsletters
☐ Public Communication
☐ Baseline Conditions
☐ Alternatives
☐ Economic Resources

Geographic Area of Interest

☐ Entire Basin
☐ Tallapoosa Drainage Area
☐ Mobile Bay
☐ Coosa Drainage Area
☐ Oostanaula Drainage Area
☐ Other
☐ Etowah Drainage Area
☐ Alabama River

This brochure is for anyone who is considering filing a complaint against a lawyer with the Alabama State Bar. It explains how and where to file a complaint against an Alabama lawyer. The Supreme Court of Alabama, through the Alabama State Bar, regulates lawyer conduct in this state. Filing a complaint is a very serious matter.

Filing a Complaint

All lawyers who practice law in Alabama must be members of the Alabama State Bar. The Alabama State Bar's grievance system was established by the Supreme Court of Alabama to enforce uniform standards of professional conduct for lawyers. Filing a complaint should not take the place of communicating with your lawyer in an attempt to resolve differences. If your problem is the result of a misunderstanding or a breakdown in communication, the problem may be solved by a candid talk with your lawyer. If you have made a sincere effort to resolve your problem and still believe that the lawyer may have violated an ethics rule, file your complaint. A complaint should not be made lightly or used to try to gain an advantage in your transactions with a lawyer. A lawyer who is accused of misconduct suffers whether or not he is found to be at fault. More than a claim of misconduct is needed to justify discipline. It takes evidence—proof.

How To File a Complaint

After you have completed reading this brochure, you must submit your complaint by using the enclosed Complaint Form. Additional pages may be attached. Attach copies of any documents that support your allegations. Please do not send original documents. The Bar will not copy your documents and return them to you. The complaint should be signed, in the presence of, and notarized by a notary public. The Alabama State Bar does not charge you fees or costs for filing your complaint against an Alabama lawyer.

What Happens After You File a Complaint

All complaints filed with the Alabama State Bar are reviewed by Bar counsel to determine if the complaint has sufficient merit to warrant a full investigation. In most cases, a copy of your complaint is sent to the lawyer for a response. Once the lawyer's response is received, your complaint and his response will be reviewed again by Bar counsel to determine what further action, if any, should be taken. You will be sent written notification of the decision. If it is determined that there is insufficient evidence to merit a formal investigation, then you will be notified. However, if there is sufficient information to establish that an ethics violation possibly occurred, a formal investigation will be opened. Some investigations will be sent to local Bar grievance committees, and others will be investigated by the Bar.

The processing of most formal investigations at this stage can take anywhere from six to eighteen months, depending on the complexity of the situation. You will be notified in writing about the outcome of your complaint. You may be contacted during the investigation. If a hearing is held before the Disciplinary Board, you may be required to attend and testify.

What the Complaint Process Cannot Do

- Recover money damages;
- Set aside a criminal conviction;
- Make the lawyer take action you wish him or her to take;
- Offer assistance with your pending legal matter or provide legal advice;
- Substitute for other civil or criminal remedies;
- Resolve disputed lawyer's fees (see "Fee Disputes");
- Punish the rude behavior of a lawyer;
- Assist with complaints against sitting judges;
- Address allegations that lawyers acting as guardians ad litem have taken positions with which you disagree; or
- Resolve disputes over debts of a lawyer, such as a lawyer's failure to pay a bill to you.

Not all allegations of misconduct amount to a violation of an ethics rule. An honest disagreement between a lawyer and client about the handling of a case is not misconduct. A mistake or error of judgment is not a cause for discipline.

What Happens If It Is Determined That a Lawyer Violated an Ethics Rule

If the Disciplinary Commission determines that the lawyer has violated an ethics rule, they may impose discipline. The lawyer is notified of the Commission's decision. The lawyer is normally given 14 days to: (1) accept the proposed discipline; (2) request reconsideration upon submitting additional evidence; or (3) demand formal charges and a hearing.

How a Lawyer May Be Disciplined

Probation - The lawyer will be monitored, may be required to report to a disciplinary authority, and his practice may be restricted during a specific period of time.

Private reprimand - A written reprimand, signed by the President of the Alabama State Bar is sent to the lawyer and placed in the lawyer's permanent file.

Public reprimand - There are two types. In both, the lawyer must appear before a public meeting of the Board of Bar Commissioners, where the reprimand will be read to him by the President of the Alabama State Bar. However, one type of public reprimand will

be published in both the local newspaper where the lawyer practices and The Alabama Lawyer (a publication that is distributed to all members of the Alabama State Bar). The other type of public reprimand is published only in The Alabama Lawyer. These reprimands are also placed in the lawyer's permanent file.

Suspension - The lawyer is suspended from practicing law for a specific amount of time, ranging from 45 days to five years. Depending on the length of suspension, lawyers may be reinstated to practice law without a hearing. In some cases a lawyer may not resume the practice of law until reinstated after public notice and a hearing.

Disbarment - The lawyer is disbarred. A disbarment is for a period of five years. The lawyer must petition the Bar for reinstatement in order to be allowed to resume the practice of law.

Fee Disputes

Fee disputes are not handled by the Alabama State Bar's grievance system because fee disputes generally do not involve questions of ethics or professional conduct. However, there are other methods available to resolve these problems, including the Alabama State Bar's Fee Dispute Resolution Program. Requests for forms should be submitted in writing to: The Alabama State Bar Committee on Fee Dispute Resolution, P. 0. Box 671, Montgomery, AL 36101-0671.

Client Security Funds

The Client Security Fund was established by the Alabama State Bar to provide reimbursement to individuals who have lost money or property due to the dishonesty of an Alabama lawyer. All claims are investigated by the Client Security Fund Committee. Reimbursement is made at the discretion of the Client Security Fund Committee in appropriate cases. There is no right to reimbursement and reimbursement is limited. The Fund is a remedy of last resort for those who cannot obtain reimbursement from other sources. It you wish to make application to this fund please contact the Alabama State Bar for additional information.

Who Will Know About Your Complaint and the Information Provided to the Bar

In most instances, the lawyer will be sent a copy of your complaint and copies of the information you provide. The rules of the Supreme Court of Alabama require that the Alabama State Bar treat all inquiries and complaints filed with the Office of General Counsel as confidential, unless discipline has been imposed. However, during the course of the investigation, the investigator may need to contact witnesses for additional information.

You, as the complainant, have absolute immunity from suit for filing your complaint. Witnesses who may be required to testify at a hearing also have immunity from suit resulting from their participation in the grievance process.

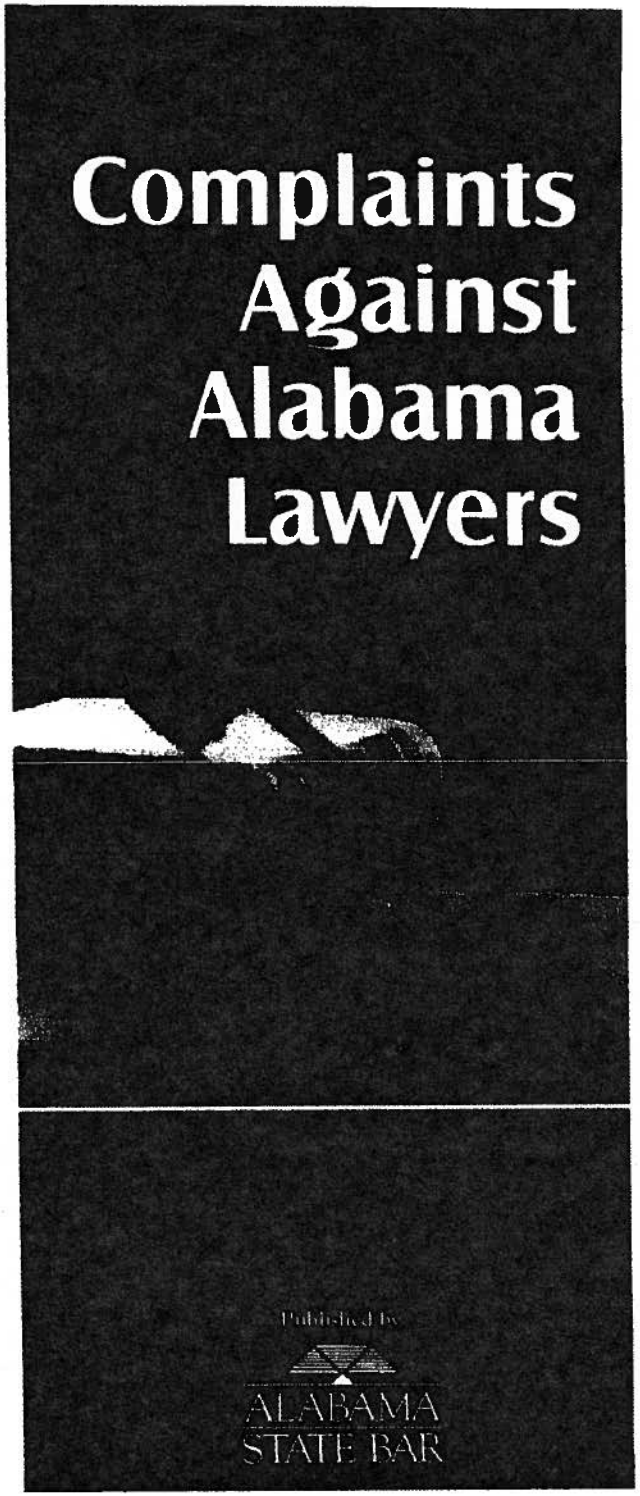
Your complaint will receive the Alabama State Bar's prompt attention and every attempt will be made to resolve your complaint in a manner which is fair to both you and the lawyer.

Alabama State Bar
Center for Professional Responsibility
415 Dexter Avenue
Montgomery, AL 36104
334-269-1515
www. alabar. org

Single copies of this brochure and others are free upon request by contacting the Alabama State Bar at the above listed number or Web site.

August 2006

Complaints Against Alabama Lawyers



INVESTIGATION INTO IMPOUNDMENT EROSION ISSUES

JORDAN DAM HYDROELECTRIC PROJECT
AND
BOULDIN DAM DEVELOPMENT OF COOSA RIVER HYDROELECTRIC PROJECT

FERC PROJECTS NO. 618 (JORDAN DAM)

AND

NO. 2146 (COOSA RIVER)

ALABAMA

Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Administration and Compliance
888 First Street, NE
Washington, DC 20426

April 2004

The Law Office of George P. Walthall, Jr.

George P. Walthall, Jr.
Christopher M. Howell
Charity E. Bass

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Real Estate Facsimile: (334) 365-1811

November 21, 2006

Mr. Joe Fain
2600 Royal Downing Ct.
Montgomery, Alabama 36117

RE: Alabama Power Company
Our File No.: 06-510.LIT

Dear Joe:

I will be contacting the Federal Energy Regulatory Commission within the next two (2) weeks. After I have done so, I will contact you to come in and meet with me to discuss the same.

At that time, I will need for you to sign a Fee Agreement and bring in a retainer in the amount of $1,500.00. You will also need to think about how much money you are willing to spend on this matter.

In the meantime, if you have any questions, please do not hesitate to contact me.

With best regards,

Sincerely yours,

George P. Walthall, Jr.

GPWJr/adp

Mrs. Wilson – Sessions 244-7017 4/27/06
Mrs. Evans – Corps of Engrs.

Dear Sen. Jeff Sessions:

The Ala. Power Co. lied to people from Wetumpka Ala. to Rome, Ga. They told people that if they ran water through Jordan Dam it would lower lakes from Jordan Lake to Rome, Ga. That was in the 1980's. F.E.R.C. after an 8½ yr. fight made the Power Co. run water thrue Jordan Dam. This gave us the Coosa River back to sea. The river no longer ~~pottable~~ is stagnant – it became alive with fish and activities. It saved the City of Wetumpka much trouble and money because the river had become stagnant.

The land owners on Lake Jordan had a problem when Jordan Dam was built. The Ala. Power Co. stole 7 ft of elevation of land by raising the lake elevation from 245 to 252. I lost 62 ft. of land in one spot and lesser amounts in others. I contacted A.P.C. about paying me for the lost land in 1970. The dam was built in 1968. They wrote me a letter that they would come by and talk about the lost land. I did not hear from them. I have contacted them at least 6 times since then with no results. Sawyers say the time has run out for any legal action. FERC can do something about A P C stealing our land if you make them. FERC has a book on Rules + Regulations that protect the Public.

I also have a problem with erosion of my property I would like to talk about also at a later date

P.S. My daughter, Doris Fain went to Huntingdon College with you

Thanks for your help.
M. B. Fain

Alan Polk
Advertiser Outdoors Editor

Fain receives deserved recognition

Some people talk about what they would like to see changed in the outdoors world, but Joe Billy Fain of Wetumpka puts words into action.

And because of Fain's desire to make Alabama's outdoor recreation and environment better, he received a very deserving award last week.

Fain, a major driving force behind getting the Alabama Power Company to release a continious flow of water into the Coosa River below Jordan Dam, was presented Auburn University's W. Kelly Mosely Environmental Award Wednesday in Wetumpka.

In the late 1960s, Alabama Power constructed the Walter Bouldin Dam near Lake Jordan. It also diverted water from Lake Jordan to the new dam through a man-made canal between the two lakes. The water was then released into another man-made canal and bypassed about seven miles of the original Coosa River.

In turn, the water flow at the Jordan Dam was decreased and was even stopped at times. After the river lost most of its water flow, federal and state fisheries officials discovered the river's fish population declined and the water periodically exceeded state water quality standards.

Prior to this, the Coosa River had a national reputation for being one of the best spotted bass, catfish and striped bass fisheries in the nation. Also, canoeing and whitewater enthusiasts found the currents of the Coosa so challenging that it became a popular recreational boating stretch of river.

Fain, however, watched the quality of the river decline. But instead of just talking about it, he did something about it.

Soon after the fishing declined, Fain spearheaded Save the Coosa, a private organization that worked with the Alabama Game and Fish Division, U.S. Fish and Wildlife Service, Federal Energy Regulatory Commis-

Quicksilver Pink is

By ALAN POLK
Advertiser Outdoors Editor

Despite driving rain and sleet, Quicksilver Pink, owned by Montgomery's Tobe and Mary Stallings, pointed 10 coveys of quail and two single birds on Feb. 25 to win the 91st National Bird Dog Championship on the Ames Plantation near Grand Junction, Tenn.

Quicksilver Pink, a white and orange five-year-old female pointer, stunned the trial's three judges with her performance. She competed against 32 top-ranked bird dogs, which drew a gallery of 8,693 people. No other dog located more than five coveys and less than half completed the three-hour course.

The National Championship trial takes place on 5,000 acres of the Ames Plantation, which is managed specifically for quail. These grounds are part of the University of Tennessee's agricultural program.

"The dog's performance was flawless," said an excited Stallings, more than seven days after his dog's performance. "She hunted hard for the three-hour brace and finished real strong."

"She just had an outstanding day," said judge Nathan Cottrell, who credited the dog with 11 finds. "She was still going strong at the end, locating two coveys of quail in the final two minutes."

The judges evaluate each dog's ability to find coveys of quail, endurance, speed and character.

Stallings said Quicksilver Pink, followed her father, two-time national champion Whippoorwill's Rebel. During her young career, she has also posted two U.S. Open national championship wins, won the Southland championship once and has two runner-up finishes.

Stallings said Colvin Davis of Farmsville trained the dog and ran her in the competition.

Elhew Native John wins amateur trial

UNION SPRINGS — Fort Walton Beach's Bud Moore, a former football coach at the University of Alabama, handled his pointer, Elhew Native John, to win Sedgefield Plantation's National Amateur Free-For-All Championship here last week.

Montgomery's Hoyt Henley was the runner-up with his pointer, Henley's Chief Zip.

The best qualifying dog was Buzzsaw's Crosscut, a pointer handled by Ditty Mills of Albany, Ga.

"He's done an outstanding job developing this dog," Stallings said. "I got her when she was a pup and after working with her a little, Colvin took over and worked with her. He deserves a lot of credit."

Stallings received the prestegious Mike G. Perkins trophy, the John Gardner Memorial Coat and an oil painting of Quicksilver Pink.

"To me, this is like winning the Super Bowl or World Series," Stallings said. "This is the trial where the best of the best run."

Stallings said the dog had excellent conditions for hunting. The cold weather kept the birds moving and the dog never became tired.

"As soon as we picked her up, I knew she would be hard to beat," Stallings said. "I just had that feeling. I was real proud of her.

"I've been in this business for 35 years and that was my proudest moment. A national championship? What more could a person ask for?

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Public proposes huntin

State to evaluate commercial fishing, archery equipment and Montgomery boat ramp

By ALAN POLK

presently legally allowed all that

...Energy Regulatory Commission and some willing politicians ...erce Alabama Power to release water into the Coosa River. ...s evolved into a 20-year ba...e, eventually resulting in th... FERC requiring Alabama P...r to release a continuous flo... of water into the river. This took place last December and now the water is running.

"He was a consistent and tireless worker for the river," said Larry Goldman, a spokesman for the U.S. Fish and Wildlife Service. "He never gave up and continuously fought for the water. The citizens of Wetumpka and those who use the river should always be grateful to him.

Charles Kelley, director of the Alabama Game and Fish Division, also said Fain was well deserving of the award.

"Too many times, awards are selected for those who are paid to do what they do," Kelley said. "Very seldom do we recognize those people who volunteer their time and money to making our outdoor environment better.

"Joe Billy Fain made the difference in what happened to this river and his hard work deserves the recognition he is getting. This award is for those who make significant contributions to the state's forestry, wildlife and fisheries management programs."

Helen Sevier, the C.E.O. and chairman of the board for B.A.S.S., said Fain is a prime example of what America is all about.

"Back a few years ago, I got a call from a man and it was Joe Billy Fain," she said. "He stayed on the phone and was so dedicated to his cause that I couldn't hang up.

"Some of the toughest battles you ever fight are those in your own back yard and he fought it and won. He's a hope person and is willing to hang in there when the going gets tough."

According to Bob Barker, president of the Wetumpka-based American Bass Association, "Fain is the man behind the Coosa River. If anyone deserves an award, he does."

But the words of Sam Spencer, assistant director of the Alabama Game and Fish Division, speak for most people who really don't know Fain but like to use the river.

"He made the difference and gave so much to protect the most beautiful part of the Coosa River," he said. "I learned to whitewater there, and my son and I've spent many enjoyable hours on that river before they turned the water off. It was pure enjoymen...

"But for me, what it really comes down to is that we saved the river and the lake's still there."

For years, the Coosa River was placed in a biological comma, but

By ALAN POLK
Advertiser Outdoors Editor

AUBURN — More than 20 people proposed changes or voiced their opinion of the state's hunting, fishing and endangered species programs to the Alabama Conservation Advisory Board during a public hearing here Friday.

The longest discussion centered around a state proposal to limit the type of archery equipment that is legal for bowhunting for deer in Alabama.

Tom Sheffield, the inventor of the controversial halfbreed bow, demonstrated the bow to the board and more than 75 spectators. He said the bow was not designed to make people a better hunters, but to eliminate the chance for error.

Grady Herron, Jr., president of the 4,000-member Bowhunters of Alabama, voiced opposition to the halfbreed bow.

"The unchecked technological advancement of equipment will at some point reach a stage that the early bowhunting season will require adjusting," he said. The season has historically opened on Oct. 15 and closed Jan. 31.

Herron said, "The technological explosion, coupled with our liberal season, has created a new hunter in Alabama. These hunters are firearm hunters enjoying the five to six weeks of early bow season via the use of today's advanced equipment. There is presently legally allowed all that is needed in a bowhunter's arsenal."

Later in the meeting, the board discussed the legality of the halfbreed bow and what alternatives they had. During this discussion, Alabama Game and Fish Divsion Director Charles Kelley asked the board to outlaw the bow.

The board then asked the game and fish to further evaluate the bow and make a formal recommendation to them on June 14. This is the date for the board's season-setting meeting in Gulf Shores.

Also, Al Hite, president of the Bass Anglers of the Montgomery Area, asked for the board's support in constructing a boat ramp in Montgomery County. This was made because part of the budget for the construction must come through the Alabama Game and Fish Division.

Conservation officials said they were in support of the ramp if a need existed.

"If Mr. Hite has the justification and a need, we will build it," said Kelley. "I am not opposed to a ramp being built and will be glad to work with them."

In addition, James Patterson, a commercial fisherman from Wetumpka, recommended the board open the Alabama River upstream from Jones Bluff Dam to a limited number of commercial fishing. He asked the board to consider increasing the li-

Jeremiah Perryman

...cense fee on commer...men and restrict th... and Coosa rivers ... commercial fishermen.

Patterson said ... amount of commerc...

Norton wins Southeastern World turkey calling conte...

By ALAN POLK
Advertiser Outdoors Editor

Larry Norton of Pensington received top honors in the Southeastern Wild Turkey Calling Contest here Friday. On Thursday evening, he successfully defended his World Turkey Calling Championship title in Mobile.

"All I can say is that it takes a lot of practice to do this," he said. "Last year, I just never quit practicing.

"I practiced all summer, during deer season and up to now — and it paid off."

Travis Camp of Sardis was the runner-up in the Southeastern's professional division. He was followed by Terry Sullivan of Jemison, Tom Drake of Columbus and Dewane Salter of Evergreen.

In the amateur division, Billy Perryman of Pine Apple walked away with first-place honors. He

DIGEST

Jason Fussell of Columbus won the junior division. He was followed by Gary Hanks of Evergreen and Andy Ray of Moody.

Wade Chandler won the owling contest. He was followed by Bob Walker and Mac Drake.

Stevens wins ABA

EUFAULA — Rusty Stevens of Columbus, Ga., caught a six-bass limit weighing 28.66 pounds to win the Alabama Bass Association Solo Tournament last weekend on Lake Eufaula.

Stevens also caught the tournament's largest bass, which weighed 6.63 pounds. Most of his bass were caught by fishing a white and chartreuse spinnerbait over shallow humps and flats near the main river channel.

Bobby Taylor of Col... ished third with 16.02 ...

The tournament's p... caught 119 bass tha... 236.28 pounds. One-hu... teen bass were release...

Top 100 pro-am

The $231,200 Bassm... Top 100 tournament w... Wednesday through Sa... Sam Rayburn Reser... Jasper, Texas.

Representing Alaba... professional division w... vid Yarbrough of Gad... M. D. Lowe of Mobile.

Competing in the am... vision will be Spencer ... of Huntsville, Micheal ... Tuscaloosa, Ronald Mc... Hoover, Alan Murray ... field, Tommy Reaid of ... and Ken Romain of Nor...

The professionals wi... a $190,000 purse and ... teurs will compete for ... purse of cash and prizes...

today it has been given the
chance to revive itself -
thanks to a man
named Joe Billy Jain

The Law Office of George P. Walthall, Jr.

George P. Walthall, Jr.
125 West Main Street
Prattville, Alabama 36067

Phone: (334) 365-2255
Facsimile: (334)365-1811
Email: gpwjr@gpwalthall.net

April 4, 2007

Mr. Joe Fain
2600 Royal Downing Ct.
Montgomery, Alabama 36117

RE: Alabama Power Company
Our File No.: 06-510.LIT

Dear Mr. Fain,

As a follow-up to our telephone conversation today, this letter shall serve to confirm that my office staff, namely Julie Carr, Terry Rego, Beth Watkins have all searched the office for a letter, from FERC, that you stated was delivered by you. To date, my staff has been unsuccessful in their search for same.

I am not acknowledging receipt of the aforementioned letter, but simply that said described letter cannot be found.

This letter shall also serve to confirm that you will be in my office on April 9, 2007 at 11:30 to search the office, by invitation, in hopes that the said letter is found.

With best regards,

Sincerely yours,

George P. Walthall, Jr.

The Law Office of George P. Walthall, Jr.

George P. Walthall, Jr.
125 West Main Street
Prattville, Alabama 36067

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Facsimile: (334)365-1811
Email: gpwjr@gpwalthall.net

April 4, 2007

Mr. Joe Fain
2600 Royal Downing Ct.
Montgomery, Alabama 36117

RE: Alabama Power Company
Our File No.: 06-510.LIT

Dear Mr. Fain,

As a follow-up to our April 3, 2007 telephone conference regarding your matter, this letter shall serve to confirm that Mr. Walthall is not communicating with the Alabama Power Company regarding your matter to plot against your matter. Mr. Walthall has not and will not, at any time, share your file's information with the Alabama Power Company. clt was sent to FERC

Therefore, this office refutes any and all allegations made by you in this regard.

Further, this letter shall also confirm that our office in not in receipt of any correspondence from FERC, dated two months ago, pursuant to your information. Additionally, I suggested that you contact FERC and request a copy of said communication, you advised me that you had and that FERC advised you that the last communication they had with you was in 2004. The only letter that was delivered, by you, was a personally written letter from you to Mr. Walthall requesting that he contact you. Due to a family emergency for Mr. Walthall, I followed-up on this request.

To the best of my recollection, our office has never received a copy of a letter from FERC dated two months ago from you.

You further alleged that our office did not return all of your documentation from your file to you. Again, as stated in our conversation, our office has supplied any and all information that was provided by you, back to you in its entirety.

When I advised you that Mr. Walthall was in the office and would be happy to discuss your concerns with you, you stated "he can call me." Not understanding why we would have to hang up and call you back, I explained that I could simply transfer you at that time. You then stated that you did not want to talk to him and hung up on me.

It is unfortunate that I was not allowed to finish my telephone conversation with you, I wanted to state that we could set an appointment for you to come in and meet with Mr. Walthall. If you still have some questions, comments or concerns, please do not hesitate to contact me and I will scheduled an appointment for you, to meet with Mr. Walthall, at your convenience.

With best regards,

Sincerely yours,

Julie J. Carr
Assistant to
George P. Walthall, Jr.

The Law Office of George P. Walthall, Jr.

George P. Walthall, Jr.

125 West Main Street
Prattville, Alabama 36067

gpwjr@gpwalthall.net

Telephone: (334) 365-2255
Facsimile: (334) 365-1811

March 30, 2007

Mr. Joe Fain
2600 Royal Downing Ct.
Montgomery, Alabama 36117

RE: Alabama Power Company
Our File No.: 06-510.LIT

Dear Mr. Fain,

As a follow-up to our March 29, 2007 meeting, this letter shall serve to confirm that you have picked up your file today for alternative resolution. This letter shall also serve to confirm that you have advised our office that you feel you can better resolve this issue by contacting Senator Jeff Sessions who attended college with your daughter.

Please also find enclosed a check in the amount of $612.50. This amount is what is left from the retainer that was used in the research, communications and preparation for your matter.

I would like to thank you for the opportunity to be of service to you. It is unfortunate that the necessary information, sent to you by the FERC office, could not be located by you. Again, this information was of necessity in order to pursue your matter. However, if you should locate same in the future, please feel free to contact our office for any assistance you may need or desire.

Again, we appreciate the opportunity to be of service to you.

With best regards,

Sincerely yours,

George P. Walthall, Jr.

GPWJr/jjc

enclosure

The Law Office of George P. Walthall, Jr.

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Charity E. Bass

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Telephone: (334) 365-2255
Facsimile: (334) 365-1811

January 17, 2007

Mr. Joe Fain
2600 Royal Downing Ct.
Montgomery, Alabama 36117

RE: Alabama Power Company
Our File No.: 06-510.LIT

Dear Joe:

I previously wrote to you on November 21, 2006 and advised that I needed you to sign a Fee Agreement and bring in a retainer in the amount of $1,500.00. To date, I have not heard back from you. Please call my assistant, Analisa Payne, and advise if you wish to pursue this matter.

With best regards,

Sincerely yours,

George P. Walthall, Jr.

GPWJr/adp

Z:\LIT\Fain, Joe 06-510 .IT\client 011707.wpd

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September 11, 2006

C. Knox McLaney, III, Esq.
Post Office Box 4276
Montgomery, Alabama 36103

RE: Joe B. Fain

Dear Knox:

Enclosed is the information that we discussed. Give this some thought and let me know.

With best regards,

Sincerely yours,

George P. Walthall, Jr.

GPWJr/adp

Enclosures

Z:\LIT\Fain, Joe 06-51\LIT\Knox McLaney 091106.wpd

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Real Estate Facsimile: (334) 365-1811

September 11, 2006

Mr. Joe Fain
2600 Royal Downing Court
Montgomery, Alabama 36117

RE: Joe B. Fain v. Alabama Power Co.

Dear Joe:

Enclosed please find copy of the letter and information I have forwarded to Knox McLaney.

With best regards,

Sincerely yours,

George P. Walthall, Jr.

GPWJr/adp

Enclosures

Z:\LIT\Fain, Joe 06-510LIT\Knox McLaney 091106.wpd

3.0 CONCLUSIONS

A review and analysis of available literature and data as well as a visit to the site has revealed the following:

- The maximum velocity in the Bouldin canal, along the shoreline in the vicinity of the Fain property, was calculated to be less than 1.5 feet per second, occurring for less than 20 percent of the time. This velocity pattern is not considered sufficient to induce erosion.

- The Jordan Dam impoundment does not significantly fluctuate on an hour to hour basis, and stays at the same general elevation throughout the vast majority of the year. On 3 occassions over the past 4 years, short-term drawdowns of 4 feet occurred. These water level fluctuation patterns are not considered to be major factors affecting erosion.

- The soil type in the area of the Fain property is prone to erosion as evidenced by erosion occurring both at the shoreline edge and away from the shoreline on adjacent hillsides.

- There is significant erosion throughout the reservoir shoreline where erosion controls have not been installed. The magnitude of the level of erosion appears to be a function of the steepness of the shoreline, and prevailing winds. Erosion was greatest on the eastern, or windward side of the lake.

- The Fain property itself has generally steep shoreline banks, with the steepest banks and correspondingly the most erosion evidenced at the southeast and south, or canal-facing, side of the property; and

- Boater traffic in front of the Fain property is particular heavy since any boats passing between Jordan Dam and Bouldin impoundments need to utilize the Bouldin canal. With no speed restrictions applicable to this area, the wakes from boats passing into and through the canal would be major contributors to erosion of the Fain property.

Duke Power Company, Project No. 2503-009

[61,623]

[¶61,321]

Duke Power Company, Project No. 2503-009

Order Ruling on Complaint

(Issued December 4, 1985)

Before Commissioners: Raymond J. O'Connor, Chairman; A. G. Sousa, Charles G. Stalon, Charles A. Trabandt and C. M. Naeve.

Background

On July 18, 1984, Kurt S. Priester (Priester) filed a complaint pursuant to Rule 206 of the Commission's regulations, [1] alleging that Duke Power Company (Duke) had violated one of the conditions of its license for the Keowee-Toxaway Project No. 2503, [2] located in Oconee and Pickens Counties, South Carolina, and Transylvania County, North Carolina. This project consists of the Keowee and the Jocasee Developments. Priester is a riparian homeowner on Lake Jocasee, the reservoir created by the Jocasee Development. Priester claims that the operation of the project is causing significant erosion damage to his property. Specifically, he contends that a ten-foot-wide strip of his property over which Duke holds a flooding easement obtained through condemnation has been washed away, carrying trees with it, and that the erosion is accelerating at a pace that threatens to take his house if left unchecked. Priester claims that Duke is responsible for the control of erosion and should take reasonable measures to do so, but that to date Duke has denied any such responsibility.

Duke was notified of the complaint and was asked to respond. Duke's response, filed on September 7, 1984, stated that an inspection of Priester's property showed the following conditions to exist: that the property is located in a cove off the main body of the reservoir; that the slope of the property is steep, and that on Lake Jocasee there are waves created by boat traffic. [3] Duke also stated that, though some erosion was evident, there was vegetation covering some of the bank, and that Priester's neighbor has halted identical erosion by installing a wooden retaining wall. Finally, Duke denied any responsibility for the erosion damage.

On August 29, 1984, representatives from the Commission's Atlanta Regional Office inspected the site of the complaint and concluded that the erosion was due in part to the effects of wind and wave action on the project reservoir and in part to the steep terrain of the land and water run-off during storms. [4] The inspection concluded that some erosion was inevitable but that placement of riprap against the eroded bank would slow its rate.

By letter dated June 25, 1985 Commission staff informed Duke of the results of the inspection and advised Duke that, under Article 20 of the license, it is Duke's responsibility to construct and maintain erosion prevention measures. Article 20 states: [5]

The Licensee shall be responsible for and shall take reasonable measures to prevent soil erosion on lands adjacent to the stream and to prevent stream siltation or pollution resulting from construction, operation or maintenance of the project. The Commission upon request, or upon its own motion, may order the Licensee to construct and maintain such preventative works to accomplish these purposes and to revegetate exposed soil surface as the Commission may find to be necessary after notice and opportunity for hearing.

and erosion is caused by the canal next to the property & boats going thru the canal built by aka. P.P.

The letter also requested Duke to provide a plan and schedule for the initiation of such erosion prevention measures as may be

[61,624]

reasonably necessary to prevent operation of the project from further eroding the shoreline in question.

Duke responded to the staff's letter on August 26, 1985, reiterating its contention that the erosion in question was not caused / the operation of the project. Furthermore, Duke alleges that Article 20 of the license does not authorize the Commission to iquire a licensee to take erosion control measures along the shorelines of licensed projects. Duke cites the prohibitive costs that nplementation of such measures along all the shorelines of licensed projects would require, and instead suggests that it advise riester on steps he could take to control the erosion.

)iscussion

Article 20 of the license for Project No. 2503 requires the licensee to take reasonable measures to prevent erosion and siltation esulting from the construction, operation, or maintenance of the project. The inspectors from the Commission's Atlanta Regional)ffice concluded that the erosion of which Priester complains is due to the effects of wind and wave action on the project eservoir, as well as to the steep terrain and water run-off during storms. We do not believe that these factors result from the)peration or maintenance of the project; rather, they are natural phenomena associated with a body of water the size of the)roject No. 2503 reservoir. For this reason, we will not require Duke to take any measures with regard to Priester's property.

The Commission orders:

The complaint filed on July 18, 1984, by Kurt S. Priester is dismissed.

Commissioners Sousa and Stalon *dissented* with separate statements to be issued later.

– Footnotes –

[1] 18 C.F.R. §385.206 (1985)

[2] *Duke Power Company*, 36 FPC 675 (1966).

[3] In a letter filed with the Commission on December 12, 1984, Priester estimated that few of the erosion problems are caused by boat traffic waves, since they generally occur during the day, when lake levels are lower.

[4] In a letter filed with the Commission on December 12, 1984, Priester responded that the steep slope of his bank was the result of the previous erosion.

[5] 36 FPC 675 at 692 (1966).

The majority of the shoreline is developed, largely with single homes. APCO maintains two boat launches on the lake, and several private marinas also serve boating needs. The majority of developed sites on the lake utilize some sort of erosion control at the water's edge; sheet piling, stone walls, rip-rap, and other control measures are utilized throughout the lake. At all observed points throughout the lake where erosion controls were not present, some level of erosion was observed, with a direct correlation noted between the shoreline slope and the severity of erosion. Also noted was that erosion was greater on the eastern, or windward side, of the lake. Figures B-1 through B-11 as well as Figures B-13 and B-14 show erosion and erosion controls throughout the lake.

As shown in Figures 1-2 and 1-3, the Fain property consists of a series of parcels occupying the point of land at the northern bank entrance to the Bouldin canal. No erosion controls were noted on the site at the time of our visit. The shoreline of the Fian property is generally steep, with some slopes exceeding 30 degrees in pitch. Erosion of side slopes is clearly evident in Figure B-4 through B-8, and this erosion was evidenced throughout the property, not just along the Bouldin canal. Locations where trees standing in the water indicate the original presence of lands now eroded were noted in Figure B-5. Locations where soils have been added to the shoreline were also noted as shown in the right (upstream) side of Figure B-8. The most erosion was noted along the southeastern point of land and the shoreline facing the canal where the shoreline appeared to be steepest.

Erosion was noted to a lesser extent downstream of the property as shown in Figure B-9, though it should be noted that the shoreline was not as steep at this point. Erosion of a hillside about 30 feet above the canal water surface downstream of the Fain property was noted and is shown in Figure B-10.

According to APCO personnel, this area is very popular with boaters, fishermen, and personal watercraft operators. Specific boating usage values were not available for this particular area, but the licensee's 2003 "Licensed Hydropower Development Recreation Report", also known as Form 80, noted that that there were 470,062 daytime visitors to the Jordan Dam impoundment recreational areas, with a peak daytime weekend usage of 4,654 visitors, in 2002. This value only accounts for those who visit recreational areas on the impoundment including the two licensee-owned boat launches, and excludes impoundment users who own property on the lake and access it through their own holdings. The Form 80 data and observations regarding the number of properties on the lake support the licensee's assertion that the lake is heavily used. Boater traffic in front of the Fain property is particularly heavy since any boats passing between the Jordan Dam and Boulin impoundments need to utilize the Bouldin canal.

Wave effects from the heavy use of boats in this confined area would influence the erosion of shoreline in the area, including at the Fain property. With no speed restrictions applicable to this area and the confining nature of the cove at the entrance to the canal

7/25/07

Joe B. & Mac Fain
2600 Royal Downing Ct.
Montgomery AL 36117-6812

Federal Energy Regulatory Commission
Chairman Relicensing Committee
Washington D. C. 20426

Dear Sir:

I have had trouble with Ala. Power Co. ever since they built Boulden Dam. They all most dried up the Coosa River going threw Wetumpka, Ala. Bolden was put in operation in 1968. My property is at the entrance to the canal on the north side. Ala. Power Co. owned land to elevation 245 sea level. They raised the lake to 252. They did not pay me for the 7 feet they rose over my land. I have contacted Ala. Power 6 or 8 times about this matter to no avail.

In 1968 they needed to stabilize the dredge line. They asked me if they could. I ask them to put the dredges on my point to the elevation of 252.5 ft. They did and we used the dredged area for a beach. In 1969 the beach was gone from erosion. I put a 2x4 at the edge of the bank in 1969. In 1970 the 2x4 was gone.

I built a pier on the canal side in 1968 and put steps down to the pier. Since then I have built 2 more sets of steps to the pier. Erosion is not so bad now but 1968 to 1990 it was awful.

In Aug 1982 we started a program called Save the Coosa. because fishing had gotten bad, canoeing was bad and Wetumpka was polluting the river. A D E M was about to make the City of Wetumpka change its sewage system. F E R C made A. P. C. run more water down the river that improved the river in all the ways. Ala. Power Co. told people from Wetumpka, Ala. to Rome, Ga. that if they ran more water down the Coosa it would lower the lakes up the river. It would lower all the lakes up the river 10 ft.

I would like to come to Washington to talk with your committee or even better send some of your committee to see my situation. Do not send Sarma or Fayyad. I have been fighting A. P. C. since 1968.

Thanks for listening.
Joe Bill Fain

6-28-07

Federal Energy Regulatory Commission
Relicensing of Jordan + Bouldin Dam

Dear Sir:
I wish to enter the following against Ala. Power Co. and include it in my earlier letter.

1. Ala Power Co. lied to people from Wetumpka Ala. to Rome, Ga. saying that if they ran more water thru Jordan Dam that it would lower all the lakes up the river 15 feet. They did not want to give Jordan any more water than they had to. This occured when we were fighting them to get more water down the Coosa. The Ala. Dept. of Environmental Management was about to make Wetumpka build a better sanitation system when you made A PC give Wetumpka more wate
2. They took the land from elevation 245 ft to 252 ft from most of the people on Lake Jordan. They had flood rights which was O.K. But it is permanitly covered to 252 ft elevation The Corp. of Engrs. make the A.P.C. pay for land before they cover the land. This makes A.P.C. pay us for use of land from 1928 to 2007. Please help all of us on Lake Jordan.

Thanks for listening

Joe B. Fain

Mr. & Mrs. Joe & Mae Fain
2600 Royal Downing Ct.
Montgomery, AL 36117-6812

14. I had an interview with the A. G. and he would not do any thing. However he took free passes + food from A. P. to a game in Atlanta.

15. Also I complained to FERC. They sent a representative here to check on erosion. He went to A. P. and they showed my property around. Why did'nt FERC call me to show my property + troubles

Have to may guess from the report they sent me.

16. My property is on the north side of the canal as most of the water that goes into the canal comes by my point.

17. Baldin Dam broke in Feb of 1977 and the velocity of the water was very swift then that came by my point. I believe 19 acres of land was washed away on Parker claim and A. P. had to pay a large sum for that damage.

18. At another time we had a flood that was 5 ft. above 252 Lake elevation. It ruined 2 motors and rods + reels and tools in my boathouse

19. They are trying to charge people for repairing piers etc. now

A 40 year battle between Actions against A. P. C. & FERC (1)
J R Tain & APCo + FERC June 1968 & now of 2008 ~~[illegible]~~ apr.

1. Digging Canal made my water muddy in my slough.
2. Pipe line in way for skiing.
3. Pipe line had to be stablized by tying to trees on my property. I made a deal with them to put dredges on my point to give us a beach at 252.5 ft elevation. My good sandy beach was covered when they raised lake to 252. We used dredge beach for one summer and it was gone.
4. 2nd summer I put 2x4 at edge of land.
5. Third summer 2x4 was gone. This shows erosion ~~[illegible]~~ to my land.
6. Ala. Power had flood rights to 252 but only rights to 245 for lake level ~~[illegible]~~ but would not pay me for land I owned ~~above~~ 245.
7. I called at least 5 people about erosion ~~on~~ and stealing my land. They would transfer people I talked to about problem.
8. They surveyed my ~~lake~~ land by their surveyor & reported I had lost land in spots & gained land in spots. My surveyor said I lost alot of land and gained a little land in one spot.
9. My surveyor said ~~they~~ had covered 45 ft of land ~~to~~ from 245 to 252 in one spot & ~~245~~ 41 ft. from 245 to 252 level in another spot.
10. Never paid me for erosion or land covered by water level.
11. Before lake rose I built a pier on canal side with steps going from pier to bank. I have replaced steps 3 times because of erosion.
12. My Dad removed a ~~big~~ large boat house and sold his 25 ft Chris Craft cabin cruiser because of the new lake level.
13. I have a patio close to point on north east corner of property. I once mowed grass from patio to bank. but ~~[illegible]~~ more. I put 100 bags of conc

A 40 year battle between J B Fain & APCo + FERC — Actions against A. P. C. & FERC June 1968 & now of 2008 yrs.

(1)

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Mrs. Wilson – Sessions 244-7017 4/27/06
Mrs. Evens – Corp of Engrs

Dear Sen. Jeff Sessions:

The Ala. Power Co. lied to people from Wetumpka Ala. to Rome, Ga. They told people that if they ran water through Jordan Dam it would lower lakes from Jordan Lake to Rome, Ga. That was in the 1980's. F.E.R.C. after an 8½ yr. fight made the Power Co. run water thrue Jordan Dam. This gave us the Coosa River back to sea. The river no longer ~~pottuted~~ stagnant – it became alive with fish and activities. It saved the City of Wetumpka much trouble and money because the river had become stagnant.

The land owners on lake Jordan had a problem when Bouldin Dam was built. The Ala. Power Co. stole 7 ft of elevation of land by raising the lake elevation from 245 to 252. I lost 62 ft. of land in one spot and lesser amounts in others. I contacted A.P.C. about paying me for the lost land in 1970. The dam was built in 1968. They wrote me a letter that they would come by and talk about the lost land. I did not hear from them. I have contacted them at least 6 times since then with no results. Lawyers say the time has run out for any legal action. FERC can do something about A P C stealing our land if you make them. FERC has a book on Rules + Regulations that protect the Public. I also have a problem with erosion of my property I would like to talk about also at a later date

I had no erosion until they built the canal and raised the water.

Mrs. Jonathan Davis Fain went to Huntingdon College with you

2/02/07

Federal Energy Regulatory Commission
888 1st St. N.E.
Washington, D.C. 20426

Dear Sir.

I wish to drop all complaints about Ala. Power Co. on the relicensing of on Jordan Lake and Bolden lake. I want to change the complaints so that the complaints will be ~~be~~ more simple.

No. 1. I want Ala. Power Co. to put stones at the edge of my property to prevent further erosion. Use the size Ala. Power uses on its property.

No. 2. I want Ala. Power to pay me $50,000 ~~to pay me~~ for damages already done to my property. I have already put 10 tons of brick bats and 100 sacks of concrete in front of my patio trying to stop the erosion. Please send someone to my property to look at the damages. Don't send anyone from Tayeyada Office.

Thanks for your attention to my problem.

Joe B. Fain

Mr. & Mrs. Joe & Mae Fain
2600 Royal Downing Ct.
Montgomery AL 36117-6812
Tel. No. 1-334-277-0348

1. Ala. Power ran one wheel 24 hrs. each day from June 1968 to Dec. 1990 thru Jordan Dam. All the rest went thru Baldin which go by my property.
2. Bolden Dam broke in Feb. of 1977 which let water by my point
3. We had a flood of 5 ft. which made more water come by my point.
4. All 3 caused erosion on my property. When Bolden Dam broke it did millions of damage to Florida Island

6-28-07

Federal Energy Regulatory Commission
Relicensing of Jordan & Bouldin Dam

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Please help all of us on Lake Jordan.

Thanks for listening

Joe B. Fain

Mr. & Mrs. Joe & Mae Fain
2600 Royal Downing Ct.
Montgomery, AL 36117-6812

7/25/07

Joe B. & Mae Fain
2600 Royal Downing Ct.
Montgomery AL. 36117-6812

Federal Energy Regulatory Commission
Chairman Relicensing Committee
Washington D. C. 20426

Dear Sir:

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Doc Billa Fain

ashington D.C. 20426

2nd in command
Robert Cupina
Sec is Clara
202-502-8700

Mark Hilsmeier
202-502-8597

Kelliher - Chmn. FERC
202-502-8000

Relicensing of Jordan or Boldin
Dam near Wetumpka, Ala.

My suggestion to you to solve my problems. Make Ala Power pay me

1. $500 a year for 40 years = $20,000 for lease.
2. $30,000 for property below 252 ft below sea level down to 245.
3. Get Ala. Power to put stones around my property to prevent further erosion.

This will prevent me from reconsanding class action for all of Lake Jordan & going to the Supreme Court dropping FERC and letting the Corp of Eng take your place because you don't enforce your book of Regulations.

To Robert Cupina &
Relicensing Committee
for Jordan Lake
also. Mr. Kelliher Chmn.
of FERC.

Joe Bi

ture, eventually resulting in an FERC requiring Alabama Power to release a continious flow of water into the river. This took place last December and now the water is running.

"He was a consistent and tireless worker for the river," said Larry Goldman, a spokesman for the U.S. Fish and Wildlife Service. "He never gave up and continiously fought for the water. The citizens of Wetumpka and those who use the river should always be grateful to him.

Charles Kelley, director of the Alabama Game and Fish Division, also said Fain was well deserving of the award.

"Too many times, awards are selected for those who are paid to do what they do," Kelley said. "Very seldom do we recognize those people who volunteer their time and money to making our outdoor environment better.

"Joe Billy Fain made the difference in what happened to this river and his hard work deserves the recognition he is getting. This award is for those who make significant contributions to the state's forestry, wildlife and fisheries management programs."

Helen Sevier, the C.E.O. and chairman of the board for B.A.S.S., said Fain is a prime example of what America is all about.

"Back a few years ago, I got a call from a man and it was Joe Billy Fain," she said. "He stayed on the phone and was so dedicated to his cause that I couldn't hang up.

"Some of the toughest battles you ever fight are those in your own back yard and he fought it and won. He's a hope person and is willing to hang in there when the going gets tough."

According to Bob Barker, president of the Wetumpka-based American Bass Association, "Fain is the man behind the Coosa River. If anyone deserves an award, he does."

But the words of Sam Spencer, assistant director of the Alabama Game and Fish Division, speak for most people who really don't know Fain but like to use the river.

"He made the difference and gave so much to protect the most beautiful part of the Coosa River," he said. "I learned to whitewater there, and my son and I've spent many enjoyable hours on that river before they turned the water off. It was pure enjoyment.

"But for me, what it really comes down to is that we saved the river and the lake's still there."

For years, the Coosa River was labeled in a biological comma, but today, it has been given the chance to revive itself — thanks to a man named Joe Billy Fain.

proposed changes or voice their opinion of the state's hunting, fishing and endangered species programs to the Alabama Conservation Advisory Board during a public hearing here Friday.

The longest discussion centered around a state proposal to limit the type of archery equipment that is legal for bowhunting for deer in Alabama.

Tom Sheffield, the inventor of the controversial halfbreed bow, demonstrated the bow to the board and more than 75 spectators. He said the bow was not designed to make people a better hunters, but to eliminate the chance for error.

Grady Herron, Jr., president of the 4,000-member Bowhunters of Alabama, voiced opposition to the halfbreed bow.

"The unchecked technological advancement of equipment will at some point reach a stage that the early bowhunting season will require adjusting," he said. The season has historically opened on Oct. 15 and closed Jan. 31.

Herron said, "The technological explosion, coupled with our liberal season, has created a new hunter in Alabama. These hunters are firearm hunters enjoying the five to six weeks of early bow season via the use of today's advanced equipment. There is

Norton wi
World turk

By ALAN POLK
Advertiser Outdoors Editor

Larry Norton of Pennington received top honors in the Southeastern Wild Turkey Calling Contest here Friday. On Thursday evening, he successfully defended his World Turkey Calling Championship title in Mobile.

"All I can say is that it takes a lot of practice to do this," he said. "Last year, I just never quit practicing.

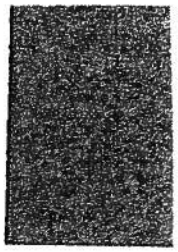
"I practiced all summer, during deer season and up to now — and it paid off."

Travis Camp of Sardis was the runner-up in the Southeastern's professional division. He was followed by Terry Sullivan of Jemison, Tom Drake of Columbus and Dewane Salter of Evergreen.

In the amateur division, Billy Perryman of Pine Apple walked away with first-place honors. He was followed by Robert Grimes of Straughn and Gray Patrenos of Livingston.

Auburn, a representative of handicapped hunters, recommended the state legalize the use of crossbows for those qualifying as handicapped hunters during the regular archery season.

Perryman recommended the state make the regulations so those being permitted to use a crossbow have a



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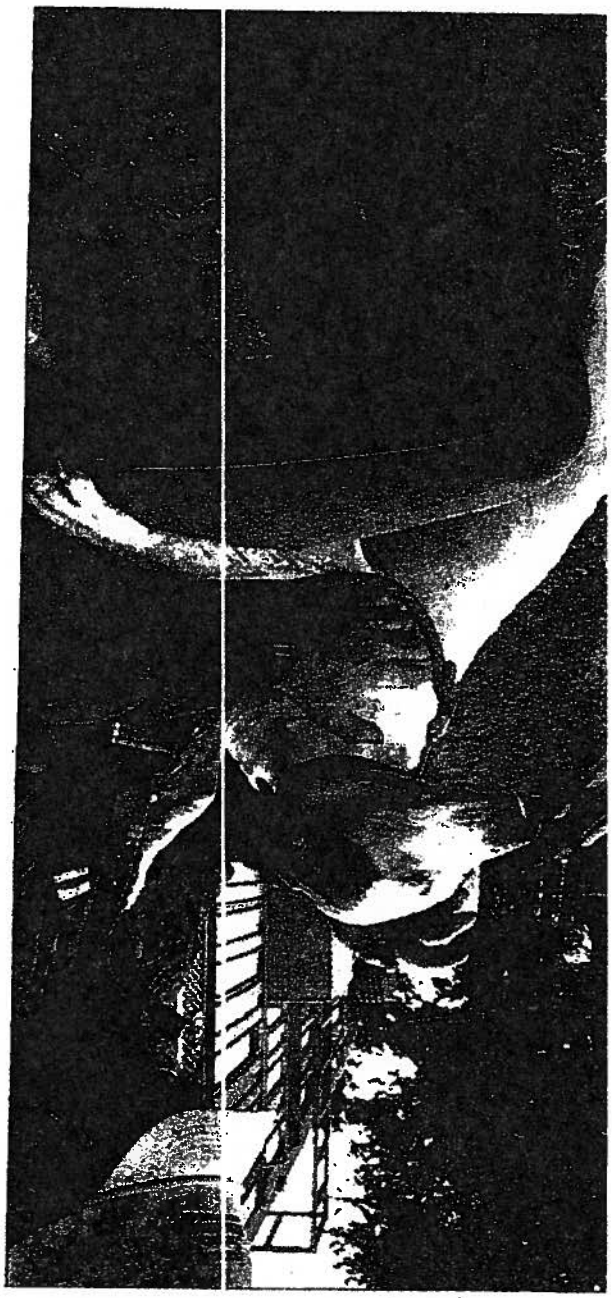
Associated Press



champion

Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive, Suite 1152 East Tower, Atlanta, Georgia 30334
Noel Holcomb, Commissioner
Dr. Carol A. Couch, Ph.D., Director
Environmental Protection Division
(404) 656-4713

October 20, 2008

BY ELECTRONIC MAIL AND U.S. MAIL
U.S. Army Corps of Engineers, Mobile District
Attn: ACT WCM Comments
2170 Highland Ave Suite 250
Birmingham, AL 35205

RECEIVED OCT 24 2008

Re: Update of the Water Control Manual for
the Alabama-Coosa-Tallapoosa River Basin
Environmental Impact Statement
Scoping Process
Comments of the State of Georgia

Dear Sir or Madam:

In response to the Federal Register Notice of August 22, 2008 (73 Fed. Reg. 49661), and information provided by the Corps at public meetings held from September 15-18, 2008, the State of Georgia submits these comments on the scoping process that will be used to gather information for an Environmental Impact Statement ("EIS") on the potential environmental impacts associated with the Corps' update of the water control manual ("WCM") for the Alabama-Coosa-Tallapoosa ("ACT") River Basin.

I. Introduction

The headwaters area of the Coosa River Basin and the Tallapoosa River Basin are within the State of Georgia. The Etowah River rises in the Blue Ridge Mountains near Dahlonega, Georgia and flows towards the southwest for approximately 150 miles before it joins with the Oostanaula River in Rome, Georgia, to form the Coosa River. The Oostanaula River is formed by the Conasauga and Coosawattee Rivers near Resaca, Georgia. The Tallapoosa River originates as a collection of streams that drain the southern Appalachian Mountain

range in Georgia, forming the River's main stem near Carrolton, Georgia and running through Paulding and Haralson Counties before entering Alabama. The Coosa and Tallapoosa Rivers, along with their tributaries, are part of what is known as the ACT River Basin.

The Corps' two primary storage reservoirs in the ACT River Basin—Lake Allatoona and Carters Lake—are located upstream of the Coosa River in Georgia. Lake Allatoona impounds the Etowah River in Cobb, Cherokee, and Bartow Counties. Carters Lake impounds the Coosawattee River in Gilmer and Murray Counties. Georgia relies upon both reservoirs for municipal and industrial water supply, recreation, support of water quality, and fish and wildlife habitat. Several Georgia communities also rely on the Tallapoosa River and its tributaries to meet municipal and industrial water supply needs.

II. Scoping Issues and Comments

Regulations issued by the Council on Environmental Quality ("CEQ") require that the Corps, in preparing an EIS, must first determine the scope of issues to be addressed and identify the significant issues related to a proposed action. 40 C.F.R § 1501.7 (a) (2006).

A. The Corps Should Consider Alternatives to Current Operations

During public meetings held to discuss the scope of the ACT WCM update process, representatives from the Corps indicated that, due to budget constraints, the Corps plans to only document its current operations in the ACT Basin and does not intend to study alternatives to those operations. Such a proposal is in direct conflict with both regulations governing the development of documents to comply with the National Environmental Policy Act ("NEPA") and regulations for the development of water control plans and manuals. Instead of merely documenting current operations, the Corps must develop and analyze alternatives that will make the most efficient use of the water resources within the ACT River Basin.

The three types of alternatives for the Corps to consider in the scoping process under NEPA "include: (1) No action alternative. (2) Other reasonable courses of actions. (3) Mitigation measures (not in the proposed action)." 40 C.F.R. § 1528.25(b) (2006). During the scoping the process, the Corps is required to examine alternatives that are both reasonable and feasible. *Vermont Yankee*

Nuclear Power Corp. v. National Resources Defense Council, 435 U.S. 519, 551 (1978). Thus, to comply with NEPA, the Corps must consider other reasonable courses of action that a) meet the purpose and need of the proposed action, b) address regulatory concerns, c) are available and capable of being implemented, and d) are prudent and feasible.

In 33 C.F.R. § 222.5, the Corps outlines general policies that apply to the development and updating of water control plans and manuals. The Corps' regulations specifically require that the Corps give appropriate consideration to all purposes authorized by Congress for a particular facility. 33 C.F.R. § 222.5 (f)(1) (2008). The regulations further state that "[t]horough analysis and testing studies will be made as necessary to establish the optimum water control plans possible within prevailing constraints." *Id.* The Corps must also develop a WCM that "will include appropriate consideration for efficient water management in conformance with the emphasis on water conservation as a national priority." 33 C.F.R. § 222.5 (f)(4) (2008). Therefore, the Corps does not have the option of merely documenting its current operations. It must develop alternatives, conduct studies, and determine the optimum control plans that will make the most efficient use of the waters of the ACT Basin.

Because the purpose of the WCM update is to develop operations that make the best use of the water resources within the basin, the State of Georgia provides below several possible alternative operations that should be considered by the Corps as part of the process:

1. Reallocation of Lake Allatoona for Water Supply

For several decades, storage has been allocated in Lake Allatoona to meet vital municipal and industrial water resource needs of northwest Georgia. Georgia's population in this region is growing, and with it the need for additional storage for local water supplies. During the WCM update process, Georgia will provide to the Corps additional information concerning projected growth and water supply demand in the region, and Georgia's plans for meeting those demands. Providing additional storage in the federal reservoirs for reasonable municipal and industrial water supply use should be part of the updated WCM. The NEPA process for the WCM update should evaluate a potential reallocation of storage and increased use of Lake Allatoona and possibly Carters Lake as water supply sources.

2. Rule Curve Changes at Lake Allatoona

The Corps should consider possible changes to the rule curve for regular operations at Lake Allatoona to maximize available storage in a rapidly growing portion of Georgia. The current rule curve for Lake Allatoona calls for a winter draw-down of 17 feet beginning each year in November. This is by far the largest draw-down of any project within the ACT system. Raising the bottom of the rule curve for the winter draw-down could provide additional storage for water supply, enhance the use of Lake Allatoona for recreational purposes, and increase the likelihood that the Lake will refill each spring.

The Corps should also consider the possibility of raising the top of the rule curve, which is currently set at 840 feet above mean sea level ("MSL"). Raising the top of conservation may be an efficient way to increase storage in the ACT Basin to meet future needs without having to build new storage projects.

3. Drought Operations

The Corps should consider a number of possible alternatives related to drought operations in the ACT River Basin. Specifically, the Corps needs to develop a comprehensive drought management plan that includes operations at all ACT projects, including those projects operated by the Alabama Power Company. The current drought in the ACT River Basins clearly demonstrates that the Corps must work closely with Alabama Power to develop a drought management plan that coordinates the operations of all water projects within the Basin. The Corps' storage projects within the ACT Basin control less than 20 % of the conservation storage for the entire system. Therefore, any drought plan implemented by the Corps will have very limited impact on the management of the Basin's resources during low flow conditions unless operations at Alabama Power's projects are considered as well.

Any drought plan should be based on lessons learned from operations during the 2007 drought period. During 2007 and continuing to the present date, stakeholders within the ACT Basin have worked in conjunction with the Corps to operate the system in a manner that protects the systems' headwater projects and ensure, to the degree possible, that water storage in the system is used as efficiently

as possible. As part of that collaborative process, the Corps has considered and implemented several options for managing water resources during a drought that should be incorporated into a comprehensive drought management plan.

Options for drought operations should include, but not be limited to, the need for drought triggers, reductions to downstream flow requirements, hydropower reductions, and variances to allow for early refill. For drought triggers, the Corps needs to develop additional triggers beyond those established by the current zones that outline the steps to be taken when conservation storage at Lake Allatoona and the other projects within the ACT River Basin fall below certain levels. These drought triggers would dictate when the Corps will reduce hydropower generation at its headwater projects and would allow for the automatic reduction of the current minimum flow for navigation in the Alabama River near Montgomery, Alabama.

Under its agreement with the Corps, Alabama Power is required to make a combined navigation release from its Coosa and Tallapoosa projects of 4,640 cubic feet per second ("cfs"). Instead of balancing the flows necessary to meet this flow requirement, Alabama Power has historically been overly protective of the Tallapoosa projects, placing an increased burden on projects on the Coosa River, including the federal projects located in Georgia. During periods of low flow, releases from the Alabama Power projects on the Tallapoosa River often account for less than 25% of the required navigation release (approximately 25% in 2007 but only 15% to date in 2008), even though the Tallapoosa projects contain more than half (57.5%) of the conservation storage for the entire ACT River Basin. Therefore, the Corps should consider alternatives that adjust minimum flows to allow a proper balancing of flows from the two river systems.

As part of the WCM process, the Corps should clearly outline future drought operations to avoid attempts by various stakeholders to obtain inequitable flow support from the Corps' projects in Georgia. In 2007, Alabama Power requested additional and inequitable flow support from the federal projects in Georgia to protect lake levels at its own projects. Even though NEPA documents produced by the Corps demonstrated that increased flow support from the Corps' projects in Georgia would have little to no impact upon Alabama Power's projects on the Coosa River, stakeholders from within Alabama have continued to pressure the Corps for additional flow support beyond what is justified by the portion of the

ACT basin over which the Corps has control. Therefore, the Corps, through the WCM update process, should clearly outline when, and to what degree, downstream flow support should be provided.

B. Modeling

Representatives from the Corps have indicated the Corps' intent to use the HEC-ResSim modeling platform to evaluate operations and alternatives for its projects in the ACT River Basin as part f the WCM update process. The HEC-ResSim model will replace the use of the HEC-5 model for the ACT system. The Corps developed the HEC-5 model as part of the now-defunct ACT Compact negotiations between the States of Georgia and Alabama. During the Compact process, stakeholders within both states worked with the Corps and reached agreement on the inherent assumptions within the HEC-5 Existing Conditions Model.

Modeling experts with the Georgia Environmental Protection Division ("EPD") have reviewed the HEC-ResSim and noted several instances in which the HEC-ResSim model is inconsistent with the established and agreed upon assumptions of the HEC-5 Existing Conditions Model. Prior to employing the HEC-ResSim model to evaluate operations to the WCM, the Corps should first provide an explanation for these discrepancies, which are discussed briefly below.

As discussed above, Alabama Power currently operates its projects in such a way as to be overly protective of the projects on the Tallapoosa River. However, this reality is not reflected in the HEC-ResSim model. Instead, the HEC-ResSim model assumes that the navigation flow target on the Alabama River will be met through an equal balance of flows from the Coosa and Tallapoosa Rivers. As an example, Georgia EPD used the HEC-ResSim model to simulate ACT Basin operations under conditions experienced during the drought of 1986. The HEC-ResSim model indicated that the elevation of Lake Martin on the Tallapoosa River under those conditions would be 474 feet, which is more than 4 feet lower than was actually observed. The HEC-ResSim model should therefore be modified to reflect Alabama Power's actual operations.

In addition, the system storage calculations made by the two models are not consistent. The elevation-storage relationship curves used in HEC-ResSim for Lake Weiss on the Coosa River and Lake Harris on the Tallapoosa River appear to

be different from the curves used in the HEC-5 existing conditions model. As a result, for example, the amount of storage in Lake Weiss can vary between the two models by as much as 230,000 acre feet. There are also significant differences in the specification of the bottom of the conservation pools at the Alabama Power reservoirs. Some of these specifications differ by as much as 25 feet. Such profound differences in the amount of available conservation storage within the ACT Basin could have serious impacts on how the Corps operates the system.

There are also significant differences in Alabama Power's generation assumptions for the two models, including differences in installed capacity, overload ratio, plant efficiency, and head loss. For example, the installed capacity of the Weiss project in HEC-ResSim is 76,300 KW, while the same parameter was specified to be 97,500 KW in HEC-5. The head loss at Weiss is specified in the HEC-ResSim model as 5 feet, while it was specified as 1 foot in the HEC-5 model. These discrepancies need to be clarified and the Corps should explain why any changes are necessary.

C. The Corps Should Ensure that the FERC Re-Licensing of Alabama Power's Coosa Projects and Lake Martin Are Contingent Upon and Subject to the Updated WCM for the ACT Basin

The Corps is already a cooperating agency in the re-licensing process for Alabama Power's Coosa hydropower projects before the Federal Energy Regulatory Commission ("FERC"). As part of the process, the Corps has submitted comments regarding Alabama Power's current and proposed operations, particularly as those operations impact drought operations for the ACT Basin. Alabama Power has recently begun the re-licensing process for the Lake Martin project. The Corps should take the opportunity to be involved with the re-licensing efforts at that project as well, if it has not already done so.

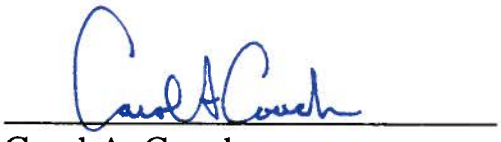
The terms of the new FERC licenses for Alabama Power's Coosa and Tallapoosa hydropower projects should not be finalized until after the Corps has updated the WCM for the ACT Basin. Moreover, the FERC licenses should be subject to provisions of the updated WCM for the ACT Basin. The Corps should coordinate carefully with FERC so that FERC is aware of the analyses that the Corps is performing on its potential operations in the ACT Basin and how those operations affect and are affected by Alabama Power's current and proposed operations.

Among other things, the Corps should carefully analyze Alabama Power's proposed rule curve changes for both the Coosa projects and Lake Martin. The Corps should study how those proposed changes would impact flood control operations at the federal projects in the ACT Basin and how those proposed changes would impact possible rule curve changes at Lake Allatoona. More generally, the Corps should determine whether the operations that Alabama Power proposes for its Coosa and Tallapoosa hydropower projects are realistic in light of the manner in which the Corps plans to operate its projects, and that the Alabama Power projects do not place a burden on the Corps projects upstream. The Corps should apprise FERC and interested stakeholders of its findings in this regard, and should request that FERC not issue any new licenses for the Alabama Power projects within the Coosa or Tallapoosa Basins until the Corps' analysis and WCM updates are complete.

III. Conclusion

Please give the foregoing comments careful consideration in scoping the EIS. Please contact me if you have any questions or if I can be a resource for additional information that would assist you in this process.

Respectfully Submitted,



Carol A. Couch
Director, Georgia EPD

Brian Atkins
Alabama Office of Water Resources
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Initial Comments of the State of Alabama
ACT Scoping Meetings

These initial comments are submitted by J. Brian Atkins, Director of the Alabama Office of Water Resources, on behalf of the State of Alabama. The State of Alabama anticipates submitting additional comments prior to the close of the public comment period on October 20, 2008.

In 1990, the State of Alabama sued the Corps of Engineers over its operations and proposed operations of several federal reservoirs, including Lake Allatoona and Carters Lake in the Alabama-Coosa-Tallapoosa River Basin. The operations of these reservoirs have a substantial and profound impact upon numerous interests of our citizens. In the lawsuit over the ACT Basin, the State of Alabama claims that the Corps' management of the ACT System has violated and continues to violate federal law and regulations. Unless the Corps undertakes the revision to the Water Control Manuals in a manner that is consistent with federal law, the current effort will not help resolve the long-running controversy over the ACT Basin but will only generate additional conflict. In light of the expected ruling by the court handling this litigation in early 2009, Alabama believes that the Corps should ensure that the rulings on that litigation are taken into account in the manual update process. Indeed, the Corps should suspend the manual update process until the rulings are issued.

To satisfy the Corps' obligations under Federal law, including the National Environmental Policy Act, we believe the Corps must focus on the authorized purposes of the project (hydropower, navigation, and flood control) and establish a scope for the manual update that addresses four objectives. First, the Corps should determine

the critical yield of each reservoir using the most updated hydrologic and climatic conditions. Second, the Corps should establish the baseline or the starting point for any proposed changes to the water control or master manuals. Third, the Corps should assess whether any changes in the baseline conditions are necessary to comply with existing laws and regulations, including laws and regulations designed to protect the environment. Fourth, the Corps should analyze any proposed modifications to the baseline and other legal requirements to develop the proposed operations for each reservoir. Each of these objectives is critical to the update process. Moreover, the order in which these steps are completed is significant. It is impossible to evaluate and assess proposed changes to the water control manuals unless the critical yields have been calculated and the baseline is established. Refusing to undertake a complete review and assessment of each of these objectives will ensure that valid water control manuals will never be developed and that additional conflicts over the Corps' operations of the federal reservoirs in the ACT Basin will follow.

The first objective that must be accomplished is to update the critical yield analysis for Lake Allatoona and Carters Lake. Without an accurate determination of the amount of water that is available to address the competing demands for water and water storage in the driest of conditions, it will be impossible for the Corps to develop water control manuals that establish operations that are consistent with Congressional intent and satisfy the purposes for which Congress authorized each project. The critical yield analysis for Carters Lake and Lake Allatoona has not been revised to reflect 2007 drought conditions. Indeed, in the past, the Corps has failed to use then-existing droughts of record to calculate the critical yield; instead deciding that the then-existing drought of

record was an outlier and could be ignored. That failure to develop a critical yield analysis based upon the actual drought of record cannot be repeated. Because the conditions in 2007 established a new drought of record, the State of Alabama respectfully requests that the Corps update its calculation of the critical yield from Allatoona and Carters Lake as a first step in its effort to update the water control manuals.

The determination of the critical yield should be done in an open and public process that includes input from stakeholders throughout the ACT Basin. Before the critical yields of Lake Allatoona and Carters Lake are finalized, the Corps should conduct one or more public hearings to allow the public to provide input into the process, particularly any modeling or operating assumptions used to make such calculations. Alabama believes that until the critical yield calculations are updated, any effort to update the water control manuals will be incomplete.

After the critical yields of Lake Allatoona and Carters Lake are established, the Corps needs to establish the baseline conditions against which any proposed modification to the water control plans will be judged or assessed. Alabama believes the Corps should use the 1979 water control plan for Carters Lake and the 1962 water control plan for Lake Allatoona to determine whether there is sufficient water available in each reservoir to meet the Congressionally authorized project purposes of hydroelectric power generation, flood control, and navigation support and to provide water storage for the specific amounts of storage currently under contract. The State of Alabama believes that the baseline or "no action" alternative for the review of the water control manuals under the National Environmental Policy Act must start with the currently approved water control manuals for each reservoir. Draft manuals, the use of

action zones or other proposed operations that have never been subject to the public scrutiny demanded under NEPA and the Corps' implementing regulations should not be used as a starting point of the Corps' review or effort to update the manuals. The use of draft manuals, action zones or other proposed operations as the baseline or "no action alternative" would allow the Corps to alter or modify the operations of the reservoirs and impact authorized project purposes in a manner that is inconsistent with Congressional intent without providing Congress any opportunity to review the proposed changes. Such an approach would allow the Corps to circumvent its obligation to update the manuals through an open and public process. Using any other scenario as the "baseline" and ignoring the existing water control manuals for Carters Lake and Lake Allatoona and the existing master manual for the ACT Basin would allow the Corps to avoid seeking Congressional approval for significant alterations in the operations of the reservoirs, to impact significantly the authorized project purposes of the reservoirs and to circumvent Congressional intent in establishing the project purposes for these reservoirs and the process for changing or altering such purposes.

The State of Alabama understands that the Corps intends to use 2004 as the "baseline condition" for the manual update. We further understand that this date was selected based upon the date that the Alabama-Coosa-Tallapoosa River Basin Compact ("ACT Compact") expired. Under the ACT Compact, Alabama, Georgia and the United States agreed to allow increased water withdrawals during the development of a water allocation formula. In Articles VII and VIII of the ACT Compact, however, the parties agreed that no permanent, vested or perpetual right to water would be recognized, granted or acknowledged for any increased water withdrawals that occurred after January

3, 1992 if the compact ultimately expired. By proposing a baseline of 2004, the Corps is violating an unambiguous Congressional enactment that expressly recognized the agreements of Alabama, Georgia and the Corps as expressed in the ACT Compact and the documents that led to the enactment of the ACT Compact.

The Corps' proposed approach is manipulating the environmental review mandated under NEPA by significantly altering the scope of any review. Instead of reviewing the environmental impacts of proposed operations based upon the currently approved manuals, the Corps is, in effect, ignoring the potentially significant impacts upon the environment associated with operational changes occurring between 1962 and 2004 for Lake Allatoona and 1979 and 2004 for Carters Lake. In ruling that the Corps overstepped its authority by entering the clandestine settlement agreement in the Apalachicola-Chattahoochee-Flint River Basin, the United States Court of Appeals for the D.C. Circuit admonished the Corps that it could not allow incremental changes over time to establish a new baseline or status quo. Any attempt to use 2004 as a baseline simply ensures further legal challenges over the Corps' operations and proposed operations in the ACT Basin and ignores the Corps' obligations under NEPA and other laws, rules regulations and agreements designed to govern the manual update process.

Moreover, the baseline should also be based upon the amount of storage currently under contract and should assume that the contract amounts establish limits or caps on the amount of water that can be withdrawn for water supply purposes.

Specifically, the baseline should not assume that the current practice of allowing water withdrawals in excess of contract amounts by the Cobb County-Marietta Water Authority will be continued in the future. Any proposed changes in operations, including increases in water supply withdrawals in amounts exceeding this baseline, should not be considered by the Corps in establishing the baseline or "no action" alternative and should only be considered after the baseline conditions are established. With the expiration of the ACT Compact, the "live and let provision" expired, and there can be no expectation that water withdrawals in excess of contract amounts would be incorporated into the "baseline" operations.

Another aspect of the manual update process should consider the Corps' compliance with existing environmental laws. Since Lake Allatoona and Carters Lake were constructed, Congress, Alabama and Georgia have enacted a number of laws and regulations designed to protect and enhance the quality of the environment, including the Clean Water Act and the Endangered Species Act. In operating the federal projects in the ACT Basin, the Corps must avoid operations that will violate or lead to violations of water quality standards or will cause directly or indirectly the take of an endangered species or impacts to critical habitat. As part of its effort to update the water control manuals at Lake Allatoona and Carters Lake, the Corps should ensure that even under drought conditions, sufficient flow is maintained below each dam, including the re-regulation dam below Carters Lake, so that water quality standards and endangered species are protected. The State of Alabama understands that the minimum flows below both of the federal projects were set to approximate the 7Q10 flows of the Etowah River and the Coosawattee River. Since those minimum flows were set, however, the State of

Alabama is not aware of any effort to determine whether those flows are protective of the water quality and species below these facilities. Specifically, the Corps should coordinate with the Fish & Wildlife, the EPA and appropriate state agencies in Alabama and Georgia to ensure that the water control manuals are compliant with the Endangered Species Act and the Clean Water Act.

After the critical yield calculations, the baseline conditions, and the Corps' compliance with existing laws are completed, then the Corps should evaluate potential modification to the baseline condition that would form the basis for the new water control manuals and master manual. Any proposed modification to the baseline condition must determine whether and to what extent such modifications in or deviations from the approved operations prevents the Corps from fully satisfying the Congressional authorized project purposes of hydropower generation, flood control, and navigation support. The Corps must also assess whether the proposed operations under the revised water control plan will be consistent with applicable federal laws, including, but not limited to, the Water Supply Act and the Flood Control Act.

One proposed change that should be reviewed as part of this step includes the issuance of the permit to construct Hickory Log Creek Reservoir. In the Hickory Log Creek permit, the Corps stated that "prior to impounding Hickory Log Creek, pumping from the Etowah River, or releasing water into the Etowah, the applicant shall coordinate with USACE Mobile District on the necessity for water supply storage reallocation from Lake Allatoona." To date, there has been no assessment under this permit condition regarding the need for a water supply storage reallocation from Lake Allatoona. If storage is necessary for this project, then it should be considered as a proposed

modification of the operations of the reservoir during this aspect of the manual update process. The Corps should determine the amount of water required to be reallocated and whether the Corps has the authority to undertake the reallocation or must seek Congressional authorization to implement the reallocation is also mandated.

In addition to an assessment of Hickory Log Creek, this step should also involve an assessment of other proposed reallocations of water storage in the federal storage projects. The State of Georgia has developed a water supply plan that includes various assumptions and projections regarding the use of federal reservoirs for water supply purposes over the next several years. To date, the Corps has not reviewed any of the potential efforts within the State of Georgia to increase the amount of water storage available for water supply at Lake Allatoona and Carters Lake. Failure to consider the impact of these assumptions and projections upon the potential future operations of Lake Allatoona and Carters Lake would violate the Corps' obligations to consider the cumulative impacts of known and foreseeable future actions. The Corps should consider these potential reallocations of storage in the environmental impact statement under NEPA, but should also consider the extent to which these reallocations may require Congressional approval prior to implementation.

The State of Alabama is also concerned that some proposed reservoir projects under consideration in north Georgia may have impact upon inflows into Lake Allatoona or Carters Lake or intervening inflows between these reservoirs and Lake Weiss. Whether such projects impact the amount of water flowing into the federal reservoirs or the demands placed upon the federal reservoirs by downstream interests, a detailed assessment of the environmental and operational impacts of such proposed

projects is critical to future operations of the federal and non-federal projects in the ACT Basin. Again, the review of such projects should include an assessment of each project individually as well as cumulative impacts with other potential and foreseeable projects. In assessing the cumulative impacts associated with the operation of Carters Lake and Lake Allatoona, the Corps must consider the amount of water that may be lost from the basins through interbasin transfers and consumptive uses and should consider appropriate limitations on any such losses, particularly under drought conditions.

The State of Alabama also believes that the Corps' updated manuals should establish some degree of certainty in drought conditions. The drought conditions of 2007 and 2008 demonstrate that even under worse case scenarios, the Corps is able to refill both Carters Lake and Allatoona Lake. The Corps' water control manuals should recognize that releases from conservation storage at Lake Allatoona and Carters Lake for protection of downstream flows and water quality are necessary and expected and that impacts to recreation and recreation facilities are temporary but unavoidable during dry conditions. Under no circumstances should the Corps base the critical yield analysis of the reservoirs on the entire conservation storage pools and then adopt an operational scheme that prevents the use of any portion of such storage. The Corps' identification of elevation 820 feet MLS at Lake Allatoona as the "Probable Minimum Politically Feasible Pool" for purposes of protecting recreation is contrary to Congressional intent and recreational impact levels should not used to justify cutting off hydropower or navigation releases from Lake Allatoona or Carters Lake.

As the Corps is keenly aware, the State of Alabama has a significant interest in the operations of Lake Allatoona and Carters Lake. The Corps' operation of these reservoirs has a direct and substantial impact on the quantity and quality of water flowing into and through Alabama. Any effort to update the water control manuals and the master manual should proceed in a logical and stepwise manner and should start with a calculation of the critical yield from each reservoir. Without determining how much water is available from each reservoir during critical times, it is impossible to evaluate potential modifications in the operations of these reservoirs and to determine whether such operations are authorized by law. The Corps has a significant responsibility in protecting water quality and the environment downstream of its projects. A detailed review of the operations and proposed operations under existing environmental rules and regulations needs to be a significant part of this exercise. Finally, the Corps' operations should not protect uses of the water stored in these reservoirs that have not been authorized by Congress. In choosing between releases and retention, the Corps must consider the authorized purposes of the reservoir and not make its decision based upon what it believes to be politically feasible.

The Secretary of the Army assured Alabama's congressional delegation that the update of the ACT water control plan would involve a complete, top-to-bottom, "clean slate" review of the ACT system. Alabama expects that the Secretary's assurance will be fulfilled, and the issues raised in this letter must be fully addressed in order for the assurance to be met.

COBB COUNTY-MARIETTA WATER AUTHORITY
REGIONAL WATER RESOURCE MANAGEMENT

October 20, 2008

RECEIVED OCT 24 2008

U.S. Army Corps of Engineers, Mobile District
Attn: ACT WCM Comments
2170 Highland Ave Suite 250
Birmingham, AL 35205

To Whom It May Concern:

On behalf of the Cobb County-Marietta Water Authority ("CCMWA"), please accept these comments regarding the proposed update of the water control manual for the Alabama-Coosa-Tallapoosa ("ACT") River Basin and the preparation of a draft Environmental Impact Statement ("EIS") as required by the National Environmental Policy Act of 1969 ("NEPA").

CCMWA wholly adopts and incorporates the comments submitted by the Atlanta Regional Commission in the letter from Charles Krautler dated October 20, 2008. That said, CCMWA wishes to amplify several key points.

First, it is imperative that the Corps consider all reasonable alternative operating plans. The Corps must not confine the update process to simply documenting existing operations. To do so would be an abdication of its responsibility to manage the water resources of the ACT basin for the highest and best use, and would clearly violate its obligations under NEPA.

Furthermore, when developing potential alternative operations, it is essential that the Corps not be constrained at the outset by legal arguments about its legal authority to change its reservoir operations. Rather, the Corps should study all reasonable alternatives to determine the highest and best use of reservoir storage given current conditions in the basin. In the event that congressional approval might be required to implement the preferred water control manual resulting from this process, the Corps should then seek such approval.

Second, we understand that the Corps is in the process of devoping a new "ResSim" hydrological and operational model to evaluate various alternative operating plans. Without question, the development and use of hydrological models is both necessary and appropriate. It is vitally important, however, that all models be developed through a transparent process where both the model and the underlying data are shared with the stakeholders so that their experts can independently evaluate and comment on the model proposed.

1660 Barnes Mill Road, Marietta, GA 30062 770-426-8788, 770-426-9092 Fax

Third, we encourage the Corps to study and implement operating rules that increase the yield of the federal projects. For example, by clarifying its position with respect to return flow credits and granting others the right to credits for return flows allocated to them by their respective states, such as those allocated to CCMWA by the State of Georgia, the Corps could provide a clear incentive for communities to invest in environmentally responsible projects that maximize the rate of return of water to the basin. This would encourage the implementation of conservation measures and improvements to system integrity designed to decrease "unaccounted for water," and policies to increase sewerage and decrease septic use. Similarly, the Corps should evaluate rules that afford credit for other "made inflows," such as those resulting from releases from upstream dedicated storage projects, such as the Hickory Log Creek Reservoir owned by CCMWA and the City of Canton. The Corps should also use this process to evaluate appropriate storage accounting mechanisms that accurately and fairly apportion reservoir inflows to the respective stakeholders.

In addition, the Corps should consider other potential mechanisms to increase the yield of Lake Allatoona. This should include, for example, an analysis of potential reductions to the seasonal draw-down, and other possible rule curve changes at the federal projects.

Finally, in light of the drought experienced in 2007 and 2008, the critical period and reservoir yields incorporated into existing storage contracts will likely need to be recalculated, and additional allocations of storage to the water supply purpose will be required to meet the uses contemplated by those contracts. Thus, the Corps should evaluate potential storage reallocations to accomodate both current storage contracts and the reasonable increases contemplated by the Water Supply and Water Conservation Plan adopted by the Metropolitan North Georgia Water Planning District.

To be sure, the process of updating the water control manual for the ACT Basin is long-overdue. Perhaps, at long last, the Corps will be permitted to complete the process, and thoughtfully consider the needs of the basin in light of the dramatic changes that have occured here since the water control manual was last updated.

We look forward to working with the Corps and other stakeholders as the process of updating the water control manuals for the ACT Basin moves forward.

Sincerely,

Glenn M. Page, P.E.

SOUTHERN ENVIRONMENTAL LAW CENTER

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Charlottesville, VA
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October 17, 2008

Via Electronic and Overnight Mail

U.S. Army Corps of Engineers, Mobile District
Attn: ACT WCM Comments
2170 Highland Ave., Ste. 350
Birmingham, AL 35205

Re: Scope of NEPA Analysis for Revision of Alabama-Coosa-Tallapoosa Water Control Manual

To Whom It May Concern:

The Southern Environmental Law Center submits the following comments on behalf of the Alabama Rivers Alliance ("ARA") concerning the proper scope of an Environmental Impact Statement ("EIS") relating to the upcoming revision for the water control manual for the Alabama-Coosa-Tallapoosa Basin ("ACT Basin"). SELC is a regional not-for-profit legal advocacy organization whose mission is to protect natural resources and special places throughout the Southeastern United States. ARA is a non-profit organization consisting of roughly 800 members, as well as a network of local grassroots watershed groups, throughout Alabama. Its mission is to protect and restore state rivers through water quality and quantity policy advocacy, restoration planning, grassroots organizing, and watershed education in order to achieve clean and healthy watershed ecosystems, healthy people, strong economies, and a functioning democratic system of government in Alabama. The U.S. Army Corps of Engineers (the "Corps") must prepare a comprehensive Environmental Impact Statement ("EIS") to study the full range of environmental impacts of releases from and uses of federally-operated Lake Allatoona, in conjunction with the other federal and state impoundments in the ACT Basin, as part of its duties under the mandate set forth by the National Environmental Policy Act ("NEPA"). We look forward to participating in this process and offer the following comments concerning the proper scope of the review necessary to satisfy the requirements of NEPA.

Generally, we have significant concerns about the direct impacts to downstream species in the Etowah River from releases out of Allatoona Dam. We are also concerned about the growth-inducing impacts of the proposed water allocations out of Lake Allatoona. The scope of the EIS should encompass the entire ACT Basin down to Mobile Bay, as well as the ACF Basin, the latter because of ongoing and proposed interbasin transfers between the basins. We expect to see a thorough and objective

scientific assessment of the impacts of any new water allocations on stream flow, fisheries, endangered species, and aquatic ecosystems, in addition to the effects on downstream communities such as Rome, their economies, and their water supplies. Particularly given the highly regulated nature of the ACT Basin, the cumulative impacts of different flows out of federal reservoirs, combined with the ongoing and proposed releases from Alabama Power dams, will be significant when examining the system as a whole.

Scoping and Compliance with NEPA

NEPA requires a federal agency to conduct an environmental impact statement for any major federal action significantly affecting the quality of the human environment. See NEPA § 102 (C), 42 U.S.C. § 4332 (C). By its very nature, NEPA is a forward-looking statute, requiring federal agencies to take a hard look at a particular project to assess its impacts and alternatives so that they will make informed decisions with full knowledge of a project's effects on the environment. Because of the length and complexity of the ACT Basin, from its headwaters in north Georgia to Mobile Bay, the Corps must look comprehensively at the system when determining the proper scope of the EIS and evaluating impacts of and alternatives to the management of its reservoirs.

Alternatives Analysis

The alternatives analysis is "the heart of the environmental impact statement." 40 CFR § 1502.14. Its purpose is to "[provide] a clear basis for choice among options by the decisionmaker and the public." *Id.* The analysis should include a thorough discussion of available alternatives to a project that fulfills the project's underlying purpose and need, including "reasonable alternatives not within the jurisdiction of the lead agency." *Id.* at § 1502.14(c). One required alternative to consider is the alternative of taking no action. 40 CFR 1508.25(b)(1).

The Corps must look critically at the District's implementation of its water supply and water conservation plan in the course of the alternatives analysis. While north Georgia has made improvements in water conservation in response to the ongoing drought, Atlanta and the other members of the District could be making more progress towards implementing aggressive water conservation measures, which could further reduce the need for much of the proposed future water allocations from Lake Allatoona and other proposed reservoirs in the Etowah and Upper Tallapoosa Basins. The Corps must examine these other water allocation alternatives and their effect on dam operations at Allatoona as part of the EIS process.

Direct Impacts

Direct impacts are defined as those impacts which are caused by the action and occur at the same time and place. 40 CFR § 1508.8(a). As we have seen in recent months, the Corps' regulation of its reservoirs can have immediate and pronounced

effects throughout entire river basins. Decisions made regarding flow into and out of Lake Allatoona can affect communities and species that are located many miles downstream, as well as water quality in the lake itself. Revision of the water control manual will have obvious consequences for the ongoing uses of Lake Allatoona, for the amount of water that may be released downstream, and for the aquatic habitat in the lake and the rest of the Etowah and Coosa River Basins. Because of these substantial direct impacts, the Corps must rely upon an objective and transparent body of scientific data to underpin its analysis of different water releases in the ACT Basin.

The EIS must evaluate all impacts to aquatic species throughout the ACT, particularly threatened and endangered species in the basin. Endangered species occur both in the Etowah system and the Coosa system, especially in the main channel and bypass reach below Lake Weiss. In addition to threatened and endangered species, the Corps' analysis of effects on aquatic systems within the ACT must include all effects on fish populations. This includes both the fish populations present in the river and in the downstream impoundments. Both recreational and subsistence fishing occur throughout the system, so the Corps must be sensitive to any flow regime's effects on fish populations and habitat availability.

Indirect Impacts

NEPA's implementing regulations define indirect impacts as those impacts that are later in time or farther removed in distance from a given project, but still reasonably foreseeable. They may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. 40 CFR § 1508.8(b). Indirect impacts of the water control manual revision are likely to be extremely significant in this case, particularly as they relate to growth made possible by further withdrawals out of Lake Allatoona. This water withdrawal will fuel more growth, which will have impacts to water quality, the extent of impervious surfaces, and air quality, among other indirect impacts. The latter deserves particular note. With the Atlanta region continuing its struggle to attain national ambient air quality standards for both ozone and particulate matter, any federal action whose effect will be to increase growth – which will, in turn, increase the mobile sources of air pollutants via more vehicles on Georgia's roads – should be rigorously evaluated before, not after, the growth occurs.

Furthermore, any decision regarding water supply in the Coosa River Basin will inevitably have effects that stretch into other river basins, primarily the Chattahoochee Basin, since the District envisions such large interbasin transfers between the Coosa and Chattahoochee. The Corps must analyze any effects that the manual revision may have on water availability in the Coosa and Tallapoosa Basins, both of which abut the Chattahoochee Basin, originate in metropolitan Atlanta, and flow into Alabama.

Indirect effects may also encompass the effects of the manual revision on threatened and endangered species in downstream portions of the ACT Basin. Whether

direct or indirect, these impacts are important for both the Corps and the public to evaluate in determining the best way to meet the water needs of communities in the Atlanta area.

Cumulative Impacts

Cumulative impacts result from the incremental impacts on the environment from a project when added to past, present, and reasonably foreseeable future actions in the same area. These impacts can arise from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7. Cumulative impacts are particularly significant in a highly-regulated system such as the ACT Basin. We would like to see an evaluation of the effects of maintaining or increasing flows out of Allatoona Dam to enhance the ecological function of the Coosa below Jordan Dam. Additionally, and importantly, the Corps must include in its EIS consideration of the ongoing federal relicensing process of eight Alabama Power dams in the ACT Basin, along with the cumulative effects of those dam operations on the overall health of the river system.

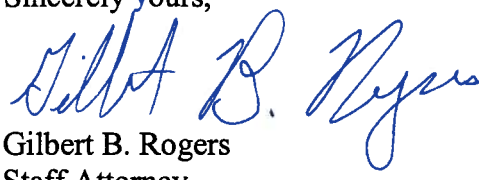
Opportunity for Public Participation

Given the importance of the Corps' analysis of the impacts of and alternatives to the Settlement Agreement, we expect the EIS process to generate broad public interest, from the Etowah Basin in Georgia to downstream communities in Georgia and Alabama. NEPA's purpose is to "ensure that environmental information is available to public officials and citizens *before* decisions are made and *before* actions are taken," 40 CFR § 1500.1(b) (emphases added). In keeping with this purpose, we will look forward to a transparent process for drafting and revising the EIS associated with evaluating the alternatives to addressing the water needs of metropolitan Atlanta and downstream communities while providing recreational opportunities and protecting aquatic habitats.

Conclusion

We look forward to participating in the NEPA process as it moves forward. Thank you for your consideration of these comments. Please contact me if you have any further questions.

Sincerely yours,



Gilbert B. Rogers
Staff Attorney

Jerry SAILORS
COOSA-ALABAMA RIVER IMPROVEMENT ASS'N
CARIAINC@BELLSOUTH.NET

Comments of the Coosa-Alabama River Improvement Association
At Public Hearing on the Review and Update
Of the Water Control Manual Governing the Alabama-Coosa-Tallapoosa River Basin

The Coosa-Alabama River Improvement Association (CARIA) was formed in 1890 by a group of businessmen in the city of Gadsden, Alabama for the purpose of promoting river transportation on the Coosa and Alabama Rivers. CARIA counts among its members the cities, counties, businesses and many individuals from Rome to Mobile that have some connection to those rivers CARIA's mission is to improve and market the Coosa, Alabama, and Tallapoosa Rivers through education, promotion, and public advocacy.

CARIA fully supports the efforts of the US Army Corps of Engineers to operate in the most efficient and effective way federal facilities in the ACT basin. As the drought of 2007 and 2008 has demonstrated, it is very difficult to balance the needs of hydropower, navigation, recreation, flood control, water supply, water quality, and fish and wildlife enhancement, in all of which CARIA members have a great interest. From the city of Rome and Floyd County in Georgia to the Coosa and Alabama Rivers to the city and county of Mobile, CARIA has a vested interest in ensuring the ACT water control manual serves its purpose.

You have heard the last few nights concerns about interbasin transfers, the need for flood control, water quality, hydropower, and almost all the other purposes for which the federal reservoirs exist. I would like to address the remainder of my remarks to the one you probably have not heard much about: navigation.

The Alabama River navigation channel, authorized by the River and Harbor Act of 1945, is 305 miles long, nine feet deep, and 200 feet wide. The channel begins at a point 17 miles above Montgomery at the confluence of the Coosa and Tallapoosa Rivers and extends to the point where the Alabama River joins the Tombigbee to form the Mobile River 45 miles above Mobile Bay. Construction of the channel was begun in 1963 and completed in 1972. Featured are three locks and dams: Robert F Henry Lock and Dam at RM 236; Millers Ferry Lock and Dam at RM 133; and Claiborne Lock and Dam at RM 72. Henry and Millers Ferry house hydropower generating facilities with minimal reservoir storage capacity while Claiborne is purely a navigation dam with no storage capability.

Goods moved on the river today are primarily forestry products, aggregates, and petroleum. The highest tonnage moved in any one year in the history of the channel was 4.1 million tons in 1986, after which a slow decline in tonnage began as a result of navigation problems associated with the droughts of 1986 and 1988, a downturn in the paper industry in the 1990's, and environmental rulings in the early 1990's that eliminated in-stream mining of sand and gravel. The shutdown of Kimberly-Clark's pulp mill in Mobile in 1999 took away about 90% of all traffic on the river to the point that annual tonnage decreased to less than 100,000 tons, primarily sand and gravel with small amounts of fuel oil.

The United States Army Corps of Engineers has the responsibility of operating and maintaining that channel with federal funding through the Energy and Water Development Appropriations Act passed annually by Congress. Mobile District operates and maintains the channel through three management actions: dredging, training works, and flow management, each absolutely essential if barge transportation is to survive on the Alabama River. I want to make a few points about each.

Dredging is required annually to maintain project dimensions, with the vast majority of work occurring in the 72-mile stretch below Claiborne Dam. Disposal is within banks, which subjects the spoil to being washed back into the river with high water. The Alabama is regarded as a "low-use" waterway in that the annual tonnage moved on the system has not exceeded 1 million tons in any one year since 1998. As a result, the President's Budget for the past eight years has "zeroed out" any funds for dredging the channel. Every year, CARIA has had to appeal to the Alabama congressional delegation to reinstate the money needed to keep the channel open. Most of the time, the delegation is successful in adding the funds to the budget, but sometimes they're not. No dredging was performed in 2000, 2003, or 2006. There was sufficient money available in 2001 only for emergency cuts to allow a 100-foot wide channel. In 2007 and again in 2008, the channel was dredged only to 150 feet due to insufficient funding for the 200-foot cuts.

Maintaining the channel below Claiborne is without doubt the single biggest challenge to making the Alabama River a productive navigation asset. The major issue with any prospective barge user on the system is the reliability of that reach. Reliability is defined as the percentage of time the channel is at its authorized depth of nine feet. Historically, the nine-foot channel is available 65-70 % of the time, with lower depths occurring primarily between July and October. The Tuscaloosa office of Mobile District has done a tremendous job of working with minimal funding to do as much as it can to keep that channel open, and I commend that work.

Assisting the dredging effort below Claiborne is a series of training works. These dikes have been marginally effective in reducing the amount of dredging required, but could be modified and improved to make a more significant contribution. A feasibility study by Mobile District in 1997 suggested improvements could be made to the works with an accompanying increase in reliability to approximately 83%, but the benefit-to-cost ratio at the time did not justify appropriation of the funds. Still, there is a great need to make sure those works currently in place are maintained so the maximum effectiveness of each can be extracted.

The third action controlling the reliability of the channel is flow management. To realize a nine-foot channel below Claiborne Dam – after dredging – the reading at the Claiborne Lower gauge must be 7.9 feet. The design flow rate for 7.9 feet is 7,500 cfs. The 7Q10 flow rate is 6,600 cfs.

Those flows are controlled through releases from major reservoirs upstream, beginning with the federal facilities in the headwaters of the Coosa River at Allatoona and Carters Lake in northwest Georgia. The releases from Allatoona and Carters flow through

Alabama Power Company facilities on the Coosa River. Those Alabama Power facilities were constructed with the understanding that navigation on the Coosa was still possible and flows generated would be used to support navigation on the Alabama River. In fact, up until 1983, authorization to build navigation locks around the APC dams on the Coosa was on the books. The designs for those locks are still authorized.

On the Alabama River, according to the current water control manual for the RF Henry facility, the primary purpose of the three federal reservoirs on the Alabama is to support navigation with additional purposes of hydropower and flood control.

Further, I quote from the current RF Henry Water Control Manual:

> 7-09. **Minimum Flow Agreement**. Flow in the Alabama River is largely controlled by Alabama Power Company impoundments on the Coosa and Tallapoosa Rivers above Robert F. Henry Lock and Dam. Pursuant to articles in the Federal Energy Regulatory Commission licenses for these impoundments, a minimum discharge must be released to support navigation on the Alabama River. Although this agreement is for the purpose of navigation, the flow has generally been insufficient for economic navigation. However, it is significant as an environmental or water quality minimum flow. Under the terms of the current negotiated agreement, APC projects will provide sufficient releases from the Coosa and Tallapoosa Rivers to meet a continuous minimum 7-day average flow of 4,640-cfs (32,480 dsf/7 days). However, additional intervening flow or drawdown discharge from Robert F. Henry and Millers Ferry reservoirs must be used to provide a usable depth for navigation or meet the 7Q10 flow of 6,600-cfs at Claiborne Lock and Dam.

So as this paragraph notes, the minimum flow agreement between Alabama Power Company and Mobile District does not provide full-depth navigation or maintenance at the 7Q10 flow of 6,600 cfs. Intervening flows from Alabama River tributaries and drawdown of RF Henry and Millers Ferry reservoirs must be used. The minimal storage capacity of the RF Henry and Millers Ferry reservoirs has limited capability to provide the flows required. It is imperative, therefore, any intervening flow from tributaries, such as Catoma Creek and the Cahaba River, be fully utilized if we are to maximize the chances of attaining sufficient navigation flows at Claiborne, which means we must not allow those tributaries to silt in or be blocked.

Knowing the shortcomings of the supplemental flows from the Coosa River and the limited capacity of the two federal reservoirs on the Alabama to contribute toward full navigation flows at Claiborne, we should squeeze every last bit of capability possible out of those training works below Claiborne. Short of constructing another dam in that reach, an improved system of training works, coupled with annual dredging, seems to be the most cost effective of all options to provide full navigation.

As the drought of 2007 and 2008 has demonstrated, low flows in the ACT basin affect first hydropower and navigation. Both Alabama Power and Mobile District had to curtail

hydro generation while navigation on the Alabama River was completely stymied for almost all of 2007 and for a large part of 2008 to date. However, attempts to maintain the 4640 cfs releases from the Coosa and Tallapoosa projects in both years would have endangered the entire ACT system. The cutback in those releases was fully justifiable, but underscores the need for a well-designed drought management plan that minimizes the effect low flow conditions can have on all river-supported purposes.

Why is navigation on the Alabama River important? The very existence of a navigation channel has major benefits for the economy of the State of Alabama:

a) The availability of barges as an alternate mode of transportation dampens road and rail rates for shippers;
b) Barges provide exceptional benefits of capacity, efficiency, and safety that contribute to the nation's transportation capability
c) Maintaining navigation channel facilities greatly benefits recreational boat traffic
d) Putting cargo onto barges reduces highway congestion and maintenance costs
e) Waterways have room to absorb additional cargo without significant additional investment costs

Barge traffic on the Alabama River is increasing, shored up by the construction of a $120-million plant near Selma by Dixie Pellets Company to produce wood pellets for shipment to Europe through the Port of Mobile. This plant is expected to ship approximately 500,000 tons of pellets a year. Current sand and gravel operators have the capacity to move between 150,000 and 200,000 tons a year. Given the number of inquiries our office has received about other potential sand and gravel movements, with a reliable channel we could see sand and gravel tonnage increase two to three times the current level.

Alabama River Pulp Company, located just below Claiborne Dam at Perdue Hill near Monroeville, receives fuel oil by barge to keep its plant going. Low river depths over the past two years has greatly hampered this operations causing ARP to spend well in excess of $100,000 a month additionally to ship that vital fuel oil to its plant by truck. The low flows below Claiborne also presented major challenges to ARP to ensure sufficient water for operational cooling at its site.

This review of the Alabama River navigation channel serves to emphasize the following CARIA recommendations:

a) Structure the ACT Water Control Manual to promote continuous, efficient, and effective operations and maintenance of the Alabama River navigation channel;
b) Renew the agreement between the Mobile District and the Alabama Power Company to provide the weekly flow 32,480 dsf (4,640 cfs daily average);
c) Incorporate a drought operations plan that balances all purposes of the ACT system;
d) Improve the reliability of the navigation channel by modifying existing or constructing new training works below Claiborne Dam;

e) Ensure Alabama River tributaries are sufficiently maintained to contribute to flow requirements below Claiborne Dam.

Thank you for the opportunity to participate in this process.

Jerry L Sailors
President, CARIA
18 September 2008

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Environmental Affairs
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241 Ralph McGill Boulevard NE
Atlanta, Georgia 30308-3374
Tel 404.506.7063

GEORGIA POWER
A SOUTHERN COMPANY

October 22, 2008
Via fax (205) 930-5707
Certified Mail

Attn: ACT WCM Comments
2170 Highland Ave Suite 250
Birmingham, AL 35205

ALABAMA-COOSA-TALLAPOOSA BASIN, WATER CONTROL MANUAL UPDATE AND ENVIRONMENTAL IMPACT STATEMENT
Comments Submitted by Georgia Power Company

Dear Sir or Madam:

Georgia Power is providing these comments regarding the Alabama-Coosa-Tallapoosa (ACT) River Basin Water Control Manual Update and Environmental Impact Statement (EIS). We appreciate the opportunity to comment and provide assistance in developing the scope of issues to be considered in the Corps of Engineer's (Corps) development of the updated Water Control Manual.

Georgia Power operates two generation facilities in the ACT River Basin, Plant Bowen and Plant Hammond. Plant Bowen is a coal fired generation plant with a nameplate rated output of 3,160 megawatts and Plant Hammond is coal fired generation plant with a nameplate rated output of 800 megawatts. Both Plant Bowen and Plant Hammond are critical components of the Georgia Power and Southern Company generation fleet which provides electricity to citizens throughout the Southeast. Accordingly, the Water Control Plan update and EIS should appropriately consider the water requirements to maintain long term operations at Plant Bowen and Plant Hammond as part of the update baseline conditions, in accordance with Council on Environmental Quality regulations at 40 C.F.R. Part 1500.

Thank you for this opportunity to comment. If we can provide additional information, please do not hesitate to contact me at (404) 506-7026 or tdblaloc@southernco.com.

Sincerely,

Tanya Blalock
Environmental Affairs Manager

October 17, 2008

Corps of Engineers
ATTN: ACT WCM Comments
2170 Highland Avenue, Suite 250
Birmingham, AL 35205

Dear Sir:

The Lake Martin Home Owners and Boat Owners (HOBOs) Association, Inc. appreciates this opportunity to provide input for the preparation of the updated Alabama-Coosa-Tallapoosa River Basin Water Control Manual. Our organization represents 2,042 stakeholders of Lake Martin on the Tallapoosa River, and we are very interested in the re-writing of this extremely outdated and unusable manual.

Representatives of the HOBOs attended the Scoping Meeting in Montgomery and were disappointed that no meeting took place, only exhibits and a few civilian COE employees were available. Presentations were not made by the COE or other stakeholders. Having recently attended and made a presentation to the Federal Regulatory Energy Commission Scoping Meeting for Martin Dam Relicensing our members felt that more information should have been provided by the COE and presentations by stakeholders would have been valuable for all to hear. Hopefully, the COE will treat all comments as public information and make all comments available to the public.

For the sake of brevity, we will list each item of concern to us with our recommendation:

- The COE in 2007 chose to dredge the very lightly used lower Alabama River during the worst drought in modern history. Apparently this dredging was accomplished for the good of one new company in Selma that manufactures wood pellets for export. The COE performed this task with no consideration of upstream stakeholders and in fact may have caused more economic damage to the three county area surrounding Lake Martin than will ever be gained by this dredging.

  Recommendation: Place in the manual instructions – DO NOT DREDGE DURING A DROUGHT.

P.O. Box 1030
Dadeville, Alabama 36853

October 17, 2008 – ACT Manual Comments

- During the dredging, from September – November 2007, no upstream economic or environmental assessment was ordered by COE, or conducted by others to evaluate the negative impact of the lowered lake levels necessary to permit dredging. However, when Alabama Power requested a reduced flow rate on the Alabama River in May 2007, the COE required an extensive environmental and economic assessment of the lower Alabama River and approval was given in early September, only a few days prior to the start up of the fall dredging, which caused the ACT lakes to be depleted of the necessary water reserves to dredge without further damage to the entire system.

  Recommendation: Provide instructions in the manual that will prevent the COE from taking any action that might have an adverse impact on upstream stakeholders, without the completion of a full environmental and economic impact study; the same protection the COE affords downstream stakeholders.

- The flow rate required at Montgomery, AL, on the Alabama River is 4,640 cfs. By all accounts this flow rate appears to be an arbitrary number without scientific basis, yet the COE, and some other agencies, treat that number with great reverence. Just because that flow rate is written in some age old policy somewhere should mean nothing when re-writing the manual.

  Recommendation: Now is the time to re-evaluate the true needs on the Alabama River. Be sure to take all stakeholders into consideration. Any flow rate should take into consideration upstream needs as well as downstream desires. November and December 2007, should provide proof that the Alabama River did just fine when flow rates were cut almost in half to 2,000 cfs.

- The conservation pool of Lake Martin is grossly overstated by COE and is currently a source of misunderstanding by others such as the State of Georgia. When Lake Martin was completed in 1926 the hydrogenation intakes were placed approximately 60 feet below the full pool level of 491 msl., and COE includes that 60 feet of Lake Martin in the ACT total reserves. By COE documentation 49.2% of the entire ACT Basin conservation reserves are stored in Lake Martin. It is unrealistic to assume by anyone that COE could order the reduction of the level of Lake Martin by 60 feet.

  Recommendation: Raise the conservation pool level of Lake Martin to a reasonable level of about 479' msl.

- Stakeholders on Lake Martin have been attempting to raise the winter pool level higher than the current 481' msl. For years we have heard that it can't be done until COE updates its ACT Control Manual. Now we hear that re-writing will take three years to complete, if then.

  Recommendation: Make the ACT Control Manual more flexible, so that the COE can be more responsive to current needs.

October 17, 2008 – ACT Manual Comments

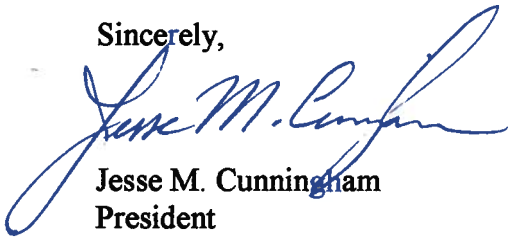
- The COE tends to hold to established rules and regulations without regard to current needs and situations. The new ACT Control Manual could hinder operations more than help if it is treated like the final word.

  Recommendation: Practice Adaptive Management decision making that is responsive to each situation.

Again, we appreciate this opportunity to offer our input to the development of the ACT Control Manual. We also ask that our organization be placed on any mailing list or email list involving the ACT Control Manual or the ACT River Basin.

FOR THE BOARD OF DIRECTORS

Sincerely,



Jesse M. Cunningham
President
Lake Martin HOBOs
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ASST. DIRECTOR

The mission of the Wildlife and Freshwater Fisheries Division is to manage, protect, conserve, and enhance the wildlife and aquatic resources of Alabama for the sustainable benefit of the people of Alabama.

October 17, 2008

Mr. Lewis Sumner
ACT EIS Project Manager
U.S. Army Corps of Engineers
Inland Environmental Section
P.O. Box 2288
Mobile, Alabama 36628

RE: Alabama-Coosa-Tallapoosa River Basin Water Control Manuel Update Process

Dear Mr. Lewis:

The Fisheries Section of Alabama's Department of Conservation and Natural Resources (ADCNR) appreciates the opportunity to provide comments on the Alabama-Coosa-Tallapoosa (ACT) River Basin Water Control Manuel Update Process. The ACT Basin extends from northwest Georgia to the Mobile, with 18 major dams located in the basin. Six of the dams are owned by the Corps of Engineers (COE). The projects were built for flood control, river navigation, hydroelectric power and recreation, with other purposes including water supply, water quality, and fish and wildlife enhancement. Through the construction and operation of these dams, the main-stem river systems have become regulated waters following guidelines established by the Water Control Manual of 1951.

Aquatic wildlife biologists have learned a great deal since 1951 concerning responses of aquatic ecosystems to habitat alteration in regulated systems. The water management policies of the past have often resulted in a degradation of the ecological integrity of a river ecosystem, which in the case of wildlife has lead to a decrease in biodiversity and species sustainability. To protect ecological integrity, we need to mimic components of natural flow variability, taking into consideration the magnitude, frequency, timing duration, rate of change and predictability of flow, and sequencing of such conditions. There are five riverine components to consider: hydrology, geomorphology, biology, water quality and connectivity. The solution will include a balanced approach to river corridor management.

People value rivers for flood control, drinking water, navigation, municipal and industrial use, irrigation, hydroelectric power, sewage treatment, recreation, esthetics, fish and wildlife and preservation for future generations. Securing appropriate flows for protection of fisheries, wildlife, cultural and societal resources requires the implementation of study plans that are guided by a balanced approach.

The comments provided below are submitted for the protection and enhancement of aquatic wildlife resources for the people of Alabama. The public has a vested interest in natural resource management because they are the ones for whom natural resources are held in trust.

Project Releases

Presently, only Allatoona Dam and Carter's Reregulation Dam provide a continuous minimum flow of 250 cfs and 240 cfs, respectively. The concept of providing a continuous flow is a positive ecological principle; however, this 7Q10 target flow is not an environmental flow, but a waste assimilation flow. There are many peer review studies that conclude a 7Q10 flow will not protect aquatic wildlife. These waste assimilation flows of the Etowah and Coosawattee Rivers are not sufficient to support aquatic wildlife that serve as an upstream source of aquatic wildlife resources that benefit Alabama's aquatic wildlife populations of the upper Coosa River and Weiss Lake.

The use of average daily flows for Robert Henry, Miller's Ferry and Claiborne dams are also a barrier to maintaining healthy riverine fish, mussel, snail and crayfish populations. Pulses of water flows without continuous flows during non-generation periods exacerbate impacts to aquatic wildlife. The goal of the COE should be to ensure that sufficient quality and quantity of water is provided in such a manner as to resemble the natural riverine flow regime. This flow regime shall provide aquatic habitat conditions that support a diversity of endemic aquatic species (including fish, plants, mussels and other invertebrates) and their life cycle requirements. As a function of the natural flow regime, both intra- and inter-annual variations of flows shall be implemented to sustain biological diversity and a balanced community of organisms.

Recommendation: ADCNR recommends that the COE review existing data and conducts monitoring studies to determine the present state of aquatic wildlife in river reaches below projects. Using an adaptive process, evaluate various modeled flows for COE projects to mimic a natural flow regime throughout the ACT. The biological response produced by the environmental flows would be evaluated, and if deemed necessary, adjusted to meet the objective of maintaining ecological integrity.

Recreation

Recreation on impoundments and rivers in the ACT is greatly influenced by water management. Sport fishing in Alabama in a 2006 survey was estimated to exceed $1,400,000,000 and provide over 14,600 jobs. Commercial anglers targeting fish and shellfish are extremely important for providing food and supporting local and State

economic wellbeing. There are more than 630,000 licensed boat operators in Alabama, which is an indication of the level of motorized recreational boating. The ability of these user groups to access both impounded and riverine waters is directly related to launching facilities being fully functional at low water conditions.

Recommendation: ADCNR recommends that the COE (1) monitor boating access sites and strive to maintain water levels for recreational boating access; (2) regularly clean silt and debris from access sites; (3) maintain water levels in rivers and impoundments that support recreation navigation; (4) monitor and manage nuisance aquatic vegetation that limits access to public waters; and (5) maintain channels to backwater coves to provide angler access to these productive fishing areas, and to maintain a water connection between the main-stem river and backwater coves. These backwater areas are important nursery areas for rearing stages of many fish and invertebrate species.

Fish Passage

Dams, in most cases, block the movement of catadromous, anadromous, and riverine fish species. This has resulted in fragmentation of native fish ranges which will disrupt life cycles of fish that depend on movement to specific locations to spawn, overwinter or oversummer. Long term river fragmentation will result in reducing the size of the gene pool and restricting genetic diversity. Mussel populations will also be impacted by fish movement restrictions since fish are necessary to complete their life cycle.

Recommendation: ADCNR recommends that the COE establish a goal to develop a fish passage plan for all COE locks and dams in the ACT. A fish passage plan should identify key species which need upstream and downstream movement. With those species in mind, evaluate viable fish passage methods. A lock passage program similar to the one currently employed by the COE at Woodruff Lock and Dam would be a good starting point. This would greatly benefit adult migratory fish such as striped bass, paddlefish, blue suckers, Alabama shad, American eel, Gulf sturgeon, Alabama sturgeon and many other fish species.

Water Quality

COE are well aware of the importance of maintaining good water quality standards to benefit wildlife, as well as all water users. There are many reasons as to why water quality parameters might fall below State standards. It is a fact that water quantity (flow) and water quality have an important relationship. By establishing a continuous flowing system within the ACT, there will be a positive response in many water quality parameters.

Recommendation: ADCNR recommends regardless of the water management plan for the ACT, the COE should maintain water quantity stations above and below all dams, and support flow stations below each lock and dam. COE should meet all State water quality standards for at least "Fish and Wildlife" classified waters.

Species of Greatest Conservation Need (GCN)

Congress through the Wildlife Conservation and Restoration Program (WCRP) and the State Wildlife Grants (SWG) Program required each state fish and wildlife agency to design and implement a comprehensive approach to the conservation of America's resources by October 1, 2005. Alabama has completed the "Comprehensive Wildlife Conservation Strategy" (CWCS), and the plan is in the implementation phase. Altogether, 314 aquatic and terrestrial wildlife species were identified as in greatest conservation need. These GCN fauna include 24 mammals, 26 reptiles, 14 amphibians, 28 birds, 57 fish, 93 mussels, 34 aquatic snails and 28 crayfishes. GCN species are associated with 15 key habitats and 15 river basins. River basins associated with the ACT include Coosa, Tallapoosa, Alabama, Cahaba and Mobile river basins. Threats and conservation actions have been identified for each GCN species.

Recommendation: ADCNR recommends the development of a new water control manual for the ACT which should reflect wildlife conservation actions identified in Alabama's CWCS where appropriate.

Sincerely,

WILDLIFE & FRESHWATER FISHERIES

Stanley F. Cook
Chief of Fisheries

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Oct. 1, 2008

Mr. Lewis Sumner
ACT EIS Project Manager
U.S. Army Corps of Engineers
Inland Environmental Section
P.O. Box 2288
Mobile, AL 36628

RE: Alabama-Coosa-Tallapoosa River Basin Control Manual Update

Dear Mr. Lewis:

Thank you for the opportunity to submit comments regarding the update of the A-C-T River Basin Control Manual. I am making the comments on behalf of the Coosa River Basin Initiative's 3000 members. CRBI is a 501c3 non-profit organization and as the Upper Coosa Riverkeeper, our mission is to inform and empower citizens so that they may become involved in the process of creating a cleaner, healthier, more economically viable Coosa River Basin.

We believe that operation of the Allatoona project and the management of the Alabama-Coosa-Tallapoosa River System should be adaptive to reflect not only the changing needs of communities dependent upon this river system, but also our changing understanding of this river system and how its management impacts the ecology of these rivers.

For instance, in the 1950s with flood control and hydropower among the primary concerns of stakeholders, little attention was given to water supply or the environmental impacts of dam management on the Etowah downstream from the project. Today, of course, water supply has become paramount and we know that dam management has had a devastating impact on aquatic habitat in the Etowah's 48-mile run from Allatoona Dam to Rome.

The manual should reflect these changing priorities, but also must meet all of the project's stated purposes while protecting the environmental integrity of the reservoir and the river below Allatoona Dam.

Our comments focus on the operation of Allatoona Dam and its impacts on aquatic habitat, water quality and water supply downstream from the Allatoona project in the Etowah and Coosa rivers. What follows are general comments on the authorized purposes of the Allatoona project with suggestions for specific changes to the current Allatoona project manual.

Flood Control
Allatoona Dam and Reservoir should continue to be managed to prevent flooding downstream in Rome and elsewhere. Before altering the annual 823-feet elevation drawdown, studies should be completed to insure that downstream communities will be protected during catastrophic flood events. While reducing the drawdown and storing more water during the winter could be beneficial for recreation, water supply and water quality purposes, the security of downstream communities should not be forfeited to insure adequate water supplies for Metro Atlanta communities on the assumption of summer droughts.

Recreation
The economic importance of recreation and tourism associated with Lake Allatoona has been well documented. Studies show that the reservoir pumps some $93 million into local economies each year. As the population surrounding the lake continues to grow, the importance of the lake as a recreational outlet and an economic engine will also grow. CRBI supports reservoir management that optimizes the recreational use of the project. However, management for recreation should not take precedence over water supply, water quality and aquatic habitat—both in the reservoir itself and in the 48-mile tailrace section of the Etowah between Cartersville and Rome. It should be noted that flows from Allatoona feed Alabama's Weiss Lake where recreation and tourism is Cherokee County Alabama's primary industry, creating 4,100 jobs and annually generating some $145 million in local revenue, according to studies conducted in the 1990s.

Water Quality & Fish & Wildlife
Though both authorized purposes of the Allatoona project, water quality and fish and wildlife management are neither given complete attention in the operation manual.

Aside from references to releases from the dam to mitigate water quality problems on the Coosa downstream from Rome and a discussion of minimum flows from the dam, there is no guidance in the manual for maintaining or improving water quality in the lake itself or in the Etowah downstream from the dam. The manual's discussion of fish and wildlife management focuses on management of the reservoir fisheries, and completely ignores management of the project to support fish and wildlife downstream of the project for 48 miles.

These deficiencies in the manual must be addressed.

Operation of the Allatoona Dam has a devastating effect on water quality and aquatic habitat in the 48-mile stretch of the Etowah between Allatoona Dam and Rome. The dam dramatically alters oxygen levels and impacts temperatures in the Etowah's run through Bartow and Floyd counties, and hydropower peaking releases create an unstable environment for aquatic species. Additionally, hydropower releases further reduce water quality by scouring the river bottom and banks, increasing turbidity and sediment loads. During ordinary releases from the dam, the 7Q10 minimum of 240 cfs is inadequate to protect aquatic habitat between the dam and the river's confluence with the Oostanaula in Rome.

Dissolved Oxygen Levels & Temperature

Seasonally, oxygen levels in the tailrace are routinely below the level needed for survival of most aquatic fauna except during hydropower releases. The unnaturally low water temperatures in this reach of river alter the life cycles of many aquatic species.

Management of the dam should include measures to improve dissolved oxygen and provide water temperatures in the Etowah that mimic historic, pre-dam temperatures. These improvements could be accomplished by installation of a multi-level outlet structure which would allow for releases from different levels of the reservoir and by aerating the water released from the dam. This technology is currently in use on some of the high dams in the western United States (e.g. Flaming Gorge Dam, Utah) and has been very effective in restoring river reaches below dams.

7Q10 Minimum Flows

The 7Q10 standard of 240 cfs for releases from Allatoona Dam is inadequate to protect water quality and aquatic habitat. In fact, the current minimum flow requirement does not even reflect the true 7Q10 standard.

In the current manual, Section 5-02 (Critical drought considerations), the Corps states:

> "In the late 1970s, a United States Geological Survey study commissioned by Georgia's Department of Natural Resources "concluded that the natural 7Q10 for the Allatoona Dam site was 330 cfs. However in recent discussions with the state pertaining to reallocation of reservoir storage for water supply it was revealed that the state still accepts the 240 cfs as the 7Q10 flow. We have generally accepted the minimum continuous flow as sufficient for maintaining the stream environment."

While leaks from the dam in combination with the 240 cfs minimum result in a continuous flow of between 260-310 cfs, this is still below the *real* 7Q10 standard of 330 cfs cited in the USGS study.

Even if releases from the dam met the real higher standard, evidence suggests that these flows would still be inadequate.

In 2001 when Georgia's Department of Natural Resources (DNR) adopted an interim instream flow policy, it acknowledged the 7Q10 standard as scientifically indefensible. Studies commissioned by the DNR prior to adoption of this new policy state:

> "Georgia's present policy protects stream flow from being depleted below the 7Q10 flow (a ten-year frequency drought event), but there is an overwhelming consensus among aquatic resource managers that higher flows are necessary to support the fish and wildlife, recreation, and aesthetics that Georgia's citizens expect from their natural environment. The 7Q10 flow was not intended to define

adequate base flows for aquatic habitat requirements or other instream uses; its purpose was to protect aquatic life downstream from point source discharges during expected low flow conditions."

The state's current interim instream flow policy allows permit holders to use site specific minimum flows rather than the 7Q10 model if studies have been conducted at the site to determine appropriate flows. The Corps should undertake immediately consultations with Georgia's Environmental Protection Division (EPD) to design a study that will determine releases from Allatoona Dam that provide for seasonal variability while protecting water quality and improving and restoring aquatic habitat.

Adequate flows will also be necessary to support endangered and threatened species restoration on the Coosa River in Alabama downstream of Alabama Power Company's Weiss Dam project.

During recent Federal Energy Regulatory Commission re-licensing of the Weiss Dam project, stakeholders agreed to divert some flow from Weiss Dam to what is known as the "Dead River"—a 21-mile section of the original Coosa River channel that was bypassed as part of the hydropower project. By diverting 75 to 300 cfs to the Dead River, biologists plan to restore up to 12 federally protected species of fish, mussels and snails. The "Dead River" is considered the Mobile River Basin's best potential restoration site.

Georgia's EPD and the Atlanta Regional Commission have both intervened in this FERC re-licensing decision, expressing concerns over how the new FERC license will impact operation of Allatoona Dam and water supplies for Metro Atlanta.

According to the FERC re-licensing agreement, flows diverted to the Dead River will be based on a percentage of the river flows on the Coosa River at Mayo's Bar Lock and Dam just downstream from Rome. Thus, this critical restoration project is dependent upon adequate releases from Allatoona Dam.

The Corps should acknowledge this restoration project and include provisions for it when calculating appropriate minimum flow releases from the Allatoona project.

Hydropower Releases

Releases for hydropower result in a wildly fluctuating river downstream from the dam. Daily flows range from the 240 cfs minimum to more than 7000 cfs during hydropower production. River levels downstream from the dam rise and fall more than four feet. These fluctuations occur on a nearly daily basis.

In tandem with inadequate minimum flows, unnaturally low temperatures and low dissolved oxygen, hydropower releases make aquatic habitat so unstable that snails, mussels and many fish species, especially the smaller species--including federally protected darters--cannot survive in the Etowah below the dam.

Historically, the Lower Etowah (from Allatoona to Rome) supported 80 fish species, but biological surveys completed since 1970 have documented only 45 species. The Etowah's mussel fauna have been completely eliminated. Historically, 35 species of mussels survived in the Etowah main stem and its tributaries. Today, only eight species can be found in the basin and none can be found in the main stem of the Lower Etowah. This may be attributed to the unstable conditions caused by the scouring effect of hydropower releases and the low populations of native fish in the Etowah as many mussel species depend upon specific fish as hosts during portions of their life cycles.

Recent biological surveys of the Lower Etowah have turned up a single Etowah darter specimen, a federally protected species. This find suggest that alterations to dam management may provide enough stability in the Etowah to support restoration efforts. The same may be true of some federally protected snail and mussel species.

We recommend that the Corps conduct new biological surveys in the Etowah from the dam downstream to Rome to determine the current aquatic biodiversity and the existence of federally listed species.

By reducing hydropower peaking flows, developing minimum flows more protective of aquatic habitat and water quality, and providing strategic windows of no hydropower releases during spring and summer spawning seasons, we believe aquatic habitat and biodiversity could be improved in the Etowah downstream of the dam. These changes could lead to the reintroduction and restoration of fish, snail and mussel species (including some endangered species) in the Lower Etowah.

Water Supply

While it seems clear that water supply will increasingly be the driving purpose of the Allatoona project, water supply needs must be balanced with the other purposes of the project and the Corps' and Alabama Power Company's other projects on the Coosa system.

Currently, the City of Cartersville and the Cobb Marietta Water Authority withdraw an estimated 84 million gallons a day from Lake Allatoona, according to Metropolitan North Georgia Water Planning District (the District) documents. Of those withdrawals, an estimated 25 MGD of the Cobb-Marietta withdrawal is transferred to the Chattahoochee River Basin and not returned to the lake or the Etowah downstream of the dam.

Water supply plans for the District hinge on the reallocation of 200 MGD from Allatoona for Metro Atlanta communities. Of this 200 MGD, an estimated 70 MGD is expected to be transferred to the Chattahoochee River Basin and not returned.

The Corps should not alter its control manual or water supply allocations from the lake unless assurances are in place that Allatoona withdrawals utilized in the Chattahoochee Basin will be returned to the Etowah River Basin. Large-scale water transfers will make

it increasingly difficult for the Corps to manage the Allatoona project and the other Alabama river system projects to meet all authorized purposes.

In considering reallocations, the Corps should also consider the numerous new and proposed water supply reservoirs upstream from the Allatoona project. Since 1993 when the last update of the operation manual was attempted, two new water supply reservoirs--the Hickory Log and Yellow Creek reservoirs--have come on line in Cherokee County. A reservoir is planned by the Etowah Water & Sewer Authority on Russell Creek in Dawson County, and recently Forsyth County proposed a reservoir on Bannister Creek. The District included in its initial water supply plans seven additional reservoirs, and a pipeline that would transfer water from Allatoona to Lake Lanier.

These new existing reservoirs, proposed reservoirs and proposed water transfers will reduce inflows to Allatoona through withdrawals, altered flows and evaporation. Essentially, they serve to shift water supply storage away from Allatoona, moving it further upstream in the Etowah watershed.

These changes to the Etowah River Basin should be considered during decision-making processes regarding water supply allocations from Allatoona.

Hydroelectric Power

Based on the need for increased water supply and the need to protect downstream water quality and aquatic habitat, we believe the Corps should study alterations to the power generation schedule.

Summary

Updates of the operation manual must take into account very complex issues impacting water resource management, and any updates must be made in the context of ongoing legal battles between Georgia, Alabama and Florida regarding the use of the Alabama and Apalachicola river systems.

While recognizing these complex issues, CRBI recommends the following:

- Implement study of annual winter drawdown to 823 feet elevation to determine if the lake can be managed to store more water during the winter without putting downstream communities at increased risk to flooding.

- Manage the lake to support recreation and tourism but not at the expense of water supply, water quality and aquatic habitat, especially in the Etowah from the dam downstream to Rome.

- Include water quality and fish and wildlife management in the control manual by:

1. Altering releases from Allatoona Dam to improve dissolved oxygen and moderate water temperatures to historic pre-dam levels.
2. Undertaking a site specific study to determine appropriate minimum releases from the dam as outlined in EPD's instream flow policy.
3. Conducting a biological survey of the Etowah from the dam downstream to Rome to determine species diversity and existence of federally protected species
4. Reducing peak flows for hydropower and providing windows of no peak flows during spring and summer spawning seasons
5. Acknowledging the need for sufficient flows from Allatoona Dam to aid in restoration and reintroduction efforts of federally protected species on the "Dead River" downstream of Weiss Dam in Alabama

• Refuse any increase in water allocations from the lake without assurances that the additional allocations will be returned to the Etowah River Basin as highly treated wastewater.

• Consider the impacts of new and proposed water supply reservoirs upstream of the Allatoona project when considering reallocation for water supply from Allatoona.

• Consider altering the hydropower generation schedule in the context of water supply and water quality/fish and wildlife needs.

Thank you for the opportunity to submit these comments on behalf of the Coosa River Basin Initiative's 3000 members. We look forward to continuing the dialogue regarding the management of the Alabama-Coosa-Tallapoosa river system.

Sincerely,

Joe Cook
Executive Director & Riverkeeper

Southeastern Federal Power Customers, Inc.

Alabama Municipal Electric Authority
Montgomery, AL 36103-5220

Big Rivers Electric Corporation
Henderson, KY 42419-0024

Blue Ridge Power Agency
Danville, VA 24541-3300

Central Electric
Power Cooperative, Inc.
Columbia, SC 29202-1455

Central Virginia
Electric Cooperative
Lovingston, VA 22949

East Kentucky Power Cooperative
Winchester, KY 40392-0707

East Mississippi Electric
Power Association
Meridian, MS 39302-5517

Electricities of North Carolina, Inc.
Raleigh, NC 27626-0513

Jim Woodruff Customers
Madison, FL 32340-0208

Municipal Electric Authority
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Atlanta, GA 30328-4640

Municipal Energy Agency
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Jackson, MS 39201-2898

North Carolina Electric
Membership Corporation
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Oglethorpe Power Corporation
Tucker, GA 30085-1349

Orangeburg Department of
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Orangeburg, SC 29116-1057

Piedmont Municipal Power Agency
Greer, SC 29651-1236

PowerSouth Energy Cooperative
Andalusia, AL 36420-0550

Saluda River Electric
Cooperative, Inc.
Laurens, SC 29360-0929

Santee Cooper
Moncks Corner, SC 29461-2901

South Mississippi Electric
Power Association
Hattiesburg, MS 39404-5849

Virginia Cooperative Preference
Power Customers
Harrisonburg, VA 22801-1043

Virginia Municipal Electric
Association #1
Harrisonburg, VA 22801-3699

October 20, 2008

VIA EMAIL

U.S. Army Corps of Engineers, Mobile District
Attn: ACT WCM Comments
2170 Highland Ave Suite 250
Birmingham, AL 35205

RE: Water Control Plan Update

Dear Mobile District:

The customers of the Federal Government's Southeastern Power Administration ("SEPA") have highlighted a few fundamental points which they believe should guide the development of the scope of the Environmental Impact Statement ("EIS") and the revisions to the Water Control Plan for the Alabama-Coosa-Tallapoosa ("ACT") river basin. The Southeastern Federal Power Customers, Inc. ("SeFPC" or "Customers") remain concerned that the EIS and proposed water control plan will endeavor to accommodate desired uses of the Corps projects in the ACT in a manner that exceeds the statutory authority and program implemented by Congress in authorizing the construction of the projects in the ACT river basin.

The members of the SeFPC have a significant interest in any change to the operation of the Allatoona and Carters Reservoirs and Dams and the Robert F. Henry ("Henry") and Millers Ferry Lock and Dam projects because the hydropower from these and other Corps projects is the most valuable component of a utility's portfolio, because it offers lower cost electricity during peak, more expensive, hours of the day. There is a primary concern regarding proposed changes to the Carters and Allatoona projects, namely the operation of storage at these projects to support uses that were not originally intended by Congress.

The members of the SeFPC have actively followed the developments related to the Corps operations on the ACT river basin for several decades. The members of the SeFPC have enjoyed a longstanding relationship with SEPA and the Corps that has greatly benefited a customer base served by SeFPC members that now exceeds 6 million electric ratepayers. The SeFPC represents 238 not-for-profit rural electric cooperatives and municipally owned electric systems in the states of Alabama, Georgia, Mississippi, Kentucky, North Carolina, South Carolina, Florida, and Virginia which purchase power from SEPA. In some cases, SEPA markets from Corps projects as much as 30 percent of the power and 10 percent of the energy needs of SeFPC members.

Throughout the Southeast where SEPA markets energy and capacity, SEPA provides some of the most valuable power resources for consumer owned systems, power to meet the period of each day when demand is the highest for power resources. This power resource is known in industry terms as peaking power. And while it may only constitute a fraction of a utility's overall load, it is perhaps the most valuable component of a utility's resource portfolio because peaking power is the most expensive electricity available. SEPA helps meet this need for consumer-owned systems by providing hydropower from Corps facilities throughout the Southeast.

While hydropower customers have certainly benefited from this relationship, the Federal Government has also depended upon this longstanding relationship to build and construct many of the multi-purpose Corps projects in the Southeast. In fact, many members of the SeFPC have supported these Corps projects and the Federal Power Program when the prices for the power were higher than then prevailing rates in the region. The customers of SEPA made this commitment with the long-term view of the supporting the federal government's investment in these projects to provide needed resources to manage power demand in the future. Indeed, while these projects were built to aid flood control, only by including a hydropower purpose did the federal government find a mechanism to justify the expenditure for the projects.

As detailed below, Allatoona and Carters Reservoirs and Dams were built for the sole purposes of flood control and hydroelectric power generation. Legislative history clearly details the priority for hydroelectric power generation. Furthermore, additional authorities limit the Corps ability to contract with state and local parties to provide water storage, namely the Water Supply Act of 1958 ("WSA") and the Flood Control Act of 1944 ("FCA").

It is worth noting that the SeFPC has never opposed a reallocation of storage at Corps facilities for currently unauthorized uses of water storage, as long as the benefits originally provided by Congress in the construction of the projects were maintained. Nonetheless, in light of the longstanding relationship and repayment of the federal investment in the Corps facilities, the SeFPC believes that any EIS must

start from the premise of recognizing the Congressional mandate to generate hydropower as a bedrock principle. Recognizing the importance of the Allatoona and Carters projects to provide the capacity marketed by SEPA, the SeFPC has emphasized below the statutory authorizations for these projects.

Legislative History Provides Foundations For Corps' Obligations

The Corps responsibilities for the Allatoona and Carters projects originate in the federal statutes that authorized and funded construction. As reviewed below, Congress specified clearly how these projects would be operated to meet specified needs.

Projects Authorized for Hydropower Production

Allatoona Reservoir and Dam - Authorizing Legislation – Flood Control Act of 1941

The Allatoona Reservoir and Dam was authorized by Congress in the Flood Control Act of 1941[1] for the purposes of flood control and hydroelectric power production. The legislative history leading up to the enactment of the project and the subsequent legislative history demonstrate that hydropower and flood control were the only authorized purposes of the project.

Legislative History of the Allatoona Authorization

The Flood Control Act of 1941 authorized the Allatoona Reservoir in accordance with the Board of Engineers for Rivers and Harbors' report that was part of House Document 674, 76th Cong., 3d Sess. (1940). House Document 674 also includes the District Engineer's report, a report of the Federal Power Commission ("FPC"), and a report of the National Resources Planning Board.

On January 18, 1939, the Senate Commerce Committee requested the Board of Engineers to review previous reports on the Coosa River, Georgia and Alabama with consideration toward "determining the advisability of constructing reservoirs on these rivers . . . for the development of hydroelectric power and improvement of the river below the dams for navigation as well as for other beneficial effects."[2] The resulting report, issued by the Board of Engineers on March 12, 1940, recommended the construction of the Allatoona Project for flood control, navigational support, and hydroelectric power generation.[3]

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[1] Pub. L. No. 77-228 §3, 55 Stat. 638 (codified at 33 U.S.C. §701g).

[2] H.R. Doc. No. 674 at 2.

[3] *See Id.*

Legislative History – Allocation of Storage Capacity

In its report, the Board of Engineers referred to the District Engineer's plan calling for control of flooding in the vicinity of Rome, Georgia by construction of a storage reservoir at the Allatoona site to be operated in the "combined interests of flood control and power development . . ."[4] The Board's report highlighted the fact that power storage would increase stream flow substantially and permit the economic generation of power at the site, therefore justifying the construction. The Board recommended that a plan providing for a maximum power pool elevation of 830 feet would provide a reasonable degree of flood control without "unduly affecting the interests of power development, and that it represents the best over-all utilization of the potentialities of the Allatoona site."[5]

In separate reports by the Federal Power Commission and the National Resources Planning Board, it was stated that "economic justification is largely based upon benefits from supplying power needs in the market area. The anticipated return to the Federal Government from power production has been affirmed by the Federal Power Commission."[6] It goes on to provide, "[c]onsideration was also given in that report to construction of this dam for the primary purpose of flood control, but it was concluded that the cost was prohibitive."[7]

The Division Engineer's report affirms hydropower as the primary cost justification for the Allatoona project, noting that "while the proposed Allatoona Dam will provide a large measure of protection, its cost is not justified by flood-control benefits alone; hence the necessity of a dual-purpose dam which will provide for the development of sufficient hydroelectric power to balance the deficit."[8] The Division Engineer goes on to say: "[I]n view of the fact that the economic justification depends principally upon the amount of power developed, the division engineer is of the opinion that the maximum amount of storage for power should be provided consistent with the provision of the essential minimum amount of floor control storage.

The FPC noted that with the adoption and authorization of the plan by Congress in accordance with the recommendation of the Board of Engineers, the project would create a dam and reservoir with a gross storage capacity of 630,000 acre-feet to be allocated as follows: 422,500 acre-feet for flood control; 182,500 acre-feet for power

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[4] *Id.* at 5.

[5] *Id.*

[6] *Id.* at 8.

[7] *Id.* at 38.

[8] *Id.* at 42.

and stream flow regulation; and 25,000 acre-feet for the permanent pool.[9] ***None of the storage capacity was allocated to other purposes.***

Subsequent 1956 Definite Project Report and Cost Allocation Study Confirms Hydropower is Primary Purpose of Allatoona

In addition to the original authorizing legislation and legislative history leading up to the enactment of the legislation, Congress' intent is also demonstrated in subsequent Corps reports and studies on the Allatoona Dam. Following the authorization of Allatoona in the 1941 Flood Control Act, the Corps put together a definite project report on the Allatoona Dam and Reservoir,[10] which sets forth the project's scope and purposes. The 1945 Definite Project Report for Allatoona confirms what was in the 1940 Board of Engineers' report discussed above.

The only difference is that the 1945 report recommends "that a larger amount of storage has been allotted to the production of hydroelectric power with a corresponding decrease in storage reserved for flood control."[11] The report goes on to note that " [r]ecent studies have shown that it would be desirable to increase the total storage volume, corresponding to an increase of five feet in elevation of flood pool level, to provide still more storage for power generation."[12] The 1945 report recommended total storage of 722,000 acre feet to be allocated as follows: "212,000 acre feet are for flood control, 456,000 acre feet are for power, the remainder, 54,000 acre feet, being dead storage."[13]

The subsequent legislative history also confirms that hydropower and flood control were the two primary purposes of Allatoona. The 1956 Cost Allocation study notes, "[t]he Allatoona Project is operated for the two primary purposes of flood control and power. Insofar as practicable the available storage is utilized to attain the maximum sustained public benefits for these purposes."[14] Congress intended purposes ***other*** than flood control and hydropower to be, at best, incidental benefits of the Allatoona project. The 1956 cost allocation study for the Allatoona project provides,

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[9] *Id.* at 6.

[10] Definite Project Report for Allatoona Dam and Reservoir Corps of Engineers Department of the Army (October 1945).

[11] *Id.* at 1.

[12] *Id.* at 2.

[13] *Id.* at 3.

[14] Cost Allocation Studies Allatoona Reservoir Project Corps of Engineers Department of the Army pp. 5 (February 1956).

In addition to the flood control and power benefits, other benefits are realized incidental to the operation of Allatoona for its primary purposes. These include low water regulation, pollution abatement, water conservation, recreation, and preservation of fish and wildlife. The amounts of such benefits are indeterminate to a large extent and have not been evaluated for use in the allocation studies.[15]

Carters Reservoir and Reregulation Dam

Carters' Lake was authorized in the Rivers and Harbors Act of 1945 as part of a comprehensive plan for the development of the ACT system.[16] This authorization was made in accordance with the recommendations of the Chief of Engineers in House Document 414, 77th Cong., 1st Sess. (1941), which also includes an interim report of the Board of Engineers. The Senate Commerce Committee specifically requested the Board of Engineers to review reports on the Coosa River "with a view to determining the advisability of constructing reservoirs … for the development of hydroelectric power and the improvement of the river below the dams for navigation as well as for other beneficial effects."[17] As summarized in the Chief's report, the Board recommended:

That the general comprehensive project for the initial and ultimate development of the Alabama-Coosa River and tributaries for navigation, flood control, power development, and other purposes be authorized substantially in accordance with plans being prepared by the Chief of Engineers, with such modifications thereof, from time to time, as in the discretion of the Secretary of War and the Chief of Engineers seem advisable, particularly for the purpose of increasing the development of hydroelectric power.[18]

Nowhere in the report are any "other purposes" addressed. As recommended by the Board of Engineers, the Rivers of Harbor Act of 1945 provides that the Secretary of War and Chief of Engineers may modify the comprehensive plan, but such modifications are limited to those "advisable for the purpose of increasing the development of hydroelectric power . . ." [19]

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[15] *Id.* at 11.

[16] Rivers and Harbors Act of 1945, Pub L. No. 79-14, §2, 59 Stat. 10, 17 .

[17] House Document 414, 77th Cong., 1st Sess. (1941).

[18] *Id.* at 2.

[19] Pub L. No. 79-14, §2, 59 Stat. 10, 17.

The Board of Engineers' report also refers to a 1935 study of improvements on the Alabama-Coosa River that supported the maximum development of hydroelectric power to serve industrial developments in the region.[20] The Board's report also states that at the request of the Federal Power Commission, a restudy "is now being made of this plan to increase the development of hydroelectric power."[21] In addition, the Board recognized that the Alabama-Coosa River system "contains many dam sites that are highly desirable for the development of hydroelectric power in connection with the improvement of its rivers for navigation, and that the basin is potentially a great industrial area."[22]

Existing Law Limits Corps Discretion

While the SeFPC submits that the authorizing statutes significantly limit the ability of the Corps to use the storage at the Allatoona and Carters projects, we also note that additional authorities such as the WSA and the FCA govern the Corps management of multipurpose facilities. In particular, these two statutes limit the Corps discretionary authority, particularly in meeting demands for Municipal and Industrial ("M&I") water supply. The review below highlights the existing limits on the Corps to expand the use of storage at the Allatoona and Carters Projects.

Water Supply Act

The WSA gives the Corps the authority to contract with the state and local parties to provide them with water storage capacity for M&I purposes in reservoirs managed by the Corps. The authority of the Corps to effect such reallocations, however, is strictly confined to changes that do not seriously affect the authorized project purposes. In accordance with the WSA, if the proposed reallocation by the Corps would "seriously affect" the Project's authorized purposes, Congressional authorization is mandatory. The WSA specifically states:

[20] *See* H.R. Doc. No. 414 at 4.

[21] *Id.* at 5.

[22] *Id.* at 5.

> *Modifications of a reservoir project heretofore [before July 3, 1958] authorized, surveyed, planned, or constructed to include storage as provided in subsection (b) [23] which would seriously affect the purposes for which the project was authorized, surveyed, planned, or constructed, or which would involve major structural or operational changes shall be made only upon the approval of Congress as now [on July 3, 1958] provided by law.*

43 U.S.C. § 390b(d).

The Corps's regulations for implementing its authority under the WSA provide that the Corps has the discretion to reallocate water storage space in existing reservoirs for M&I purposes only if certain circumstances are met and in no case if the proposed reallocation would seriously affect any of the project's authorized purposes or involve a major operational change.[24] The Corps's own regulations acknowledge the need for Congressional authorization when the reallocation would seriously affect the project's authorized purposes. Specifically, the Corps's regulations state that:

> *Reallocation or addition of storage that would seriously affect other authorized purposes or that would involve major structural or operational changes requires Congressional approval. Provided these criteria are not violated, 15 percent of the total storage capacity allocated to all authorized project purposes or 50,000 acre feet, [25] whichever is less, may be allocated from the storage authorized for other purposes.[26]*

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[23] U.S.C. § 390b(b) provides in relevant part that "storage may be included in any reservoir project surveyed, planned, constructed or to be planned, surveyed and/or constructed by the Corps of Engineers or the Bureau of Reclamation to impound water for present or anticipated future demand or need for municipal or industrial water.. ."

[24] The U.S. Court of Appeals for the District of Columbia ("D.C. Circuit") issued an opinion earlier this year in relation to a settlement agreement entered into between the Corps, the SeFPC and several other parties on contested matters in the Apalachicola-Chattahoochee-Flint ("ACF") River Basin. The Court observed that a major operational change must be measured from a baseline of the when the project began operations. *Southeastern Federal Power Customers, Inc. v. Geren* 514 F.3d 1316, 1324 (D.C. Cir. 2007), *petition for cert. filed*, 77 U.S.W.L. 1301 (U.S. Aug. 13, 2008) .

[25] For water supply reallocations up to 499 acre-feet the Commander, USACE has delegated approval authority to the Division Commanders. Water supply allocations that do not require Congressional approval and are the lesser of 15 percent or 50,000 acre-feet are to be made at the discretion of the Commander, USACE. USACE ER 1105-2-100, Appendix E, ¶ E-57(d)(1) (Apr. 22, 2000); see also USACE ER 11-5-2-100, ¶ 4-32(d)(1) (Dec. 28, 1990).

[26] USACE ER 1105-2-100, ¶ 3-8(b)(5) (Apr. 22, 2000) (emphasis added); see also USACE ER 1105-2-100, ¶ 4-32(d)(1) (Dec. 28, 1990).

The Corps has recognized that water supply reallocations require careful scrutiny and full justification. In accordance with the agency's regulations,[27] all reallocations or additions of storage must be accompanied by a report that includes:

a. Purpose of the report and background, including map;
b. Pertinent project data table;
c. Water supply needs analysis;
d. Test of financial feasibility;
e. Cost of storage analysis;
f. Analysis of alternatives considered to address the water supply needs;
g. Appropriate NEPA documentation of environmental impacts;
h. Pertinent letters from affected federal, state and local interests, including documentation of public review and comments. Opportunities for public review and comments must be provided; and
i. Commander's recommendation.

The Corps's above-referenced regulation directing the agency to provide for public review and comment implements the express statutory requirement that the Secretary of the Army must provide for public review and comment if the Corps proposes an otherwise lawful reallocation of storage space:

> *Before the Secretary may make any changes in the operation of any reservoir which will result in or require a reallocation of storage space in such reservoir or will significantly affect any project purpose, the Secretary shall provide for public review and comment.*

33 U.S.C. § 2312.

In light of these obligations, the SeFPC observes that the Corps has the responsibility to conduct a thorough public process, one that does not simply rely upon several open meetings and this public comment period.

[27] USACE ER 1105-2-100, Appendix E, ¶ E-57 (d)(1) (Apr. 22, 2000); see also USACE ER 1105-2-100, ¶ 432(d)(1) (Dec. 28, 1990).

Flood Control Act

The Secretary of the Army is authorized, pursuant to Section 6 of the FCA to enter into temporary water withdrawal contracts in order to allow water utilities to withdraw water immediately from surplus storage supplies. However, the FCA expressly prohibits the Corps from entering into contractual arrangements that will adversely affect the Project's authorized purposes. Section 6 of the FCA states that the Secretary of the Army is authorized to:

> *Make contracts with States, municipalities, private concerns, or individuals, at such prices and on such terms as he may deem reasonable, for domestic and industrial uses for surplus water that may be available at any reservoir under the control of the [Department of the Army]: Provided, that no contracts for such water shall adversely affect then existing lawful uses of such water.*

33 U.S.C. § 708.

The Corps's regulations implementing its authority pursuant to the FCA clarify the Corps's ability to enter into temporary contracts for the sale of surplus water supply. The regulations specifically provide that:

> *Under Section 6 of the Flood Control Act of 1944, the Secretary of the Army is authorized to make agreements with states, municipalities, private concerns, or individuals for surplus water that may be available at any reservoir under the control of the Department. These agreements may be for domestic, municipal, and industrial uses, but not for crop irrigation. When the user desires long-term use, a permanent storage reallocation, should be performed under the authority of the Water Supply Act of 1958, as amended.*[28]

In light of the FCA's express statutory directive that the authorized project purposes are not to be adversely affected by surplus withdrawals, the definition of the term "surplus" is critical.[29] The term "surplus" is defined by the Corps's regulations to mean either:

[28] USACE ER 1105-2-100, ¶ 3-8(b)(4) (Apr. 22, 2000); see also USACE ER 1105-2-100, ¶ 4-32(b) (Dec. 28, 1990).

[29] The Supreme Court has interpreted the meaning of the term "surplus" under the Flood Control Act. In ETSI Pipeline Project v. Missouri, et. al., 484 U.S. 495, 108 S.Ct. 805 (1988), the Supreme Court found the language of the Section 6 of the Flood Control Act to be "plain enough: 'surplus water' is all water that can be made available from the reservoir without adversely affecting other lawful uses of the water." Id. at 506.

(1) water stored in a Department of the Army reservoir that is not required because the authorized use for the water never developed or the need was reduced by changes that occurred since authorization or construction; or

(2) water that would be more beneficially used as municipal and industrial water than for the authorized purposes and which, when withdrawn, would not significantly affect authorized purposes over some specific time period.[30]

Indeed, the Corps's own regulations recognize that "surplus water declarations citing use for the higher beneficial purposes should be made with caution and only on a fixed period agreement for temporary use."[31] In situations where a long-term use, instead of a temporary use, is required, a permanent storage reallocation should be performed under the authority of the WSA.[32] However, as noted above, the WSA contains limitations that would not afford the needed discretion or flexibility to meet potential demands of the States in the event that these projects become primary or even secondary sources of M&I water supply. Further, after the Corps has performed its initial determination that the surplus water withdrawal will not significantly affect authorized purposes, the Corps is further required to prepare a brief letter report similar to reallocation reports that includes how and why the storage is determined to be surplus. This required report is to accompany the Corps's surplus water agreements.[33]

Ultimately, while Congress has given the Corps the authority to provide water storage in some limited circumstances to meet non-authorized project purposes, the Corps's authority to accommodate the potential changes for the use of storage at the Carters and Allatoona projects face significant constraints under the Water Supply Act of 1958 and the Flood Control Act of 1944.

Baseline

The statutory authorities and limited authorities provided by the WSA and FCA firmly establish the legal foundation for the baseline from which the EIS should be viewed. Existing water supply use under validly executed contracts pursuant to the

[30] USACE ER1105-2-100, Appendix E, ¶ E-57(b)(2)(a) (Apr. 22, 2000); see also USACE ER 1105-2-100, ¶ 3-8(b)(4) (Apr. 22, 2000) and USACE ER 1105-2-1000, ¶ 4-32(b) (Dec. 28, 1990).

[31] USACE ER 1105-2-100, Appendix E, ¶ E-57(b)(2)(b) (Apr. 22, 2000); see also USACE ER 1105-2-100, ¶ 4-32(b) (Dec. 28, 1990).

[32] See USACE ER 1105-2-100, Appendix E, ¶ E-57(b)(2)(b) (Apr. 22, 2000); see also USACE ER 1105-2-100, ¶ 4-32(b) (Dec. 28, 1990).

[33] USACE ER 1105-2-100 at Appendix E, ¶ E-57(b)(3) (Apr. 22, 2000); see also USACE ER 1105-2-100, ¶ 4-32(b) (Dec. 28, 1990).

WSA or FCA should be included in the baseline. Projected needs for M&I water supply should not, unless there is the recognition that such amounts are contingent upon Congressional action. Moreover, any benefits attributed to a project must be verified. For example, flood control benefits attributed to the Allatoona project must solely relate to that project and not include benefits that were previously anticipated from a project that Congress never constructed. In other words, the EIS and water control manual must proceed from the starting point of real and legally authorized project purposes.

Conclusion

Because the Corps projects provide valuable hydropower generation from the ACT river basin, the SeFPC believes that the EIS must recognize the legal restrictions on the Corps in proposing a water control manual that would conflict with the statutory mandate. While the SeFPC does not oppose studying or proposing changes that may exceed these limitations, and such proposed change must include the caveat that Congressional action is required to implement such change.

With the longstanding history and relationship in helping the Corps manage the projects on the ACT river basin, the SeFPC looks forward to working with the Corps representatives on a water control manual that will provide clear and fair guidance on how the projects in the river basis should be operated. Please contact us if you have any questions regarding the content above.

Sincerely,

/S/

Thomas E. Bartels

President
Southeastern Federal Power Customers, Inc.

DC\7110376.1

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205-257-4090

ALABAMA POWER
A SOUTHERN COMPANY

October 20, 2008

Mr. Lewis Sumner
ACT EIS Project Manager
U.S. Army Corps of Engineers
Inland Environmental Services
P.O. Box 2288
Mobile, Alabama 36628

Dear Mr. Sumner:

On November 9, 2007, the Corps of Engineers gave notice in the Federal Register of its intent to prepare an update of the master water control manual (WCM) for the Alabama-Coosa-Tallapoosa (ACT) River Basin and each of the individual reservoir regulation manuals previously issued by the Corps for certain reservoirs within the basin. The notice also stated that concurrent with this WCM update process, the Corps intends to prepare a draft environmental impact statement in accordance with the requirements of the National Environmental Policy Act. On August 15, 2008, the Corps gave further notice that it would hold a series of four public scoping meetings in September at which the Corps would provide information on the WCM update process and give the public an opportunity to submit comments about their issues and concerns regarding the process.

Alabama Power attended each of the four public meetings at which the Corps made available materials stating that it would accept written comments through October 20. Because there is no specific proposal concerning the update of the WCM, the Corps' solicitation of comments is limited to issues and concerns related to the WCM update process and the scoping of the related NEPA evaluation. Alabama Power accepts that the Corps will provide opportunities in the future for full public review and comment on any specific proposal it may develop for updating the WCM, and Alabama Power will provide substantive comments at that time. However, Alabama Power has already submitted to the Corps certain recommendations that we believe it should consider if the Corps pursues an update of the WCM.

In a May 16, 2008, letter to Colonel Byron G. Jorns, Alabama Power suggested that the Corps utilize existing tools developed in recent years by Alabama Power in coordination with the Corps as we have proposed changes to the existing reservoir regulation manuals for the Weiss and Logan Martin developments on the Coosa River. These studies were conducted in the context of Alabama Power's relicensing of the Coosa River Project, and our application, which includes the reservoir operation changes at Weiss and Logan Martin, is currently being review by the Federal Energy Regulatory Commission. As our May 16 letter made clear, the Corps' effort to update the WCM should not be allowed to interfere with the Corps' timely issuance of new reservoir regulation manuals for Weiss and Logan Martin. Alabama Power continues to believe that the ongoing effort to update these two manuals and other initiatives involving reservoirs and water issues in the ACT River Basin make clear that now is not the appropriate time to undertake a comprehensive update of the WCM.

Since the early stages of the Coosa Project relicensing process, Alabama Power has worked with various stakeholders, including the Corps, to modify the rule curves for Weiss and Logan Martin. Because the rule curve changes necessitate amendments to the Corps' regulation manuals for these two reservoirs, Alabama Power has worked closely with the Corps to obtain comments and address concerns relative to these proposed changes. The Corps has participated as a cooperating agency in FERC's NEPA analysis of the Coosa River Project application so that the Corps could use this NEPA document to support its own decision to approve the changes to the Weiss and Logan Martin regulation manuals. During the Coosa application NEPA process, FERC and the Corps have requested additional information from Alabama Power concerning modeling and related issues so that they could better understand Alabama Power's proposed changes and their potential impacts. In short, the Corps has participated in lengthy studies concerning changes to the Weiss and Logan Martin regulation manuals and it has served as a cooperating agency in the FERC NEPA process for the Coosa relicensing application. The Corps should complete this process before undertaking a comprehensive update of the WCM. There is no need for another EA or EIS, in the context of the update of the WCM, on these same rule curve changes. Moreover, Alabama Power's FERC-issued license for its Jordan project contains specific downstream flow requirements to support the endangered Alabama tulotoma snail, the fishery and boating. Given the overriding importance of these flows, the Corps should await the final issuance of a new FERC license for Alabama Power's Coosa Project before undertaking any revision of the ACT WCM.

As you know, Alabama Power is also in the early stages of preparing an application to relicense the Martin Dam Project on the Tallapoosa River. A significant issue in the Martin relicensing proceeding will include potential rule curve changes to increase pool elevations at Lake Martin during certain times of the year. Alabama Power has already completed an initial evaluation of changing the Martin rule curve, but additional studies and consultation among the stakeholders are needed to fully evaluate the impacts of such a change on flood control, navigation, power generation, water quality and other project and river basin resources. Because Alabama Power's Martin Project is not regulated under the existing Corps master manual for the ACT or an individual Corps reservoir regulation manual, the Martin relicensing process presents the only real opportunity for the Corps to take into consideration operational aspects of the Martin Project prior to its comprehensive update of the WCM. For this reason, Alabama Power believes the relicensing of the Martin Project should be substantially completed before the Corps undertakes any comprehensive update of the ACT WCM. Additionally, Alabama Power intends to incorporate modeling of Harris Dam existing operations into the final Martin Study Plan so that Alabama Power can determine potential impacts to the Harris Reservoir of any rule curve change at the Martin Project. Again, these efforts will present the best opportunity for the Corps to engage in a comprehensive review of the Tallapoosa River and should precede any comprehensive updating of the ACT WCM.

Over the past several months, APC has worked with state and federal agencies to develop a drought operations plan for the portion of the Coosa, Tallapoosa and Alabama Rivers in Alabama. This plan would address the operation of Alabama Power's projects as they relate to project levels, releases, and downstream conditions. The Corps has been involved in this process along with the U.S. Fish & Wildlife Service. Alabama Power believes that it is important that a consensus develops among the various federal and state agencies and stakeholders on this issue before the Corps attempts to develop a drought plan on its own as part of the comprehensive update of the ACT WCM.

Lastly, Alabama Power suggests that it would be premature to undertake any comprehensive revision of the ACT WCM until the current federal litigation concerning the Corps' ACT operations is resolved. As exemplified by the D.C. Circuit's opinion in Southeastern Federal Power Customers v. Geren, the Court may differ from the Corps on the limits of the Corps' authority in operating the federal reservoirs in the ACT. That opinion set aside the settlement agreement reached between the Corps, the

Southeastern Federal Power Customers, the State of Georgia, and certain Atlanta-area water supply provides. In doing so, the Court undermined the Corps' efforts to proceed with an EIS for the reallocation of storage to water supply contemplated under the terms of the agreement. While similar litigation is pending regarding the Corps' ACT operations, it would be imprudent to commit resources to the comprehensive update of the ACT WCM and any related NEPA studies.

In short, Alabama Power believes it would be unwise to undertake any comprehensive revision of the ACT WCM at this time.[1] At the very least, the Corps should postpone such efforts until after the relicensing processes for Alabama Power's Coosa Project and Martin Project are complete. The Martin relicensing process specifically offers a unique opportunity for the Corps and Alabama Power to work together to develop optimal operating parameters for the Tallapoosa River reservoirs. Initiating efforts to revise the ACT WCM would largely duplicate—if not conflict with—the efforts being undertaken by Alabama Power, the Corps, and others in the context of relicensing the Coosa Project and the Martin Project. Additionally, the revision of the ACT WCM should await finalization of the drought plan being developed by Alabama Power and various state and federal agencies. Lastly, such efforts should also await the conclusion of the current federal litigation concerning the Corps' ACT operations. The outcome of that case could have significant repercussions concerning the extent of the Corps' operational authority within the Basin.

Given all of the processes, studies and initiatives currently in place in the ACT River Basin, Alabama Power believes that it is premature for the Corps to initiate a comprehensive update of the WCM. With its substantial interest in water resource issues in the ACT River Basin, Alabama Power will continue its involvement in any process that the Corps pursues with respect to the WCM.

Sincerely,

Allan Peeples for

Willard Bowers
VP – Environmental Affairs

[1] Alabama Power does not object to the Corps undertaking preliminary efforts to update specific reservoir regulation manuals for the Corps' individual Alabama and Coosa River reservoirs, so long as such efforts to do not unnecessarily duplicate or conflict with other ongoing efforts in the ACT Basin as described herein.

ATLANTA REGIONAL COMMISSION

PLANNING • LEADERSHIP • RESULTS

October 20, 2008

U.S. Army Corps of Engineers, Mobile District
Attn: ACT WCM Comments
2170 Highland Ave
Suite 250
Birmingham, AL 35205

To Whom It May Concern:

I am writing to bring certain issues to the Corps' attention that should be considered as part of the update of the water control manual for the Alabama-Coosa-Tallapoosa ("ACT") River Basin and the preparation a draft Environmental Impact Statement ("EIS") as required by the National Environmental Policy Act of 1969 ("NEPA").

General Scope of the NEPA Process

The primary purpose of the scoping process should be to determine the issues that need to be addressed in the draft EIS, and to examine the range of alternatives to be considered and evaluated by the agency. I understand that the Corps had originally intended to prepare a comprehensive update to the water control plan that would result in the consideration of alternative operations for the Corps projects. However, now we have been advised that the Corps intends to undertake a much more limited study, one that is effectively confined to documenting existing operations. Such a pre-ordained and limited process would do a great disservice to all those who rely upon the Corps and its management of the water resources of the ACT River Basin, and would fall far short of meeting the Corps' obligations under NEPA.

The purpose of the update to the water control manual should be to develop an operational plan that most efficiently manages the water resources within the ACT River Basin for the highest and best use. This requires that the Corps reconsider and reevaluate its current operations. Thus, any update to the water control manual should build on the knowledge and information developed during the Comprehensive Study and subsequent compact negotiations, and all reasonable alternatives to existing operations must be considered.

Modeling and Model Assumptions

In updating the water control manual for the ACT River Basin, it is imperative that the Corps thoroughly analyze the entire range of possible operational alternatives. This necessarily will include the use of hydrological models to evaluate the impacts of various operating rules on reservoir elevations and stream flows.

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Any model developed for this purpose must be thoroughly vetted and its underlying assumptions independently evaluated.

This is particularly important if the Corps intends to use a new model, such as ResSim, to analyze proposed future operations. Additionally, our initial review of the ResSim model has revealed potential flaws in the model assumptions, many of which relate to the capacity and operation of the Alabama Power projects. These potential flaws must be carefully evaluated and, where necessary, corrected.

Finally, as it has with previous models used to evaluate operations within the basin, the Corps should convene one or more technical workshops so that expert modelers can work collaboratively to improve any model that is to be relied upon to evaluate potential operations.

Water Supply Needs and Changes to Reservoir Management

Today, Lake Allatoona is a critical component of the water supply plan for the metropolitan Atlanta area. This importance will only increase, as the Water Supply and Water Conservation Management Plan adopted by the Metropolitan North Georgia Water Planning District calls for additional reliance on Lake Allatoona as a source of water supply.

The water control plan update should take into consideration the water supply needs identified in the Metropolitan North Georgia Water Planning District's Plans. The NEPA process should evaluate a potential reallocation of storage and increased use of Lake Allatoona as a water supply source consistent with the duly adopted and approved Water Supply and Water Conservation Management Plan. This plan can be found on the District's website at www.northgeorgiawater.org.

In addition, the Corps should consider other potential mechanisms to increase the yield of Lake Allatoona. This should include, for example, an analysis of potential reductions to the seasonal draw-down at Lake Allatoona. The Corps should also analyze other possible rule curve changes at the federal projects.

Finally, the Corps should clarify its policy with respect to return flows. Specifically, the Corps should consider granting all parties a right to return flow credit similar to the rights CCMWA has under its current storage contract. Granting credit for return flows in this manner would allow the Corps to avoid inherent conflicts with states' administration of water rights.

Drought Contingency Plans

In updating the water control manual for the ACT River Basin, the Corps needs to develop and incorporate a comprehensive drought plan that includes operations at all ACT River

Basin projects, both public and private. This drought plan should be based on the lessons learned from operations during the 2007-2008 drought period.

In formulating a comprehensive drought plan, the Corps should consider and develop appropriate drought triggers that incorporate hydrological forecasting methods developed by the United States Geological Service. The Corps should evaluate the use of these hydrological forecasting tools, with appropriate margins of error, to optimize reservoir operations.

The comprehensive drought plan should also analyze and incorporate operational changes to be implemented during critical drought periods including, at a minimum, hydropower reductions, variances to allow for early refill, and appropriate reductions in downstream flow requirements, such as for the navigation flow on the Alabama River near Montgomery.

More broadly, the Corps should evaluate alternative operating rules that prudently and conservatively balance downstream flow requirements with the ability to capture and store water for use in times of drought. These operating rules must afford the Corps sufficient operational flexibility to quickly adapt to changing inflow conditions. Rigid operational rules are simply too difficult to change during critical drought periods, and too often detrimental to the basin as a whole. Thus, rules incorporating maximum management flexibility and adaptability should be evaluated and incorporated into any updated water control manual.

Operation of Alabama Power Projects

The Corps operations at Lake Allatoona are vitally important to those who rely upon it for a safe, dependable water supply. Nevertheless, the fact remains that the Corps controls only 21% of the available reservoir storage within the ACT River Basin. The remaining 79% is controlled by the Alabama Power Company through a series of projects on both the Coosa and Tallapoosa Rivers, with nearly 50% of total basin storage in Alabama Power's Lake Martin project. Thus, the Corps' operations must be evaluated in the context of the basin as a whole.

Given the distribution of conservation storage within the ACT River Basin, the manner in which the Alabama Power projects are operated directly affects the Corps' operations of the federal reservoirs, including Lake Allatoona. For example, Alabama Power has repeatedly called for additional and unreasonable flow support from upstream federal reservoirs, including Lake Allatoona, to protect storage in its projects during times of drought. Additionally, Alabama Power continues to disproportionately burden its Coosa River projects in meeting combined flow targets downstream. During the recent drought Alabama Power maintained a nearly full pool at Lake Martin at the expense of Corps projects upstream in Coosa River basin, particularly Lake Allatoona.

In addition Alabama Power has now proposed to dramatically alter the rule curves at certain of its projects, thereby significantly reducing the available flood storage within the basin.

Alabama Power is presently in the process of relicensing its Coosa River projects and Lake Martin before the Federal Energy Regulatory Commission (FERC). We are very concerned that decisions at the federal level by both FERC and the Corps not be made that are in conflict with each other and that dictate operations that are detrimental to the operations of Lake Allatoona. In updating the water control manual for the ACT River Basin, the Corps must therefore thoroughly consider and analyze the present and proposed future operation of these Alabama Power projects. This should include all aspects of Alabama Power's proposed operations, including minimum flow requirements, firm power commitments, proposed rule curve changes, and any impacts that would result from Alabama Power's operations on the flood control purpose, and opportunities for reallocation of permanent and seasonal flood storage to conservation purposes at Lake Allatoona.

And finally, any updated water control manual should make clear that the operations of the federal reservoirs, including Lake Allatoona, are not subordinate to the needs of Alabama Power's private projects. As such, any required downstream flow requirements must not be set based upon unrealistic estimates of releases from the Alabama Power projects. Likewise, required downstream flows should not place a call on storage at Lake Allatoona, while Alabama Power protects lake levels and refuses to make similar releases from its Lake Martin project.

Sincerely,

Charles Krautler
Director

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1875 Century Boulevard
Atlanta, Georgia 30345

OCT 16 2008

In Reply Refer To:
FWS/R4/ES

Colonel Byron G. Jorns
District Engineer
U.S. Army Corps of Engineers, Mobile District
Post Office Box 2288 (Attn: Chuck Sumner)
Mobile, Alabama 36628-001

Dear Colonel Jorns:

The Fish and Wildlife Service (Service) appreciates the opportunity to provide comments during the public scoping process regarding the revision of the United States Army Corps of Engineers' (Corps) Water Control Manuals (WCM) for the Alabama-Coosa-Tallapoosa (ACT) River Basin. We submit the following comments under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*).

Federally-listed aquatic species, as well as critical habitat, exist throughout the ACT basin. Because the WCMs affect the ACT river basin, the Corps and the Service will need to coordinate closely to ensure any ESA issues, such as potential impacts to the listed species and critical habitat, are fully addressed. In addition, we consider this public scoping process, and subsequent meetings, an opportune juncture to improve aquatic habitats for all species in the ACT basin. We look forward to being an active stakeholder during the revision process.

General Comments

Service personnel participated in the Corps' September 11, 2008, Interagency Scoping Meeting to discuss the WCM updates and associated development of the Environmental Impact Statement (EIS). During that meeting, the Corps raised the idea of developing technical workgroups to address specific topics of information that need to be investigated as part of the revision process and asked for agency input on this matter. The Service supports the development of these workgroups and would be willing to actively participate in the technical workgroups applicable to our agency's mandates and trust resources.

Comments regarding Corps Operations within Georgia

Surveys

Federally-listed and candidate freshwater mollusks and fishes inhabit the mainstem rivers of the Coosa Basin below Carters and Allatoona. Within the last eleven years these species are known to include the federally-threatened goldline darter (*Percina aurolineata*) in the Coosawattee River below Carters Reregulation Dam, potentially the federally-endangered Etowah darter (*Etheostoma etowahae*) in the Etowah River below Allatoona Dam, the federally-endangered triangular kidneyshell (*Ptychobranchus greeni*) in the Coosawattee and Oostanaula Rivers, shell material of the federally-endangered southern clubshell (*Pleurobema decisum*) in the Oostanaula and Coosa Rivers, and the Federal candidate species interrupted rocksnail (*Leptoxis formani*) in the Oostanaula River.

We recommend updated surveys be conducted for federally-listed fishes and freshwater mollusks to accurately assess the potential impacts of the Corps' alternative actions. Information gathered regarding many State-imperiled aquatic species as part of this survey effort would also be beneficial. The most recent comprehensive survey conducted for federally-listed mussels in these mainstem rivers was conducted in 1997 (Williams and Hughes 1997). The mainstem Coosawattee below Carters Reregulation Dam and the mainstem Etowah below Allatoona Dam have not had targeted surveys for federally-listed fishes since 1998 (Freeman 1998). Except for a Georgia Department of Natural Resources (GDNR) standardized sampling survey and collection efforts for an *Etheostoma* genetics study, we are not aware of these two stretches of mainstem river being surveyed for fishes since this time (Ritchea 2006; GDNR 2002 & 2003; Brett Albanese, GDNR, 2008, pers. comm.). Recent genetic studies have discovered federally-listed Etowah darters either exhibiting syntopy or hybridization with greenbreast darters (*Etheostoma jordani*) below Allatoona (Freeman et al. 2006). Additional tissue material is needed for nuclear genetic analysis using microsatellites to clarify the situation at hand. Therefore, any survey effort should be coordinated with these researchers to consider obtaining additional genetic material and to provide them the opportunity for further analysis, if feasible.

Operations at the Lake Allatoona Project

Current dam operations at Lake Allatoona have detrimental effects on water quality and the natural flow regime in the Etowah River downstream of Allatoona Dam. Suitable dissolved oxygen levels, water temperatures, and flow are necessary for survival, reproduction, and recruitment of fishes and mussels. A Corps water quality study and associated environmental assessment (EA) found that the tailrace waters do not always meet State dissolved oxygen water quality standards during periods of non-peak generation, sometimes dropping as low as 2 parts per million (Corps 2000). An oxygen diffuser was used from 1968 to 1986 to improved downstream dissolved oxygen levels, but has not been used since 1986. The 2000 EA selected a preferred alternative that consisted of rehabilitating the Allatoona powerhouse to increase dissolved oxygen levels in the tailrace. A finding of no significant impact was authorized in 2000 for this upgrade, but the powerhouse was never rehabilitated. We recommend that this WCM update consider installing some method to increase dissolved oxygen levels in the Etowah River downstream of Allatoona Dam. We do not know if tailrace temperatures are likewise

altered as a result of dam operations at Lake Allatoona, but downstream water temperature data representing existing conditions should be compiled and analyzed. If adequate data does not exist to represent current conditions, we recommend these data be collected. If downstream water temperatures are, in fact, significantly different from temperatures that would naturally occur in an unimpaired scenario, we recommend the Corps consider a retrofit at Allatoona Dam that would more closely approximate natural water temperatures.

Allatoona Dam operates in a hydropeaking mode, generating power between two and six hours during normal operations each weekday. Weekend generation may occur if required to meet customer needs, but generally only the 250 cubic feet per second (cfs) minimum flow is released on the weekends. A typical weekday pattern of flows downstream of the dam exhibits fluctuations between 250 cfs and approximately 7,500 cfs (Corps 1998). Flow instability caused by daily peaking operations likely affects recruitment and reproductive success of many fishes (Irwin and Freeman 2002). Stream habitat below hydropeaking dams can also become unsuitable for mussels because of the alternate wetting and drying of riffles and scouring action of discharges. Additionally, regulated flow can affect the abundance and habitat use of fishes serving as host species for freshwater mussels (Layzer and Crigger 2001; Watters 2000). These host fishes may be less abundant or occupy different habitats that make the necessary contact with larval mussels unlikely, or if fishes are already infected with larval mussels, excysting juveniles may be distributed into unsuitable habitats (Layzer and Crigger 2001). Providing periods of stable flow without pulsed intervals of power generation should increase opportunities for fish to reproduce and for larvae to develop successfully (Irwin and Freeman 2002). A study on a regulated reach of the Tallapoosa River found young-of-year fish abundance was most frequently correlated with the persistence of shallow-water habitats (Freeman et al. 2001). We recommend the Corps consider dam operations at Allatoona Dam that would more closely mimic the natural flow regime, such as implementing a non-peaking window during the portion of the year that is most sensitive to aquatic organisms in the downstream Etowah River.

The current minimum flow for Allatoona Dam is 250 cfs, which represents the annual 7Q10 flow. A 7Q10 flow represents a ten-year drought event and is a standard used to establish effluent limits that prevent pollutant concentrations from exceeding acceptable concentrations under extreme low flow conditions. It was not intended to establish base flow conditions for protecting aquatic organisms and habitat, and has been associated with reductions in available habitat for fish and other aquatic life (Evans and England 1995). We recommend the minimum flow under existing conditions for Lake Allatoona be compared to an alternative that more closely approximates the natural flow regime. The flow alternatives that will be considered for the WCM updates should be analyzed for potential relative effects to the downstream riverine biota. This could be accomplished by using the Riverine Community Habitat Assessment and Restoration Concept (RCHARC), as was done in the Draft Environmental Impact Statement (DEIS) for the Water Allocation for the ACT Basin, or similar methodology based on the same concept. RCHARC is based on the premise that native riverine communities of aquatic organisms evolved under patterns of spatial and temporal variability in physical habitat that result from long-term natural flow regimes, and therefore, managing regulated streams to mimic the variability of natural streams will protect native riverine biodiversity (Corps 1998).

Operations at the Carters Lake Project

We are not aware of dissolved oxygen impairment in the Coosawattee River below Carters Reregulation Dam as a result of existing operations. We understand that the required minimum flow is released over a spillway and thus is subject to some aeration as it leaves Carters Reregulation Dam. However, the small amount of dissolved oxygen raw data we have reviewed, also summarized in a Federal Energy Regulatory Commission (FERC) Final Environmental Assessment (EA) for the Carters Reregulation Dam Hydropower Project (FERC 2001) were not collected during the recent prolonged period of drought operations. We do not know if tailrace temperatures are altered as a result of dam operations at the Carters Lake Project. Therefore, downstream dissolved oxygen and water temperature data for the Coosawattee River representing existing conditions should be compiled and analyzed. If adequate data does not exist to represent current conditions, we recommend these data be collected. If downstream water temperatures and dissolved oxygen levels are, in fact, significantly different from temperatures and dissolved oxygen levels that would naturally occur in an unimpaired scenario, we recommend the Corps consider a retrofit at Carters Reregulation Dam that would more closely mimic natural water temperatures and dissolved oxygen levels.

The two dams that make up the Carters Lake Project, Carters Dam and Carters Reregulation Dam, are used as a pumped-storage peaking facility. The Corps usually generates hydropower at Carters Dam for a few hours each weekday, and then the turbines reverse and pump water back up from the reregulation pool into Carters Lake when demand for electricity is low (usually during the night or on weekends) to have water available for the next peak use period (Corps 1998). Therefore, the flow exiting the reregulation pool into the lower Coosawattee River does not exhibit a hydropeaking flow regime. However, we recommend the Corps compile and analyze the ramping rates exiting Carters Reregulation Dam to the Coosawattee River under existing operations. If downstream ramping rates are significantly different from ramping rates that would naturally occur in an unimpaired scenario, we recommend the Corps consider a change in operations at Carters Reregulation Dam that would more closely mimic natural changes in flow, at least during the portion of the year that is most sensitive to aquatic organisms in the downstream Coosawattee River.

The current minimum flow for Carters Reregulation Dam is 240 cfs, which represents the annual 7Q10 flow. As mentioned above, a 7Q10 flow represents a ten-year drought event and is a standard used to establish effluent limits that prevent pollutant concentrations from exceeding acceptable concentrations under extreme low flow conditions. It was not intended to establish base flow conditions for protecting aquatic organisms and habitat, and has been associated with reductions in available habitat for fish and other aquatic life (Evans and England 1995). We recommend the minimum flow under existing conditions for Carters Reregulation Dam be compared to an alternative that more closely mimics the natural flow regime. The flow alternatives that will be considered for the WCM updates should be analyzed for potential relative effects to the downstream riverine biota by using the RCHARC, or similar methodology based on the same concept, as was done in the Draft Environmental Impact Statement (DEIS) for the Water Allocation for the ACT Basin (Corps 1998).

Mitigation for Carters Lake Project

The construction of Carter's Lake was authorized by the River and Harbor Act of March 2, 1945. Project construction was initiated in 1962 and was completed in 1975. The project is located on the Coosawattee River, 26.8 miles above its juncture with the Conasauga River, near the town of Carters in Murray, Gilmer, and Gordon Counties, Georgia. To date, no mitigation for aquatic resources has been developed. Mitigation for wildlife (including wetland and terrestrial ecosystems) has been debated but not resolved. Approximately 4,200 terrestrial acres were inundated, 40.9 miles of streams were impounded, 0.4 miles of stream were filled, and wetland loss is unknown. We recommend that these terrestrial and stream impacts for the development of Carters lake be included in the DEIS and as a result, mitigative measures be implemented.

If you have any questions regarding these Georgia-specific comments, please contact staff biologist Alice Lawrence at (706) 613-9493 ext. 222.

Comments regarding Corps Operations within Alabama

Threatened and Endangered Species - There are at least 12 extant federally-listed species found in mainstem river reaches of the ACT that have the potential to be affected by reservoir operations. These include:

Alabama sturgeon	*Scaphirhyncus suttkusi*	Endangered
Gulf sturgeon	*Acipenser oxyrinchus desotoi*	Threatened
Goldline darter	*Percina aurolineata*	Threatened
Tulotoma snail	*Tulotoma magnifica*	Endangered
Inflated heelsplitter	*Potamilus inflatus*	Threatened
Heavy pigtoe	*Pleurobema taitianum*	Endangered
Southern clubshell	*Pleurobema decisum*	Endangered
Triangular kidneyshell	*Ptychobranchus greenii*	Endangered
Fine-lined pocketbook	*Hamiota altilis*	Threatened
Interrupted rocksnail	*Leptoxis foremani*	Candidate
Rough hornsnail	*Pleurocera foremani*	Candidate
Wood stork	*Mycteria americana*	Endangered

You should also consider the federally-listed species found in tributary streams and nearby terrestrial habitats of the ACT basin that have the potential to be impacted by reservoir operations. These include:

Painted rocksnail	*Leptoxis taeniata*	Threatened
Cylindrical lioplax	*Lioplax cyclostomaformis*	Endangered
Lacy elimia	*Elimia crenatella*	Threatened
Blue shiner	*Cyprinella caerulea*	Threatened
Georgia rockcress	*Arabis georgiana*	Candidate
Price's potato-bean	*Apios priceana*	Threatened
AL canebrake pitcher-plant	*Sarracenia rubra alabamensis*	Endangered
Kral's water-plantain	*Sagittaria secundifolia*	Threatened

Harperella	*Ptilimnium nodosum*	Endangered
Georgia aster	*Symphyotrichum georgianum*	Candidate
Tennessee yellow-eyed grass	*Xyris tennesseensis*	Endangered
Mohr's Barbara's buttons	*Marshallia mohrii*	Threatened
Alabama leather-flower	*Clematis socialis*	Endangered
Green pitcher-plant	*Sarracenia oreophila*	Endangered

Note that Georgia rockcress, Georgia aster, and Price's potato-bean have been found on or near river bluffs overlooking mainstem ACT rivers and reservoirs.

Critical habitat for 10 species of mussels has also been designated throughout the ACT basin. These include:

Southern acornshell	*Epioblasma othcaloogensis*	Endangered
Ovate clubshell	*Pleurobema perovatum*	Endangered
Southern clubshell	*Pleurobema decisum*	Endangered
Upland combshell	*Epioblasma metastriata*	Endangered
Triangular kidneyshell	*Ptychobranchus greenii*	Endangered
Alabama moccasinshell	*Medionidus acutissimus*	Threatened
Coosa moccasinshell	*Medionidus parvulus*	Endangered
Southern pigtoe	*Pleurobema georgianum*	Endangered
Fine-lined pocketbook	*Hamiota altilis*	Threatened
Orange-nacre mucket	*Hamiota perovalis*	Threatened

Critical habitat for one species of fish is currently being proposed:

Alabama sturgeon	*Scaphirhyncus suttkusi*	Endangered

Because many of these species were isolated and fragmented due to reservoir development and water quality conditions, we encourage the Corps to participate with Federal and State agencies to develop a comprehensive monitoring plan to identify any remaining unknown or historically known populations in the basin.

The Service, working with State, other Federal, non-government, and private business partners, have identified potential re-introduction sites for recovery of listed aquatic species within the ACT basin. We would like to enlist the Corps as a partner in this large-scale recovery effort (O'Neil et. al 2008). In addition to aquatic recovery efforts, we would like the Corps to consider terrestrial habitats under their ownership as potential locations for outplanting of federally-listed plants should the need and opportunity arise.

Species of Greatest Conservation Need - In an effort to keep more species from becoming imperiled to the point of requiring Federal listing under the ESA, the Alabama Department of Conservation and Natural Resources has identified Species of Greatest Conservation Need (GCN) in the state; several of these are found within the ACT basin. The spotted rocksnail (*Leptoxis picta*), at least 2 species of mussels (painted clubshell, *Pleurobema chattanoogaense;* southern purple lilliput, *Toxolasma corvunculus*) and one species of fish (Alabama shad, *Alosa alabamae*) are found in mainstem ACT rivers. GCN bird species considered to be of high

conservation concern that utilize wetlands and floodplain forests in interior Alabama include the least bittern (*Ixobrychus exilis*), American black duck (*Anus rubripes*), swallow-tailed kite (*Elanoides forficatus*), yellow rail (*coturnicops novaboracensis*), American woodcock (*Scolopax minor*) and the Swainson's warbler (*Limnothlypis swainsonii*). Any update to the Corps' WCM should address the potential of Corps reservoir operations to impact species that may be on the brink of requiring federal protection under the ESA.

Fish and Aquatic Organism Passage - Dams on the Alabama River have blocked historic migrations of more than a dozen species of fish for several decades, and have contributed to the decline of the critically imperiled Alabama sturgeon. High flows that overtop the dams and opening of dam locks at Claiborne and Miller's Ferry have been identified as methods to facilitate aquatic organism passage on the Alabama River. We recommend that the Corps continue to facilitate research on fish passage at Corps dams on the ACT, including research on timing and duration of attraction flows, monitoring and tracking of species through the lock and dam structures, and "dummy" locking, with the goal of implementing Corps reservoir operations that allow riverine species to travel their historic migration pathways.

Water Quality - The effect of reservoir operations on water quality should be addressed in the WCM update, including existing and potential effects to dissolved oxygen, temperature, pH, conductivity, nutrient and organic material dynamics, and various industrial and municipal discharges. A monitoring program addressing water quality in reservoirs and tailwaters should be designed and implemented to detect, report, and mitigate water quality issues that may impact benthic and pelagic species.

Flow Dynamics - A number of natural flow regime components (e.g., base, seasonal, and minimum/maximum flow levels, frequency/duration of low/high pulse flows, flow rise/fall rates and frequency of flow reversals) are important, even critical, to the long-term maintenance and protection of the basin's riverine fauna and habitats. These natural flow characteristics can provide a template for management strategies at water control facilities, as well as for future water management changes that may result from a basin-wide allocation formula. We recommend that the conservation and/or recovery of as many of these natural flow conditions as possible be fully considered in the development and implementation of the new WCM for the ACT basin. In Alabama, the effects to downstream aquatic biota and riverine ecology from diurnal hydropower peaking flows from the RF Henry and Miller's Ferry Dams, which are often described as run-of-the-river dams, should be examined.

Riparian and Wetland Habitats - The ecological integrity of riverine systems is intimately connected to the quality and quantity of streamside floodplain forests and wetlands. The review and updating of the WCM should address effects to the vegetation ecology of adjacent wetlands and floodplain forests, as well as the wildlife resources dependent upon them including migratory birds. For example, the federally endangered wood stork (*Mycteria americana*) relies on the shallow wetland areas adjacent to the Alabama River during the summer and fall each year for foraging.

Technical Working Group for Water Modelers - To facilitate information sharing and involvement with the WCM update process, we recommend that a technical working group of

water modelers from interested stakeholders familiar with the HEC-ResSim Reservoir Simulation be formed and meet on a regular basis during and after the completion of the WCMs.

Integrated Drought Plan - The WCM update should integrate a basin-wide drought plan that addresses water allocation issues among stakeholders in Georgia and Alabama, as well as the operation of dams operated by Alabama Power Company on the Coosa and Tallapoosa Rivers. A drought plan should adequately identify water quality and quantity needs at various times of the year.

If you have any questions regarding these Alabama-specific comments, please contact staff biologist Dan Everson at (251) 441-5837.

Sincerely,

Acting

Noreen Walsh
Assistant Regional Director
Ecological Services
Southeast Region

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LAKE WEDOWEE PROPERTY OWNERS' ASSOCIATION
P. O. Box 55
Wedowee, AL 36278

October 20, 2008

U. S. Army Corps of Engineers
Mobile District

Re: ACT Water Control Manual Revision Comments

Please accept our comments regarding the ACT Water Control Manual Update. We were unaware of the recent COE Public Meetings in Alabama for the ACT. However, we did attend the ACF Public Meeting in Lagrange and spoke with Mr. Peter Tayor and was directed to send our comments through him. Thanks so much for allowing our organization to provide comments for such an important endeavor.

This petition is submitted by the Lake Wedowee Property Owners' Association (LWPOA) and its 600+ member units. The LWPOA Articles of Incorporation and By-Laws state, "the purpose of the organization is to enhance, improve, and protect the quality of Lake Wedowee, to promote the welfare and propensity of the residents of Lake Wedowee, and to stimulate public sentiment to these ends through education and outreach." The LWPOA has emphasized water quality and water quantity; i.e., the two elements that give a lake its aesthetic value. Presently, Lake Wedowee water quality is excellent and water levels are fairly good.

The following comments are similar to those comments made recently to the Federal Energy Regulatory Commission regarding mandating regulations and guidelines for renewing the Martin Dam Relicensing Permit and how those changes would affect Harris Dam operation. These comments should be consistent with and to the heart of the LWPOA's concerns for Lake Wedowee and the Corps of Engineers' responsibility for managing the waters and streams of Alabama.

LWPOA members have been participating in the Martin Dam Relicensing meetings to understand the process and to ensure that changes to the new Martin Dam License will not adversely affect present operating conditions of Harris Dam. The LWPOA is not submitting this petition to try to deny or alter the changes sought by the Martin HOBO Association except where changes may adversely affect Lake Wedowee lake level management. In fact, our Association has been requesting similar improvements for Lake Wedowee through Alabama Power Company since 2002.

Lake Wedowee uniquely sits in the headwaters of the Tallapoosa River Basin and serves many functions that affect Lake Martin; namely, flood control, river water filter, and provides nearly 50% of Lake Martin's make-up water. The Martin HOBO Association has requested an earlier fill period, extending the operating curve and summer pool period, along with raising the winter pool rule curve five feet. The LWPOA is afraid that the proposed changes if accepted could

affect the Lake Wedowee water level management as well as proposed changes that the LWPOA has been requesting.

In developing the study plan for the proposed Martin rule curve changes, Alabama Power placed the emphasis on the section of river below Martin Dam (flood control), and Harris Dam operation was not to be included as part of the study. The LWPOA saw several potential problems as based on both historical and recent Lake Wedowee lake water level experience. By permission, a recent Alabama Power rule curve (dated 9/25/08) for Lake Wedowee is enclosed for reference.

1. The Lake Wedowee ***river make-up flow*** is not sufficient to support the flow requirements placed on Harris Dam after mid-May and until November each year. Of course, the 2007-08 drought magnified this situation when Alabama Power could only fill Lake Wedowee to 2.6 feet below the summer pool level in the spring of 2007. The rule curve data shows that the historical average level starts declining at the beginning of June and is down five feet at the end of the summer pool period. The tropical storm, Fay, provided a big boost for Lake Wedowee in August of this year.

In the future, Tallapoosa River make-up water may be even scarcer since Carroll County Water Authority in Georgia is planning a $99 million, 9.4 billion gallon reservoir on Indian Creek tributary which empties into the Little Tallapoosa River. Their future need equivocates to 28 cfs which is more than either of the Tallapoosa River flows in drought type conditions. The severity of Lake Wedowee water level decline in the summer starts with a lack of rainfall; and a rainfall deficit is more an annual affair than an exception.

2. Harris Dam operation is also subjected to ***excessive downstream flow requirements***. It is clear to us that the Alabama River water flow is crucial to support both the needs of the Alabama River and Alabama's economy. The LWPOA understands the need to provide this flow when there is ample rain fall. But during drought type periods, these flow requirements should be reduced to balance water quantities from the top of the Tallapoosa Basin to the bottom of the Mobile River, and not just below Montgomery.

The 7Q10 flow for Wadley before Harris Dam was built was ~160 cfs. This flow is maintained now as a minimum flow to improve the river water ecology between the dam and Wadley. There didn't seem to be a problem with the Alabama River flow back then; so why is it such a critical issue now?

It is our understanding that the US Fish and Wildlife agency is presently proposing to set a rigid flow requirement of 4,640 cfs in the Alabama River at Montgomery to support the habitat of the Alabama sturgeons. This action, if allowed, will issue a death warrant for the lakes up-stream. Why is a nearly vanished fish more important than whole lake communities that depend on their lakes for property value and economic success?

The flow variances that were granted in 2007-08 to reduce downstream flow requirements saved Lake Wedowee (and Lake Martin) from severely reduced lake levels. And when combined with Alabama Power's action to minimize hydro operation (to help protect lake levels), a ***model*** has been developed that would serve the Alabama Power lakes and the oversight agencies well in future operation.

3. The LWPOA has requested that Alabama Power ***raise the Lake Wedowee winter pool elevation four feet***, from 785 to 789 feet. This request has not been acted upon due to the Corps

of Engineers position to wait until the water war situation is resolved and the ACT Operating Manual is rewritten.

Our concern with the Martin Relicensing Permit process is that a big change at Martin would reduce their holding capacity; and that could possible put more pressure for Harris Dam to hold back more water during flood events. Since Harris Reservoir is a small reservoir (one-forth the size of Lake Martin), a lower (instead of higher) Harris winter pool rule curve might be needed to accommodate Martin. Lake Wedowee also wants the higher winter pool elevation since the upper lake areas are filling with sediment and boat access is a problem. This is the reason that the LWPOA requested that Harris Dam be included in the Martin rule curve study so that there would be a **Tallapoosa River Basin-wide flow plan** that is fair to all Tallapoosa River lakes.

4. The LWPOA has also requested that an ***operating range curve***, similar to Martin, be included in the Lake Wedowee rule curve. The Martin operating range provides a guide for operating close to full summer pool elevation. Harris Dam operates more closely to the historical average water level curve which is much lower than Martin lake levels. We have repeatedly requested higher mid to late summer water levels but with little success. Again, the low rainfall pattern in this area, along with the high downstream flow requirements, makes Alabama Power's ability to maintain high lake levels almost impossible. Lake Wedowee needs relief in the downstream flow requirement area.

5. The ***economy of the lake communities*** also suffers during severe lake draw-down events. Lake Wedowee is located in Randolph County, a very rural area, where the lake has become the main source for county growth. From 1990 to 2005, the population grew 14.26% to 22,717 people, and the number of employees grew 32.5% to 5,175 workers. (Source: Comprehensive Economic Development Strategy for the East Alabama Region, August, 2007) In addition, all the marinas, the building industry, and town businesses prosper when lake conditions are good.

Mr. Josh Burns, Randolph County Tax Revenue Commissioner, has reported that the total 2008 Randolph County tax revenue is $8,959,036.64. Of this total, Lake Wedowee property owners paid 34% of this amount as follows: individual lake property owners paid $1,576,819.16 and Alabama Power Company paid $1,507,008.36. If the aesthetic value of Lake Wedowee changes because of extremely low lake levels, then property values, tax revenues, businesses sales and local employment will decline, harming the local economy. The housing industry has already shut down at Wedowee due to a combination of the economy and the three year drought.

In conclusion, we want to thank the Corps of Engineers for your role in regulating the flow control issues on the Tallapoosa River Basin and the State of Alabama. As times have changed, the lake communities along with recreational activities have grown to be powerful economical factors for regions that use the rivers and streams of Alabama. We respectfully request that the COE consider our comments regarding conserving and protecting the quality of life for Lake Wedowee, the Town of Wedowee and the local communities.

Please contact me at 256-363-1255 or Charles Sut Smith at 256-357-4273 for questions about our petition or if you need more information.

Yours truly,

Gary Cockrell
LWPOA Chairman

cc: Mr. Willard Bowers, Alabama Power Company
Mr. Richard Laird, Alabama State Representative
Ms. Kim Benefield, Alabama State Senator
Mr. Tim Coe, Mayor of Town of Wedowee
Mr. Larry Raughton, Randolph County Commission

ACT-Water Control Manual/EIS Comments from Marilyn Stapleton, Woodstock, GA

Lake Allatoona, which already exceeds Georgia EPD pollution limits, is further threatened if more water is released from the Dam, its level reduced by upstream reservoirs, or water pumped to other watersheds. We, the residents of Cherokee County, Georgia ask the U.S. Army Corps of Engineers to execute commitments in its "Environmental Operating Principles" by providing more water supply storage in Lake Allatoona, including converting storage used for other purposes. The Corps states its principles are consistent with the National Environmental Policy Act, the Army Strategy for the Environment with its emphasis on sustainability and the triple bottom line of mission, environment and community, other environmental statutes, and the Water Resources Development Acts that govern Corps activities.

What is the Lake's actual storage capacity today and how much space has been lost to Upper Etowah River sediment where vast grasslands grow in the riverbed near Knox Bridge during drought? How much more has been lost along the shoreline from sediment runoff over the Corps property's narrow buffer caused by poor, adjacent site development? As adjacent landowner, the Corps needs to participate in land use decisions to protect its interests. Has the Corps Hydrologic Engineering Center conducted water supply analyses to manage the Alabama-Coosa-Tallapoosa Watershed in a way to limit water shortages and lessen the impact of long-term drought the Etowah Basin faces? What is the Basin's limit for annual water supply in the current long-term drought? How would water storage capacity of the Lake be affected by new reservoirs and an overabundance of new wells? How does climate change forecasting assess the future of the Lake's storage capacity?

The Atlanta Regional Council initially included Cherokee County in the North Georgia Metro (Atlanta) Water District for its potential to supply water to Metro Atlanta and access to the north side of Lake Allatoona and the Etowah River. Metro counties east and south of the Upper Etowah River, in the adjacent ACF Watershed, developed land beyond the capacity of the ACF watershed. Instead of conserving or investing in water infrastructure, they use water transferred from the ACT basin to the Chattahoochee Basin, which eventually provides water downstream to Florida estuaries. We understand the right to reasonable use by residents in the Etowah Drainage Basin so long as it does not diminish the water quality and quantity for downstream users in the ACT Watershed, but object to depletion of our water resource for the benefit of other basins.

I propose an Environmental Impact Study led by the U.S. Army Corps of Engineers, in conjunction with the U.S. EPA, to determine the deleterious effect that current, and planned increases of, interbasin transfers have on Lake Allatoona, the Upper Etowah River and the ACT Watershed. Would not Federal agencies supercede states' water rights because three States are involved in interbasin transfers from the ACT to the ACF? Adjudication is anticipated soon in the interpretation of Congressional Acts regarding the authority of the Corps to set storage allocations for water supply and determine what represents harm to previously authorized purposes of Corps Dams. Does not transferring water out of the basin diminish storage capacity and harm the Dam's original

purposes? Will an EIS be prepared to measure actual and potential effects of interbasin transfer out of the ACT Watershed? Will the Country's best environmental law attorneys represent the Corps' case?

The Corps-sponsored, ongoing Lake Allatoona/Upper Etowah study measuring the overall heath of the Upper Etowah has fundamental flaws that make it insufficient alone to make water supply decisions for Lake Allatoona and the Upper Etowah. The stakeholders in the Etowah Drainage Basin represent groups with conflicting agendas. Given that household water use pales in comparison to what farmers, electric utilities and factories need to supply households with goods and services, all stakeholders need to present their case. Politically powerful entities must be stopped from bypassing the real cost of water.

Does the public know the water demand involved in the Southern Company's plan to spend $3.9 Billion over the next three years to lower coal emissions? How much electric power in the general area of Southern Company's Georgia and Alabama Power subsidiaries is provided by Corps Dams' hydroelectric power generated for the Southeastern Power Administration? Is scarce water being used for hydroelectric generation that could be supplied more efficiently by the Southern Company? Does the Southern Company benefit from hydroelectric power releases by raising downstream river level above the intakes of their coal plant cooling systems? Droughts occur in summer and severely challenge drinking water treatment from an already-impaired lake or river. At what cost to our water resources does summer peak power prices for hydroelectric power benefit SEPA and their preferred customers? What agreements are in place to halt peak releases during drought and seek alternative power sources?

Phosphorus-laden storm run-off, from summer applications of chicken litter on pastures, accumulates phosphorus in, and pollutes, Lake Allatoona. All farmers in the Upper Etowah Basin need to dispose of chicken litter in a manner that prevents nutrient run-off into streams. EPD's drought contingency plan in place before the 2007 Georgia drought revealed inadequate planning. The 100-year-low level of the Etowah River raises the question of climate changes affecting rainfall in the Southeast. A rational water policy for the Southeast needs the leadership and resources of the Federal government and we will help in any way we can. Intergovernmental participation, and possible intervention, is essential for the Corps and EPA to comply with the Clean Water Act in Georgia. All of the stakeholders must be empowered to insist everyone pay in a manner that ensures common good.

What action has the Corps ACT District taken to adjust fees and charges to ensure that scarce ACT water is not wasted or lost to another watershed? Georgia legislators have totally failed to address interbasin transfers and procrastinate from enacting and enforcing an operable State Water Plan. Lack of a feasible State Water Plan leaves the Georgia Environmental Protection Agency responding to local political pressures instead of managing water resources efficiently and cost-effectively for the State's future.

The State's recent delay tactic authorizes another long planning process for watershed-based regions to develop separate water plans. However, an exception is made for the generic Water Plan written for all the counties in the MetroWater District, in spite of the fact that these counties overlay portions of five different

watersheds in the State. Metro Water District counties, like Cherokee County in the ACT Watershed, are powerless in the Metro District and also excluded in the planning of the State's ACT Watershed planning. Water utilities in the Metro Water District continue to withdraw, but not return, water of the Etowah Basin, and have plans to siphon out 200 million more gallons per day. It is not possible for the Etowah headwaters to supply Metro Atlanta, North Georgia, and both Alabama and Florida without destroying the health of Lake Allatoona.

The Federal government may not be successful in preventing interbasin transfers between interstate watersheds. Regardless of the litigation outcome, the U.S. Army Corps of Engineers should impose surcharges on water storage that is used to supply landowners contiguous, but outside, the Basin. Non-basin Cobb-Marietta Water and Cartersville users of Lake Allatoona water should pay extra, as well as non-basin Upper Etowah users since the Upper Etowah River supplies 74% of the water flowing into Lake Allatoona and contributes nearly all its nutrient load. The fee should be greater than the infrastructure cost of pumping water back to the basin of origin; and a portion of the surcharge fee could be refunded according to the documented percentage of water returned. The fees would be legitimate compensation for actions necessary to maintain potable water quality in the Lake. In a similar policy, the Allatoona Dam Power Management Agency's contracts to preferred customers should have surcharges on water storage and hydroelectric power generation for the purpose of mitigating environmental deterioration caused by peak flows in the Lower Etowah River. Restoring the Etowah River's habitat to what is was 50 years ago is not realistic, but the future, real cost of this water resource must be shared equitably by its stakeholders, and, proportionately, with stakeholders in the Alabama, Coosa and Tallapoosa River basins.

The fundamental question a developer asks when looking at land is: "Where is the water?" Too often Georgia communities allow the developer to profit and move on somewhere else, leaving behind the communities to pay for the damage to water supply, in addition to the infrastructure debt. Metro Atlanta allows developers to co-opt public funds for water and sewer rather than participate in their cost. The sewer infrastructure and subsequent effluent effects should be part of the cost of the land being developed. I ask the Corps of Engineers that the number one consideration for operating Allatoona Dam, as well as issuing 404 water withdrawal permits in the Upper Etowah, be to allocate storage and flow for a viable Lake Allatoona. If this is done, the Lake will continue to serve drinking water and recreational use. If a healthy lake means higher cost for land development, private docks, marina and boat concessions, and hydroelectric power storage and power generation, then that's as it should be. It is also preferable to a situation where private corporations are supplying U.S. citizens their drinking water. The Corps' Water Supply budget is miniscule even though its Civil Works Fund claims the Corps is transforming to meet the Nation's needs. The budget does not reflect the Corps' goal to prioritize the needs of a national water supply crisis, which is a big one here in the Southeast. The Corps can lead with strategic goals that insure the dam they operate is on a healthy Lake. A dam is no use to anyone on a dried up, polluted Lake.

To: Corp of Engineers

From Dart Kendall

Subject: Public comment

I am currently very involved in the Etowah Basin Advisory Counsel and therefor privy to information suggested in drafts of our North Georgia Water Plan. In that plan there is much more treated sewage discharge allocated for lake Allatoona. I have included copy of the page from our draft. That being the case I feel it is imperative that you increase the winter pool level of lake Allatoona. Let me explain why this is so important. Currently a large amount of treated sewage water is used for golf course irrigation during the summer months. This same treated sewage is released into Allatoona in the winter when we have the least amount of water for dilution. We have what my self and others feel is a crisis with the phosphate levels in Allatoona. I have included two studies from the University of Georgia on the matter for your consideration. You now have much historical data on your past abilities to handle rain events clearly showing. We can greatly increase the winter pool and still maintain flood control down stream.

If the Corp of Engineers adjusts the way it manages our winter pool level we will see many important improvements. First and foremost an improvement in water quality. I would remind you this is an important drinking water source for the Atlanta area. Higher water levels mean more hydro electric power per gallon through the turbines. A longer recreational season. Lake Allatoona is said to bring in about $100,000,000 annually to local economies. This is a boost we need in our areas economy. During time of drought instead of coming up short like lake Lanier has recently. The increased lake volumes at the start of the summer months would give us much more drought protection. Instead of using water to fill lake it could be sent to the citizens use instead. Last but not least, it's what the people want. I herd the over whelming comments at your meeting in Kennesaw. Even thought people were told this was not about Lake levels it was clear that is why many people were there. With the Corp being blamed for what seams like every thing lately, a little good intention might go a long way.

I would also like to go back to the pollution levels in our lake and plead with you to include Phosphate in your studies. I believe the included document shows the need.

We need some change in the way you do business with the people around the lake. I submit the lake is the peoples and you are stewards of it's care. On Allatoona just behind my home, is one of many examples where there is a bank (one of very many) approximately 200 feet long and averaging 20 foot high. I have watched this bank erode at a rate of 1 foot per year for several years now. That totals about 4000 cubic feet and nearly 30,000 gallons of water storage we lose each year at that one place. This is not to mention that the water storage left is loaded with silt. I had talked with an Army Corps of Engineers representative about 5 years ago about letting me build a retaining wall at my expense to help stop the erosion. It was explained to me that I must have a professional engineer design the wall and then get it approved. I could install the wall at my expense, but only after agreeing to remove it should the Army Corps ever decide they want me to. As most anyone would do, I said no thanks. I can understand needing to regulate what is

being done on the shores of our lakes, but I believe there are better methods than this. One possible example might be that the Army Corps of Engineers have pre-engineered and approved designs of erosion controlled walls. If these are installed by design, then any future removal should not be the individuals' responsibility. Any erosion control measures are better than none! Another method is to ask the community for help with these problems, something like a committee of concerned citizens to make suggestions on lake improvement items.

I would like to thank for time in considering these ideas and offer any assistance I might be able to give you in this process.

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such as more intensive water supply system leak detection, low flow plumbing retrofit programs or banning outdoor irrigation.

TMDLS AND NONPOINT SOURCE POLLUTION

A total maximum daily load (TMDL) is the calculation of the maximum amount of a specific pollutant a waterbody can receive and still meet water quality standards. As a result of legal action in Georgia, TMDL development was completed for Georgia under an accelerated schedule. The TMDLs identify potential sources of the impairment and allocate the allowable wasteloads among the sources. The equation used to develop a TMDL adds together the wasteload from point sources plus the nonpoint sources and factors in a margin of safety.

Nonpoint source pollution is the major cause of water quality impairment in the Metro Water District, and addressing these impairments will rely most heavily on the measures recommended in the Metro Water District's Watershed Management Plan. The success of the nonpoint source control strategies may influence future wastewater treatment requirements.

Nutrient Standards for Lakes

Nutrient levels are an ongoing concern, with Lakes Lanier and Allatoona exceeding the chlorophyll a standard on the 2006 Georgia EPD 303(d) list of impaired waters. Chlorophyll a is a green pigment found in plants and an indicator of excessive nutrient concentrations (phosphorus and nitrogen) in lakes. The TMDLs written for lakes in Georgia identify many different potential pollutant sources that impact the water quality including: urban runoff, animal waste, lawn fertilizer, and sewage spills. To protect lake water quality, Georgia EPD has established standards for phosphorus and nitrogen for the major lakes in Georgia. In the near future Georgia EPD may be adding phosphorous limits to wastewater discharge permits that currently do not have phosphorous limits.

Lake Lanier – The currently defined load for phosphorus into Lake Lanier from point sources is 36,900 pounds per year (lbs/yr). As the amount of reclaimed wastewater discharged to the Lake increases, the concentration of phosphorus in the flow must be decreased to maintain this mass limit.

West Point Lake – The standard defined load for the Chattahoochee River entering West Point Lake is 1,400,000 lbs/yr of phosphorus. This load is shared by point and nonpoint sources.

Lake Allatoona – Phosphorus loads for point sources of 16,200 lbs/yr have been allocated to each of four jurisdictions (Bartow and Cobb Counties, the City of Canton, and the Cherokee County Water and Sewerage Authority) within the headwaters of Lake Allatoona.

Lake Jackson – The phosphorus loadings established for the major tributaries into Lake Jackson are very restrictive. Georgia EPD has recently reduced the allowable total phosphorus effluent concentration from discharges in the Ocmulgee Basin above Lake Jackson from 0.3 to 0.15 mg/L to protect the health of the Lake.

TMDLs are currently being developed by Georgia EPD for both Lake Lanier and Lake Allatoona. The Lake Allatoona TMDL will be released in summer 2008 and will address the entire Lake. The Lake Lanier TMDL is targeted for completion in 2009. The TMDL problems in Georgia are generally nonpoint source related, but in some instances TMDLs may impact the treatment levels required for future wastewater discharges upstream of these Lakes if the nonpoint source controls are not effective at meeting water quality standards.

Modeling Phosphorus in the Lake Allatoona Watershed Using SWAT: II. Effect of Landuse Change

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Abbreviations: DMR, discharge monthly report; EC, export coefficient; GAEPD, Georgia Environmental Protection Division; HRU, hydrological response unit; MRLC, Multi-Resolution Land Characteristics; NLCD, National Land Cover Dataset; PHU, potential heat unit; SS, suspended sediment; STP, soil test phosphorus; SWAT, Soil and Water Assessment Tool; TP, total phosphorus; TSS, total suspended solid; USEPA, U.S. Environmental Protection Agency; USGS, U.S. Geological Survey

ABSTRACT

Lake Allatoona is a large reservoir northeast of Metropolitan Atlanta threatened by excessive algal growth. Rapid population growth has occurred in the southern part of the watershed, and poultry combined with beef cattle production is an important activity in the more rural northern part of the watershed. In this paper, we used the calibrated Soil and Water Assessment Tool (SWAT) models developed in our companion paper to estimate the annual P load to Lake Allatoona in 1992 and in 2001 after significant changes occurred in landuse. Landuse data in 1992 and 2001 from the Multi-Resolution Land Characteristics Consortium showed that forest landuse decreased during this period by about 20%, urban landuse increased by about 225%, and pasture landuses increased by about 50%. Our simulation results showed that the P load to Lake Allatoona increased from 176.5 Mg to 207.3 Mg, which were 87.8% and 103.1% of the total P (TP) annual cap (201 Mg) set by the Georgia Environmental Protection Division for discharge into Lake Allatoona. In the early 1990's, the largest sources of the TP load to Lake Allatoona (and their percentages of the total load) were pasture (33.6%), forest (27.5%), and point sources (25.0%). Urban landuses contributed about 6.0% and row crop agriculture contributed about 6.8%. A decade later, the largest two P sources were pasture and urban landuses, contributing 52.7% and 20.9% of the TP loads to Lake Allatoona. Point source P loads decreased significantly to 11.6%. Permit limits on poultry processing plants reduced the point source P loads but increasing urban and pasture landuses increased nonpoint sources of P.

Lake Allatoona is a large reservoir northeast of Metropolitan Atlanta threatened by excessive algal growth. Rapid population growth has occurred in the southern part of the watershed, and broiler production is an important activity in the more rural northern part of the watershed. In 2005, there were more than 35 million broilers being raised in the six counties that make up the Allatoona watershed (Boatright and McKissick, 2006).

From May 1992 to May 1993, the Lake Allatoona Phase I Clean Lakes Diagnostic Feasibility Study (Rose, 1999; referred to hereafter as the Clean Lakes Study) measured bi-weekly samples of phosphorus (P) concentrations and stream flow at the 11 main tributaries where they enter Lake Allatoona. Annual loads were calculated by summing the products of the measured P concentration, measured flow, and the interval between sampling dates. Based on the estimated total P (TP) load for the year (May 1992 to May 1993), GAEPD imposed a P load restriction of not more than 201 Mg P per year entering Lake Allatoona (GAEPD, 2004a).

The Clean Lakes Study also indicated that point sources accounted for 14% of the TP load to the lake, but did not estimate the percentages of the nonpoint source load due to different landuses (forest, pasture, urban, etc.). The Soil and Water Assessment Tool (SWAT) model can be used to estimate the P loads to the lake and to identify the P sources from the drainage basins so that the most effective watershed management measures and nutrient control practices can be adopted to reduce excessive P loads into the lake. In the first paper of this two-part series, we suggested methods to estimate the P-related SWAT parameters in soils and how to calibrate in-stream processes of SWAT based on "uptake length" of P in streams (Radcliffe et al., 2008). In this paper, our objective was two-fold. First, we used the calibrated SWAT models to develop an

estimate of the P load during the same period that the Clean Lakes Study used to develop their estimate and compared the two estimates of annual P load. We also used the models to estimate the sources (forest, urban, and agricultural) of the nonpoint source component of the load. Second, we used the SWAT models to estimate the P loads to the lake under changing landuse conditions.

MATERIALS AND METHODS

Model Setup and Landuse Datasets

The SWAT models and the Lake Allatoona watershed are generally described in our first paper (Radcliffe et al., 2008). Summarizing briefly here, there are eleven major tributaries flowing into Lake Allatoona. We subdivided the entire Lake Allatoona watershed into six sub-watersheds, and we set up one SWAT model for each of the six sub-watersheds (Figure 1 of Radcliffe et al., 2008). These six sub-watersheds are denoted as the Upper Etowah, Shoal Creek, Little/Noonday, Owl/Kellogg, Acworth/Allatoona, and Stamp/Rowland sub-watersheds. The tributaries encompassed by each sub-watershed and other characteristics of the sub-watersheds and associated SWAT models are listed in Table 1.

Two sets of landuse data for this watershed were obtained from the Multi-Resolution Land Characteristics (MRLC) Consortium: NLCD 1992 (MRLC Consortium, 1992) and NLCD 2001 (MRLC Consortium, 2001). As shown in Table 2, the primary landuses in this watershed were forest, pasture, and urban. The region has recently undergone rapid urbanization; the area of urban landuse increased 227% from 1992 to 2001. Pasture and grassland increased about 50%, while forest and row crop agriculture

decreased about 20% and 91%. The databases also indicated that wetland area had increased during this 9-year period (not shown). However, this "gain" of wetland probably resulted from different classification algorithms adopted when developing the two NLCD's. It is believed that the wetland area identified in NLCD 2001 is more accurate than its predecessor (Homer et al., 2004).

Furthermore, the urbanization also intensified during the same time period. Both NLCD 1992 and NLCD 2001 divided urban landuse into four categories (In NLCD 1992, Urban/Recreational Grasses was also included into urban landuse). We chose 20% of imperviousness as a classification threshold to divide urban landuse into two categories: "less developed urban area" (less than 20% of imperviousness) and "highly developed urban area" (20% or more imperviousness). In NLCD 1992, less developed urban area accounted for 71% of the total urban landuse and highly developed urban area accounted for 29%. However, in NLCD 2001 less developed urban area decreased to 64% and highly developed urban areas increased to 36% of the total urban landuse.

Estimating the Area of Pasture Receiving Litter

The pasture area used by the poultry/beef-cattle operations in the Lake Allatoona watershed was estimated as follows. First, 618 poultry houses were identified using 1999 aerial photos in the Lake Allatoona watershed (Figure 1). Then, a 0.75-km radius circular surrounding area was created for each house and these surrounding areas were overlaid on the pasture landuse category of the NLCD 2001 data. The overlapped areas were assumed to be pastures that received broiler litter and had grazing cattle. We assumed that beef cattle grazed only the pasture that received poultry litter. Using a typical

grazing density of one cow per 0.8 ha of litter-amended pasture (Brown and Alford, 2000), the numbers of cows in each sub-watershed were estimated. These numbers are shown in the second column from the right of Table 3. They are comparable with those estimated from the 2001 county survey data reported in Doherty et al. (2002). The basis for choosing a radius of 0.75-km for the circular area surrounding each chicken house was that this radius gave the best agreement between the number of cows we estimated (column 7) and the number in the county survey data (column 8).

The percentages of the estimated poultry/beef-cattle pasture area versus the total pasture area varied among the different sub-watersheds and are listed in Table 3. The percentage of the pasture used by poultry/beef-cattle operations in the Upper Etowah River sub-watershed was the greatest, which is not surprising because most of the poultry houses were identified in this region (Figure 1). There were no poultry houses in the Stamp/Rowland sub-watershed. Since we did not have the number of poultry houses for the 1990's (corresponding to the NLCD 1992 landuse), we assumed that, in the early 1990's, the percentage of pasture used by poultry/beef-cattle operations was the same as that estimated by the foregoing procedure. We also assumed the soil test P (STP) concentrations in the pastures that did not receive poultry litter was the optimal level for crop yield (46 kg ha^{-1}) suggested for north Georgia while the STP concentrations in the pastures used by poultry/beef-cattle operations were obtained from the University of Georgia's Cooperative Extension Services Lab's website as described in Radcliffe et al (2008).

Fertilization and Animal Grazing

We estimated the fertilization rate applied to urban lawns as follows. Based on the soil sample data provided by the Cooperative Extension Services Lab at the University of Georgia, about 45% to 80% of the home lawns in this area are tall fescue (*Festuca arundinacea* Schreb.). The average home lawn fertilization rate was calculated based on the recommended fertilization rate for the STP concentration estimated using county averages from the Georgia soil test P database (Agricultural and Environmental Services Laboratories, 2006). The estimated average home lawn fertilization rate was 6.9 kg ha^{-1} P for the period of 1992-1996 and 5.3 kg ha^{-1} P for the period of 2001-2004. Therefore, in our SWAT models, 156 kg ha^{-1} of 10-10-10 fertilizer was applied to home lawns annually, with half applied in early spring and half in mid-summer.

All pasture used by the poultry/beef-cattle operations were assumed to receive 6.73 Mg ha^{-1} broiler litter each year. Based on analysis of litter samples submitted to the University of Georgia Soil Test Laboratory, we assumed typical P concentrations for the broiler litter to be 1.5-1.7% TP, which amounted to a fertilization rate of 101 to 114 kg ha^{-1} P per year. We also assumed 90% of the broiler litter P to be inorganic based on the analysis of poultry litter samples by Sharpley and Moyer (2000).

SWAT uses heat units to estimate the stage of crop growth within a year and then applies manure based on the growth stage. The number of heat units required to reach maturity is called the Potential Heat Units (PHU). Half of the manure was applied at 0.2 and half at 0.7 of the PHU of pasture, which correspond to early spring and mid-summer.

Time of pasture grazing was estimated as follows. Starting at 0.3 of the PHU, cattle grazing was simulated on pasture for 150 consecutive days except for days when

pasture biomass was less than 1000 kg ha^{-1}. Following Ball et al. (2002), we assumed that one cow consumed 45 kg ha^{-1} grass per day, and added 27 kg ha^{-1} fresh beef manure to the pasture each day, which is equivalent to about 4.0 kg ha^{-1} dry weight.

Incorporating Point Sources

We also made extensive efforts to identify the point sources in this watershed. Overall, about thirty point source dischargers were identified within the Lake Allatoona watershed. However, only 21 of them had monthly discharge monitoring reports (DMRs) that were available through the Envirofacts Data Warehouse (USEPA, 2005) or through the GAEPD Cartersville Regional Office. Most of these point sources were located in the Upper Etowah and Little/Noonday sub-watersheds. The discharge and concentrations of total suspended solids (TSS) and TP from each point source were incorporated into SWAT as constant values, which were the means over the available monthly measurements in 1998-2004.

Table 4 summarizes the discharges and loads of TSS and TP from point sources identified in the Lake Allatoona watershed. The total discharge from point sources in the Little/Noonday sub-watershed was the greatest since there were four large municipal wastewater treatment plants located in this sub-watershed. TSS and TP loads of point sources were greatest in the Upper Etowah River sub-watershed. The majority of the TSS load in the Upper Etowah River sub-watershed was from the Canton Water Pollution Control Plant and two marble processing plants; while most of the TP load was from two poultry processing and rendering plants located in this sub-watershed. The major discharger in the Acworth/Allatoona sub-watershed, the Cobb County Northwest Water

Reclamation Facility, does not discharge into this tributary. There is a 12.3 km length of pipe through which the treated water is pumped to a sub-aqueous diffuser offshore in Lake Allatoona. A small portion of the discharge is used for irrigation at Cobblestone Golf Course and Kennworth Park in Acworth, GA (Steve Shelton, personal communication). Furthermore, there may be other minor dischargers in this region, but their DMRs were not available.

Most of the data we were able to collect from permitted point sources were for recent years (1998-2004), but the SWAT calibration period was from 1992 to 1996. According to the Clean Lakes Study, the projected *annual* population growth rate from 1994 to 2010 in the *upstream* watershed of Lake Allatoona (including the Upper Etowah and Shoal Creek sub-watersheds) was 1.63%; while the projected *annual* growth rate for the same period in the *primary* watershed of Lake Allatoona (including the remaining four sub-watersheds) was 1.30%. Thus, the *overall* population growth rates from 1994 to 2004 for the upstream and primary watersheds of Lake Allatoona were approximately 17.5% and 13.8%. Assuming the wastewater production per capita remained constant during the time period from 1994 to 2004, we back-calculated the wastewater flow rates for the municipal wastewater treatment plants as well as TSS and TP loads in the early 1990's.

For the industrial facilities, we assumed that their wastewater flow rates did not change. However, TP concentrations in the effluents from poultry processing and rendering plants changed significantly before and after the plants were required to start monitoring the TP concentrations in their effluents in 2001 (GAEPD, 2004b). The range of the TP concentration in the effluent from a typical poultry processing plant (including

slaughter, further processing and rendering processes) without treatment of effluent is 15-48 mg L^{-1} according to a recent USEPA study (USEPA, 2004). We assumed a TP concentration of 18 mg L^{-1} in the untreated effluents from poultry processing plants when data were not available. For comparison, the average monitored TP concentration in the effluent from a poultry processing plant located in the Upper Etowah sub-watershed was 4.14 mg L^{-1} over the recording time period (2003-2004) when the effluent received treatment. With regard to the P forms partitioning in the effluent, we assumed that the TP in a typical point source effluent consisted of 20% organic P and 80% inorganic P (Viessman and Hammer, 1998).

Cattle-in-Stream as Point Sources

The sediment and P loading resulting from cattle in streams were incorporated into our SWAT models as "point sources" in sub-basins. Matthew (2001) estimated that the annual load of sediment generated by one cow with access to a stream within a Southern Piedmont pasture was about 455 kg yr^{-1}. We assumed that all the cattle in our simulations had access to streams, based on our knowledge of local farming practices where streams are the primary source of water for cattle. With our assumed grazing pressure of one cow per 0.8 ha of pasture, the sediment yield from cattle was1.54 kg ha^{-1} day^{-1}. Therefore, the total sediment load from cattle in streams for each sub-basin was the product of the pasture area used for poultry beef-cattle operations and the sediment yield (i.e., 1.54 kg ha^{-1} day^{-1}).

In the previous section, we estimated that cattle produced dry manure at a rate of about 4.0 kg ha^{-1} day^{-1} during the grazing season. Byers et al. (2005) using GPS units

attached to beef cows estimated that, on average, cattle spent about 7.0% of the time in streams. We therefore assumed they deposited 0.28 kg ha^{-1} day^{-1} dry manure into streams during the grazing season and simulated this in SWAT as a point source within each sub-basin. Several sources in the literature can be used to estimate P content in beef cattle manure. For example, SWAT assumes that beef cattle manure has 0.4% inorganic P and 0.7% organic P (Neitsch et al., 2002). Barnett (1994a; 1994b) report that feeder and finisher cattle manure (dry matter) has 0.27 % inorganic P and 0.4% organic P, and Kleinman et al. (2005) report that the water-extractable P concentration in dry beef cattle (*Bos taurus*) is 0.23%. Therefore, we assumed the percentages of inorganic and organic P in beef cattle manure to be 0.34% and 0.55%. Like sediment, the inorganic and organic P load from cattle-in-stream for each sub-basin was the product of the poultry pasture area and the yield of the inorganic P (0.00038 kg $ha^{-1}day^{-1}$) or organic P (0.00063 kg $ha^{-1}day^{-1}$).

Model Calibration and P Load Estimation

The calibration procedure (a combination of manual and auto-calibration) and model calibration data sets were described in detail in Radcliffe et al. (2008). They are briefly stated here. As suggested by Neitsch et al. (2002), stream flow was calibrated first and the calibration of suspended sediment (SS) and TP concentrations in streams were carried out afterwards based on visual comparisons and Nash-Sutcliffe coefficients (Nash and Sutcliffe, 1970). The SS and TP annual loads from the 11 tributaries to Lake Allatoona based on one year of data (from May 13, 1992 to May 12, 1993) from the Clean Lakes Study were also used as part of the calibration procedure. After the SWAT

models had been calibrated, they were used to compare the predictions of the annual P loads to Lake Allatoona under changing landuse conditions between two time periods (1992-1996 and 2001-2004).

RESULTS AND DISCUSSION

P Load Estimation

Table 5 lists the annual discharge and loads of SS and TP from the 11 tributaries predicted by the SWAT models (from May 1992 to May 1993), along with those estimated from the infrequent (bi-weekly to monthly) measurements collected in the same time period during the Clean Lakes Study. The estimates of stream discharge and SS and TP loads based on the Clean Lakes Study cannot be considered entirely accurate due to problems of interpolating between sparse data (Walling and Webb, 1985; Moatar and Meybeck, 2005; Johnes, 2007). The mid-interval method (USEPA, 1990), adopted in the Clean Lakes Study (Rose, 1999), is essentially a flow-weighted estimation method for estimating loads of P. Although flow-weighted estimates are considered more accurate than time-weighted estimates, the major weakness of the flow-weighted method is lack of precision when the sampling interval is long. For example, daily stream discharge of the Etowah River was recorded at USGS gage station # 02392000 where the Clean Lakes Study samples were taken. The flow volume of Etowah River estimated based on these daily observations was 1511.3 $\times 10^6$ m^3 yr^{-1}. However, the corresponding estimate based on the bi-weekly instantaneous flow recordings of the Clean Lakes Study was 1683.2 $\times 10^6$ m^3 yr^{-1}, overestimating by 11.4%, whereas the estimate of the SWAT model was 1486.2 $\times 10^6$ m^3 yr^{-1}, underestimating by only 1.7%.

The Relative Difference listed in columns 4, 7 and 10 of Table 5 were calculated as follows:

$$\frac{M-O}{O}\times 100\% \qquad \mathbf{1}$$

where M and O were annual flow volume, SS or TP load from each tributary estimated based on model simulation and bi-weekly observations from the Clean Lakes Study. Negative values indicate the model estimate was lower and positive values indicate the Clean Lakes Study estimate was lower. For annual flow volume, the SWAT models underestimated for 6 tributaries and overestimated for 5 tributaries; for suspended sediment load, the models essentially underestimated all but one tributary (Owl Creek); for P load, the models underestimated 8 tributaries and overestimated 3 tributaries. Overall, the models predicted 11.9% less flow volume, 53.8% less sediment load, and 24.8% less TP load than the estimates by the Clean Lakes Study (Table 5). The estimation in Table 5 shows that the Etowah River is the largest tributary, contributing about 74% of flow volume, about 80-87% of sediment, and about 78 % of TP loads to Lake Allatoona. The six major tributaries (that is, Etowah River, Shoal Creek, Little River, Noonday Creek, Lake Acworth Discharge and Stamp Creek) accounted for more than 99.7% of the total flow volume, sediment and TP loads to the lake.

Some of the reasons for the differences between the two methods of estimating annual loads are illustrated in Figure 2 where the SWAT simulations of TP concentration are shown for the period from May 13, 1992 to May 12, 1993 in the Etowah River. Also shown are the bi-weekly measurements of TP and the effect of a mid-interval method of

estimating the flow-weighted continuous TP concentrations. The area under the curve is the load in each case. In the case of Etowah River, the SWAT model probably underestimated the true load when it simulated a lower TP concentration during storms than that observed, for example, during the periods June 1 to June 19, 1992, November 8 to December 6, 1992, and February 9 to March 8, 1993. It can also be seen that the flow-weighted method combined with bi-weekly sampling probably overestimated the true load when a sample was taken during a storm, for example, during the periods January 4 to February 8, 1993, and March 9 to March 31, 1993. The mid-interval method assigns the elevated concentration to the entire two-week interval or even longer surrounding a storm, while the SWAT simulations predict that the elevated concentrations only last a few days. Our discussion here presumes that P concentrations are higher during storms than during baseflow. This presumption is supported by data in USGS study of poultry, suburban, and urban watersheds in the adjacent Chattahoochee River Basin (Frick et al., 1998). Also, Landers et al. (2007) showed that the total P concentrations in streams increased significantly during stormflow in a study of six small suburban watersheds in nearby Gwinnett County, GA.

Table 6 lists the TP export coefficient (EC) or unit-area load in kg ha^{-1} yr^{-1} (obtained from the SWAT model HRU output files) for each type of landuse in the six sub-watersheds and the average value of the TP EC for each landuse across the entire Lake Allatoona watershed over the entire calibration period (1992-1996). Row crop, pasture receiving poultry litter, and highly developed urban landuses had the greatest TP ECs, followed by less developed urban, pasture that did not receive poultry litter, and forest landuses. The ECs of TP from urban landuses only represent urban nonpoint

sources of P. The export coefficients of TP simulated by these six SWAT models are comparable to the results from our field studies (Romeis et al., 2008) and to values reported in the literature (e.g., Beaulac and Reckhow, 1982; Loehr et al., 1989; McFarland and Hauck, 2001; Landers et al., 2007; Lin, 2004; Pierson et al., 2001a; Vervoort et al., 1998).

The TP ECs for the pasture landuse varied substantially among different sub-watersheds. There are several reasons for this. First, STP concentrations varied among these different counties. Table 2 in Radcliffe et al. (2008) showed that the upstream watershed counties (Dawson, Lumpkin, Pickens and Forsyth) had very high STP concentrations, while the downstream watershed counties (Cherokee, Barton, Fulton and Cobb) had lesser STP concentrations. In general, the sub-watersheds with greater STP concentrations had greater P ECs. Second, associated with the high STP, most of the poultry houses are located in the Upper Etowah and Shoal Creek sub-watersheds. Therefore, the percentage of pastures in these subwatersheds that receive poultry litter are greater (Table 3). Third, the upstream watersheds have steeper slopes and higher annual precipitation than the downstream watersheds which may result in more erosion and sediment-associated P in the Upper Etowah, Shoal Creek, and part of the Little/Noonday sub-watersheds than other sub-watersheds. In part, this also explained the variation of the export coefficients of TP for urban and forest landuses among sub-watersheds.

Table 7 shows the sources of the upland TP loads by sub-watershed. The upland load for each landuse was calculated by multiplying the landuse area in each sub-watershed by its corresponding P export coefficient listed in Table 6. The eighth column (Upland Load) lists the TP load from the upland of each sub-watershed, which was

calculated based on the HRU output files of the SWAT models. The eleventh column (Load To Lake) lists the TP load delivered to the lake through streams from each sub-watershed, which was calculated based on the reach output files of the SWAT models. Dividing the "Load To Lake" by the sum of the "Upland Load", "Point Source" (ninth column), and "Cows In Stream" (tenth column) produces the delivery ratio of the TP in each sub-watershed, which is listed in the last column. The numbers in the parentheses under "Point Source" (ninth column) were not included in calculating the delivery ratios of the TP because these point sources were discharged into the lake downstream of the monitoring points (i.e., the outlets of the sub-watersheds). The average delivery ratio was 94.2% across the entire Lake Allatoona watershed, indicating that the streams were a weak sink for P. In one case (Owl/Kellogg sub-watershed), the delivery ratio was more than 100%, which implied that the stream was a source of P. A stream can certainly be a source of P if it has a high enough equilibrium P concentration in the bed sediment (Haggard et al., 2005). Since this value was only slightly greater than 100%, it probably means that we cannot say whether the stream was a source or sink for P.

The percentages of the load delivered to the lake are given in the last row of Table 7. In the early 1990's pasture landuse (including pasture receiving and not receiving broiler litter) contributed 33.6%, forest contributed 27.5%, and point sources (including poultry processing plants) contributed 25.0% of the TP load to Lake Allatoona. Row crop agriculture contributed 6.8% and urban nonpoint sources (including less and highly developed urban areas) contributed 6.0%. The loading from cows in streams was negligible (1.2%). Overall, nonpoint source loading of P was dominant, accounting for about 73.8% of the total P load to Lake Allatoona.

Effect of Landuse Change

The MRLC landuse data (that is, NLCD 1992 and NLCD 2001 datasets) showed that landuses in the Lake Allatoona watershed changed considerably from 1992 to 2001 (Table 2). In all six sub-watersheds, forest landuse decreased by 9.7% - 45.6% and row crop agriculture decreased by 7.9% - 100%. However, pasture landuse increased by 9.3% - 343% and urban landuse increased by 165% - 302%.

Since the TP export coefficients (Table 6) from pasture and urban landuses were greater than that from forest land, we would expect the P loads to Lake Allatoona to increase considerably due to the increase in urban and pasture landuses in this time period. In addition to the changes in landuse, STP concentrations in the Allatoona watershed also changed as shown in Figure 3. The STP concentration in urban lawns was essentially the same. The average STP concentrations in both pasture and row crop landuses increased one third from the time period of 1992-1996 to the time period of 2001-2004. Since there were no STP data for forest in 1992-1996, we could not determine changes (it's unlikely there was any change since forest fertilization is uncommon in this area). Given these changes, the TP loads to Lake Allatoona generated in and transported through the watershed were expected to increase. To estimate the amount of change, the calibrated SWAT models were employed to make predictions of the annual P loads to Lake Allatoona during the time period of 2001-2004.

Table 8 lists the SWAT predictions of the annual average P loads to Lake Allatoona from different landuses during the time period 2001-2004. Overall, the annual P loads to Lake Allatoona increased from 176.5 Mg during the period 1992-1996 (Table

7) to 207.3 Mg. This represented an increase of 17.5%. The average loads for the two time periods were 87.8% and 103.1% of the TP cap (201 Mg yr^{-1}) set by GAEPD in 2002 for loading to Lake Allatoona.

The relative contributions from different landuses also changed. Pasture landuse remained the top contributor and the percentage of its contribution increased from 33.6% to 52.7%. The increases mainly came from the Upper Etowah where most of the poultry houses are located (Figure 1). The TP loading from pasture in the Upper Etowah sub-watershed more than doubled over the ten year period due to increases in pasture area (Table 2) and soil P concentration (Figure 3). The percentage of nonpoint source P loads from urban landuse also increased over the period, from 6.0% to 20.9%. The increases came mainly from the Little/Noonday sub-watershed as a result of the expansion of the Atlanta suburban area. Conversely, the contribution of P from point sources decreased significantly, from 25.0% to 11.6%, because of tougher restrictions on P discharge imposed on point sources (especially poultry processing plants). The loadings and the percentages of nonpoint source P from forest and row crop agriculture landuses decreased due to substantial losses in landuse area. The percentage of the P load from forest decreased from 27.5% to 12.6%. The percentage of the P load from row crop agriculture decreased from 6.8% to 0.5%.

SUMMARY AND CLOSING REMARKS

The MRLC landuse data (NLCD 1992 and NLCD 2001 datasets) showed that landuses in the Lake Allatoona watershed changed considerably from 1992 to 2001. Overall, forest landuse decreased about 20% and row crop agriculture landuse decreased

about 90% in the nine-year period. Urban landuse increased about 225% and pasture landuse increased about 50% in the same period. As a consequence, the annual P loads to Lake Allatoona increased from 176.5 Mg to 207.3 Mg (17.5% increase) according to our SWAT models of the various tributaries to Lake Allatoona. These loads were 87.8% and 103.1% of the TP cap (201 Mg yr^{-1}) set by GAEPD in 2002 for loading to Lake Allatoona.

Our simulation results also showed that, in the early 1990's, pasture, forest, and point sources were the largest sources of the TP load to Lake Allatoona. They contributed about 33.6% (pasture), 27.5% (forest), and 25.0% (point sources). Urban landuse contributed about 6.0% and row crop agriculture contributed about 6.8%. A decade later, pasture remained the largest P source, contributing more than half of the TP loading to Lake Allatoona (52.7%). The contribution from urban nonpoint sources also increased significantly to become the second largest P source, contributing 20.9% of the TP loading to the lake. But, the load percentages from point sources, forest landuse and row crop agriculture landuse decreased to 11.6% (point sources), 12.6% (forest), and 0.5% (row crop).

This analysis has shown that tougher regulation on point sources has significantly reduced the point source P loads; but in order to maintain or further decrease the level of the P loads to Lake Allatoona, it is essential to take measures to control P loads from nonpoint sources, especially from urban nonpoint sources and poultry and beef cattle operations. Only about 6% - 10% of the TP generated in the upland was assimilated by the streams.

However, models can only approximate reality. The reliability of the predictions from models depends upon the level of uncertainty associated with model structure,

model parameterization, boundary conditions, and measurements used for model calibration (Beck, 1987). In regard to model structure, as discussed in Radcliffe et al. (2008), there are a number of limitations to the way soil P is modeled in SWAT 2000. SWAT assumes that once manure is applied to a field, manure P *instantly* becomes part of the soil P pools. This assumption is erroneous for the poultry/beef-cattle pastures in our watershed where broiler litter is not incorporated. Therefore, SWAT can be expected to underestimate P losses in runoff from storms shortly after manure is applied. Recently, Vadas et al. (2007) developed a new algorithm aimed at rectifying this common weakness in existing models (see also discussions in Pierson et al., 2001b; Vadas et al., 2004; 2005). But, this modification has yet to be incorporated into SWAT.

In regard to model parameterization and boundary conditions, the sources of P and the removal efficiencies of P management methods are hard to estimate. For example, the areas of pastures receiving broiler litter and the rate of the broiler litter application are usually unknown. Best Management Practices such as buffers, filter strips and cattle exclusion were not included in our models due to a lack of information on these practices. Moreover, in contrast to the general perception that point sources are easier to quantify than nonpoint sources, we found it difficult to retrieve information on P concentrations in the effluents of the poultry processing or rendering plants. It was common that these plants were not required to monitor or remove P from their effluents by the National Pollutant Discharge Elimination System permits prior to 2004 in Georgia. According to the GAEPD Cartersville Regional Office's archives (Buckles, 2005, personal communication), only one poultry processing plant in the Upper Etowah sub-watershed has been required to monitor P concentrations in the plant's discharge and report them in

the DMRs since 2002. To our knowledge, two previous studies (Rose, 1999; Harned et al., 2004) substantially underestimated the percentage of P loads from point sources in the Upper Etowah sub-basin of Lake Allatoona because of incomplete point source data (Lin et al., 2007).

In regard to the measurements used for calibration, the observations of the flow rate, SS and TP concentrations in streams (except for the Etowah River daily streamflow measurements) were *instantaneous* measurements at bi-weekly sampling intervals at best, while the SWAT model outputs of the streamflow and concentrations of SS and TP in streams were *daily* average values. The sporadic flow and water quality measurements and the difference in data types between the measurements and model simulations make model calibration at a daily time scale an elusive process. It was particularly difficult to judge how well the models were calibrated in terms of SS and TP concentrations in streams during storm events where the measurements were even more scarce.

The predictions of the P load to Lake Allatoona, the export coefficients of TP for different landuses, and the percentage of P load from different landuses made by this research, were estimates from SWAT simulations that do not take model uncertainties into account. In future research, we propose to use set-theoretic methods such as the Uniform Covering by Probabilistic Rejection introduced by Klepper and Hendrix (1994a; 1994b) to conduct uncertainty analyses for the P load predictions of these SWAT models under different management scenarios.

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Figure Captions

Figure 1. Estimation of pastures used by poultry/beef-cattle operations.

Figure 2. Comparison of the estimation of TP load from Etowah River based on SWAT simulation and mid-interval method from the Clean Lakes Study.

Figure 3. Soil test P level changes in the Lake Allatoona watershed.

Table 1. Summary of six Lake Allatoona sub-watersheds.

Sub-watershed	Upper Etowah	Shoal Creek	Little/Noonday	Owl/Kellogg	Acworth/Allatoona	Stamp/Rowland
Area (km^2)[†]	1618.9	176.7	572.9	24.9	164.8	122.1
Tributaries	Etowah River	Shoal Creek	Little River, Noonday Creek	Owl Creek, Kellogg Creek	Lake Acworth Discharge, Allatoona Creek, Tanyard Creek	Stamp Creek, Rowland Spring Branch
Major Soil Textures	Sandy loam, Loam, Clay loam	Sandy loam	Sandy loam, Clay loam	Sandy loam, Clay loam	Sandy loam, Loam, Clay loam	Sandy loam, Loam
Wetland and Impoundments	Wetland and ponds	Lake Arrowhead	Wetland and ponds	Ponds	Lake Acworth, wetland and ponds	Wetland and ponds
Counties	Lumpkin, Dawson, Pickens, Cherokee, Forsyth	Cherokee, Pickens	Cherokee, Cobb, Fulton	Cherokee	Cobb	Bartow
No. of Sub-basins/HRU's[‡]	55/299	11/58	31/246	3/30	10/80	9/49

[†] The total modeled area was 2680 km^2, whereas the total drainage area of Lake Allatoona is 2870 km^2. An area of ~194 km^2 (6.7%), which is distributed along the shoreline of Lake Allatoona, was not modeled by these tributary SWAT models.

[‡] Hydrological Response Units.

Table 2. Landuse changes from 1992 to 2001 in the Lake Allatoona watershed.

Sub-Watershed \ Landuse	Row Crop			Urban			Pasture			Forest		
	1992 (ha)	2001 (ha)	Change[†] (%)	1992 (ha)	2001 (ha)	Change (%)	1992 (ha)	2001 (ha)	Change (%)	1992 (ha)	2001 (ha)	Change (%)
Upper Etowah	1408	206	-85.4	3701	14874	301.9	12704	20458	61.0	143516	124737	-13.1
Shoal Creek	84	32	-61.9	470	1247	165.3	719	1490	107.2	16216	14638	-9.7
Little/Noonday	1094	5	-99.5	8095	23692	192.7	6057	7004	15.6	41058	24892	-39.4
Owl/Kellogg	40	0	-100.0	333	1010	203.3	140	153	9.3	1904	1219	-36.0
Acworth/Allatoona	309	4	-98.7	2200	7733	251.5	819	1190	45.3	12967	7055	-45.6
Stamp/Rowland	38	16	-57.9	397	1075	170.8	154	682	342.9	11323	10053	-11.2
Total	2974	263	-91.2	15197	49632	226.6	20592	30978	50.4	226984	182594	-19.6

[†] Change (%) = [(Area of 2001 landuse – Area of 1992 landuse) / Area of 1992 landuse] × 100.

Table 3. Poultry/beef-cattle pastures in six sub-watersheds.

Sub-watershed	Poultry/Beef-Cattle Pasture Percentage (%)	1992 Pasture (km^2)		2001 Pasture (km^2)		2001 Grazing Cows (head)	
		Poultry/ Beef-Cattle	Total	Poultry/ Beef-Cattle	Total	Estimated from Pasture	Estimated from Report[†]
Upper Etowah	40.6	51.52	126.85	83.70	206.09	10341	9248
Shoal Creek	24.5	1.63	6.66	3.56	14.53	440	653
Little/Noonday	14.1	8.64	61.32	9.96	70.74	1231	1025
Owl/Kellogg	11.2	0.16	1.41	0.17	1.52	21	67
Acworth/Allatoona	3.2	0.26	8.10	0.39	12.08	48	53
Stamp/Rowland	0.0	0.0	0.82	0.0	6.91	0	57
Total or Average	31.4	62.21	205.16	97.78	311.86	12081	11103

[†]Doherty et al. (2002).

Table 4. Summary of average discharges and pollutant loads from point sources.

Sub-watershed	Discharge ($\times 10^6$ m^3 yr^{-1})	TSS (Mg yr^{-1})	TP (kg yr^{-1})
	1992 - 1996		
Upper Etowah	6.48	285	38102
Shoal Creek	—	—	—
Little/Noonday	16.3	42.7	5103
Owl/Kellogg	—	—	—
Acworth/Allatoona	5.31	10.6	2931
Stamp/Rowland	—	—	—
Total	28.1	338	46136
	2001 - 2004		
Upper Etowah	6.63	334	16097
Shoal Creek	—	—	—
Little/Noonday	18.9	49.6	5920
Owl/Kellogg	—	—	—
Acworth/Allatoona	6.16	12.3	3398
Stamp/Rowland	—	—	—
Total	31.7	396	25415

Table 5. Discharge, sediment and total P loads to Lake Allatoona from 11 tributaries estimated in the Clean Lakes Study and by our SWAT model simulations from May 1992 to May 1993.

Tributaries	Discharge			Sediment			Total P		
	Clean Lakes Study ($\times 10^6$ m^3 yr^{-1})	SWAT ($\times 10^6$ m^3 yr^{-1})	Relative Difference (%)	Clean Lakes Study (ton yr^{-1})	SWAT (ton yr^{-1})	Relative Difference (%)	Clean Lakes Study (kg yr^{-1})	SWAT (kg yr^{-1})	Relative Difference (%)
Etowah River	1683.2	1486.2	-11.7	209702	89573	-57.3	158752	116751	-26.5
Shoal Creek	107.6	126.2	17.3	4612	3434	-25.5	4153	3499	-15.7
Noonday Creek	93.6	95.3	1.8	6988	6199	-11.3	21685	14539	9.9
Little River	317.5	224.1	-29.4	16944	10193	-39.8	12669	14467	-33.3
Owl Creek	0.86	0.74	-14.0	14	22	57.1	217	156	-28.1
Kellogg Creek	2.03	1.12	-44.8	66	33	-50.0	160	221	38.1
Lake Acworth	7.61	10.0	31.4	338	306	-9.5	247	300	21.5
Allatoona Creek	23.1	28.6	23.8	1211	1148	-5.2	1474	935	-36.6
Tanyard Creek	9.24	5.12	-44.6	414	147	-64.5	930	207	-77.7
Stamp Creek	24.8	20.9	-15.7	830	381	-54.1	834	529	-36.6
Rowland Spring	1.34	1.45	8.2	35	19	-45.7	43	34	-20.9
Total	2270.7	1999.7	-11.9	241154	111455	-53.8	201164	151638	-24.8

Table 6. Export coefficients of TP for different landuses in the six sub-watersheds (unit: kg ha^{-1} yr^{-1}).

Sub-watershed	Row Crop	Less Developed Urban	Highly Developed Urban	Pasture Receiving Litter	Pasture Not Receiving Litter	Forest
Upper Etowah	11.50	0.85	2.54	9.51	0.68	0.28
Shoal Creek	7.95	1.08	2.38	8.48	0.29	0.24
Little/Noonday	7.76	0.41	1.25	7.69	0.19	0.12
Owl/Kellogg	3.55	0.15	0.46	2.85	0.10	0.02
Acworth/Allatoona	4.02	0.19	0.49	1.92	0.11	0.02
Stamp/Rowland	—	0.31	0.83	—	0.43	0.18
Mean	6.95	0.50	1.33	6.09	0.30	0.14
STD	3.26	0.38	0.93	3.46	0.22	0.11

Table 7. Annual average P loads delivered to Lake Allatoona from different landuses during 1992-1996 (unit: kg yr^{-1}, unless specified).

Sub-watershed	Row Crop	Less Developed Urban	Highly Developed Urban	Pasture Receiving Litter	Pasture Not Receiving Litter	Forest	Upland Load	Point Source	Cows In Stream	Load To Lake	Delivery Ratio (%)
Upper Etowah	5854	1971	2411	47711	5458	40149	103553	30765 (7337†)	1899	133196	97.8
Shoal Creek	143	381	345	1399	146	3945	6359		60	6139	95.6
Little/Noonday	5832	2315	2976	6935	1044	5049	24151	5103	319	24704	83.5
Owl/Kellogg	100	32	40	31	9	33	245		6	296	118.1
Acworth/Allatoona	731	305	318	50	86	263	1752	(2931†)	10	1482	84.1
Stamp/Rowland	0	93	102	0	35	2038	2,267		0	407	17.9
Subtotal (Average)	12659	5097	6192	56125	6777	51478	138328	35868	2294	166224	(94.2)
Delivered to lake	11923	4800	5832	52861	6383	48483	130282	44050	2161	176492	
Percentage (%)	6.8	2.7	3.3	30.0	3.6	27.5	73.8	25.0	1.2	100.0	

† Major point sources located in the Upper Etowah and Acworth/Allatoona sub-watersheds discharged into Lake Allatoona below the outlets of the sub-watershed; so they were not included in the calculation of delivery ratio.

Table 8. Annual average P loads delivered to Lake Allatoona from different landuses during 2001-2004 (unit: kg yr^{-1}, unless specified).

Sub-watershed	Row Crop	Less Developed Urban	Highly Developed Urban	Pasture Receiving Litter	Pasture Not Receiving Litter	Forest	Upland Load	Point Source	Cows In Stream	Load To Lake	Delivery Ratio (%)
Upper Etowah	689	5188	9599	106862	5777	23551	151667	7227 (8870†)	3088	151341	93.4
Shoal Creek	0	610	706	3670	208	3614	8807		131	8907	99.6
Little/Noonday	472	8962	20073	3470	681	1225	34883	5920	368	31534	76.6
Owl/Kellogg	0	107	183	45	9	16	360		6	472	128.8
Acworth/Allatoona	0	833	1397	128	116	78	2553	(3398†)	14	2307	89.9
Stamp/Rowland	0	157	243	0	85	458	943		0	463	49.1
Subtotal (Average)	1161	15856	32203	114175	6877	28942	199214	13147	3607	195024	(90.3)
Delivered to lake	1049	14318	29080	103103	6210	26135	179895	24140	3257	207292	
Percentage (%)	0.5%	6.9%	14.0%	49.7%	3.0%	12.6%	86.8%	11.6%	1.6%	100.0	

† Major point sources located in the Upper Etowah and Acworth/Allatoona sub-watersheds discharged into Lake Allatoona below the outlets of the sub-watershed; so they were not included in the calculation of delivery ratio.

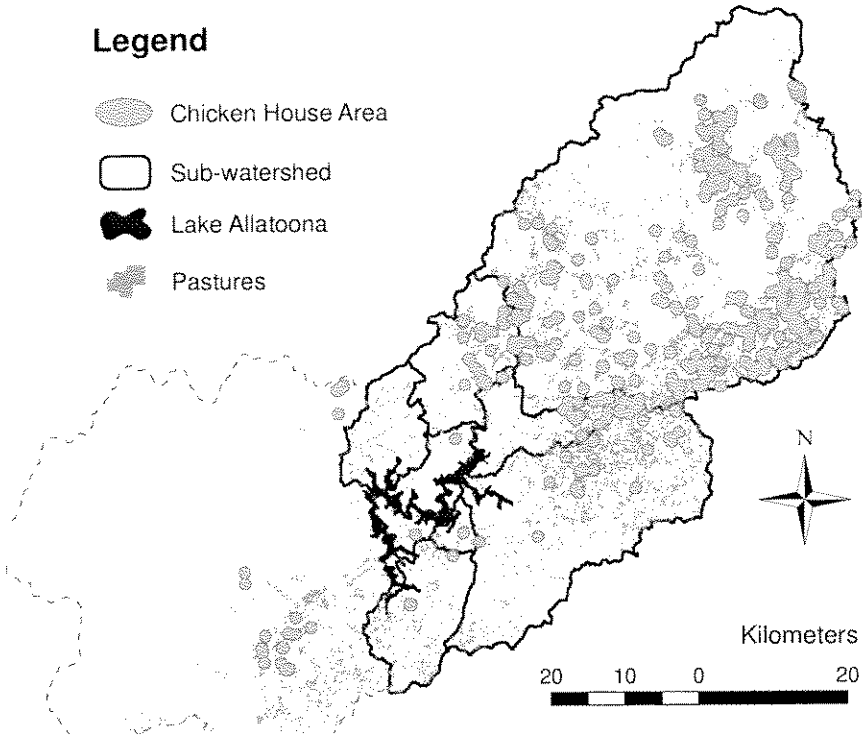

Figure 1. Estimation of pastures used by poultry/beef-cattle operations.

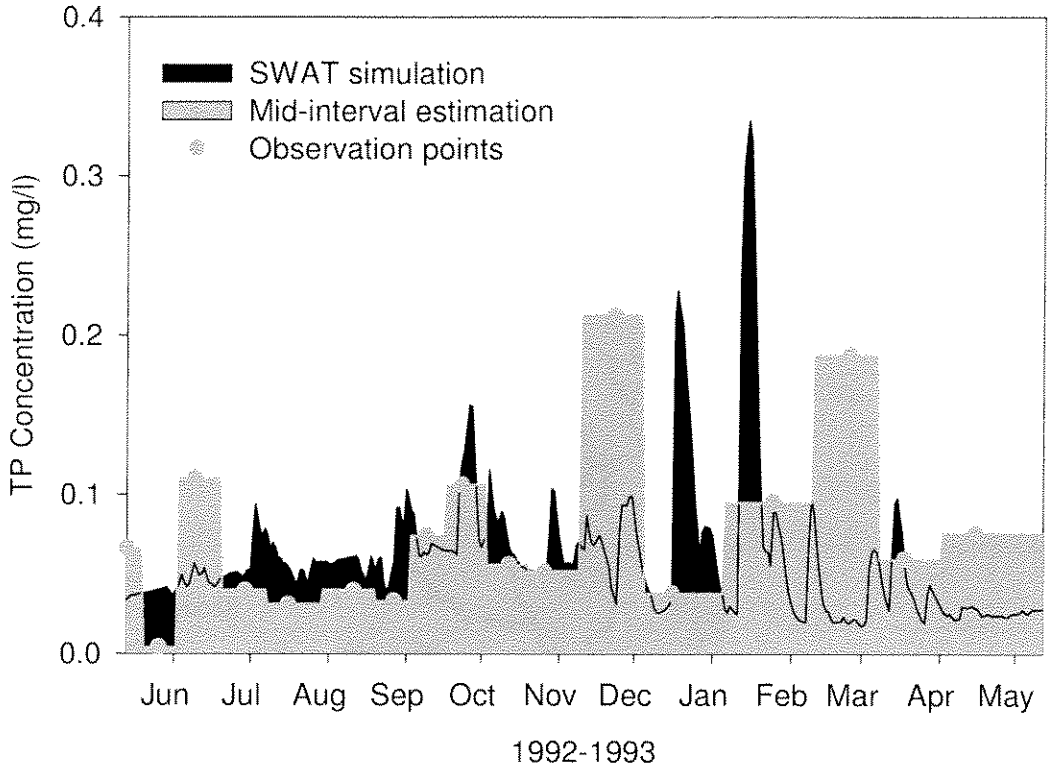

Figure 2. Comparison of the estimation of TP load from Etowah River based on SWAT simulation and mid-interval method from the Clean Lakes Study.

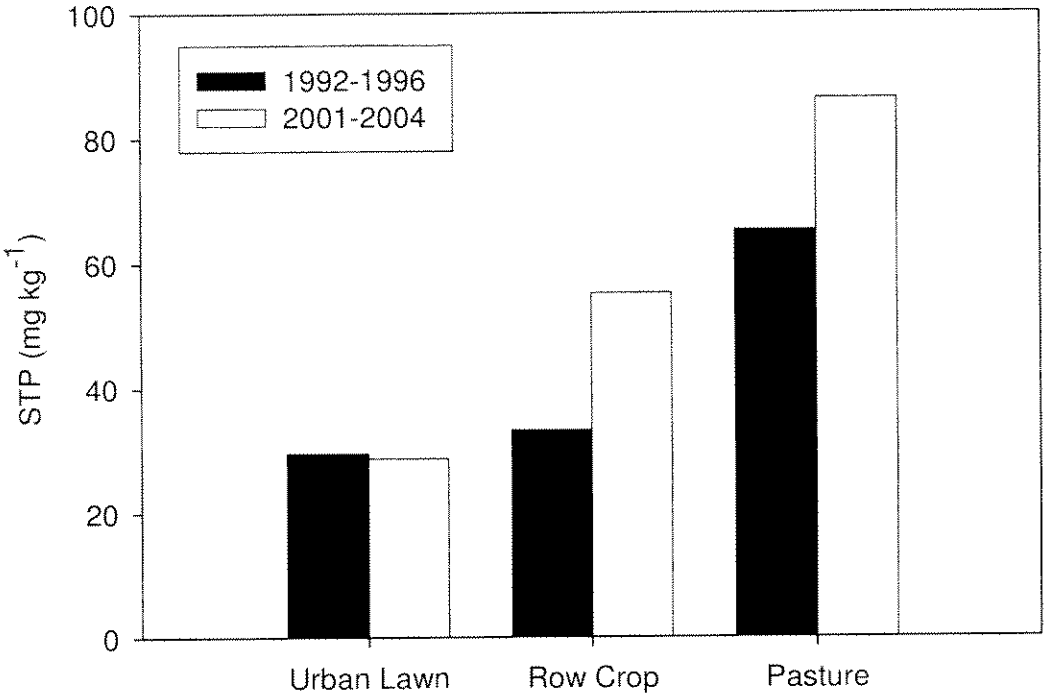

Figure 3. Soil test P level changes in the Lake Allatoona watershed.

Modeling Phosphorus in the Lake Allatoona Watershed Using SWAT: I. Developing Phosphorus Parameter Values

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Abbreviations: AER, anion exchange resin; DRP, dissolved reactive phosphorus; GAEPD, Georgia Environmental Protection Division; HRU, hydrological response unit; SS, suspended sediment; STP, soil test phosphorus; SSURGO, Soil Survey Geographic; STATSGO, State Soil Geographic; SWAT, Soil and Water Assessment Tool; TMDL, Total Maximum Daily Load; TP, total phosphorus; USEPA, U.S. Environmental Protection Agency; USGS, U.S. Geological Survey

ABSTRACT

Lake Allatoona is a large reservoir north of Atlanta, Georgia that drains an area of about 2870 km^2 scheduled for a phosphorus (P) Total Maximum Daily Load (TMDL). The Soil and Water Assessment Tool (SWAT) model has been widely used for watershed-scale modeling of P, but there is little guidance on how to estimate P-related parameters, especially those related to in-stream P processes. In this paper, methods are demonstrated to *individually* estimate SWAT soil related P parameters and to *collectively* estimate P parameters related to stream processes. Soil test P concentrations for the watershed were obtained from a database of land owner samples submitted to the university soil testing laboratory and converted to Labile P (required by SWAT) using a relationship developed in this study. Phosphorus sorption coefficients were obtained from a national rainfall simulation study. Stream related parameters were obtained using the nutrient uptake length concept. In a manner similar to experiments conducted by stream ecologists, a small point source is simulated in a headwater sub-basin of the SWAT models, then the in-stream parameter values are adjusted *collectively* to get an uptake length of P similar to the values measured in the streams in the region. After adjusting the in-stream parameters, the P uptake length estimated in the simulations ranged from 53 to 149 km compared to uptake lengths measured by ecologists in the region of 11 to 85 km. Once the *a priori* P-related parameter set was developed, the SWAT models of main tributaries to Lake Allatoona were calibrated for daily transport. Using the methods described in this paper to determine SWAT P parameters resulted in better model predictions of TP concentrations in streams during storm events and TP annual loads to Lake Allatoona than using the default parameter values.

Rapid population and economic growth around Atlanta, GA in the past decades have imposed increasing threats to the water quality of surrounding water bodies. Lake Allatoona is located about 50 km northeast of Atlanta (Figure 1). A comprehensive study of water quality in Lake Allatoona (the Lake Allatoona Phase I Clean Lakes Diagnostic Feasibility Study, referred to hereafter as the Clean Lakes Study) was conducted during the 1990's. Lake Allatoona was identified as being in transition between mesotrophic and eutrophic, with P being the primary limiting nutrient for algal growth (Rose, 1999). In 2006, Lake Allatoona was placed on the Georgia 303(d) list due to excessive chlorophyll-*a* concentration; and a lake-wide TMDL for P is scheduled to be developed by 2008 (GAEPD, 2006). Therefore, it is important to estimate the P loads to the lake and to identify the P sources from the drainage basins so that the most effective watershed management measures and nutrients control practices can be adopted to reduce excessive P loads into the lake.

The Soil and Water Assessment Tool (SWAT) model has been widely used for modeling P loading at the watershed scale, especially from agricultural land uses (e.g., Santhi et al., 2001; Haggard et al., 2005a; Veith et al., 2005). However, there is little guidance in the literature on how to estimate P-related parameters, especially those related to in-stream P processes. One would not expect the default values for P-related parameters given by the SWAT User's Manual to be valid for all watersheds. For example, SWAT assigns zeros to both the initial Labile P concentration (SOL_SOLP) and the initial organic P concentration (SOL_ORGP) in the surface soil layer. This is unrealistic in many cases, especially when P surplus in agriculture soils is a nation-wide problem (National Research Council, 1993; Sims et al., 2000; Sharpley et al., 2003).

More often than not, in-stream measurements are not adequate for identification of each individual in-stream parameter. However, it may be possible to calibrate the combined effect of in-stream P parameters as a group. For example, the measurement of P uptake lengths in streams may be used to determine if a model is correctly estimating losses of P in streams. Nutrient uptake length is measured by applying a constant source of dissolved P to a stream and measuring concentrations of dissolved P in the stream at various distances below the input point (Newbold et al., 1981). Concentrations typically decay exponentially with distance, and the inverse of the exponential decay coefficient is the uptake length.

Therefore, this paper has two objectives: (1) to estimate upland P-related parameters of SWAT from existing soil test P (STP) and State Soil Geographic (STATSGO, 2006) or Soil Survey Geographic (SSURGO, 2006) databases; (2) to calibrate in-stream parameters of SWAT based on measured "uptake length" of P in streams. This paper is the first part of a two-paper series on modeling P loads to Lake Allatoona. The second paper presents the results of using the calibrated SWAT models to estimate the P loads to the lake under changing landuse conditions (Lin et al., 2008).

SWAT MODEL AND STUDY AREA

The SWAT model was developed by the U. S. Department of Agriculture Agricultural Research Service to predict the impact of land management practices on water, sediment, and agricultural chemical transport in large basins (Arnold et al., 1998; Neitsch et al., 2002). SWAT has been used to model basins ranging in size from 3.28 to 598,538 km^2 (Spruill et al., 2000). In SWAT, a watershed is partitioned into a number of

sub-basins. Each sub-basin is further subdivided into hydrological response units (HRUs) which represent unique combinations of soils and land uses within a sub-basin. SWAT has separate modules for terrestrial and river channel processes. In the land phase, watershed hydrology, plant growth, erosion and P soil transformations and transport are modeled. Six different soil P pools are included: stable, active, and fresh organic P, as well as stable, active, and soluble inorganic (mineral) P. The main transport processes are P movement via surface runoff (soluble forms) and erosion (P attached to sediment). Additionally, base flow P concentrations can be set to simulate lateral subsurface flow and groundwater contributions to the river loads. The river channel phase includes water, sediment and P routing along river reaches. Phosphorus (and nutrient) transformations are described with an adapted version of the QUAL-2E in-stream water quality model.

Lake Allatoona is on the Etowah River, which is the largest source of inflow, sediment, and nutrients to the lake. Besides the Etowah River, there are five other primary tributaries (Shoal Creek, Little River, Noonday Creek, Lake Acworth discharge, and Stamp Creek) and five secondary tributaries (Owl Creek, Kellogg Creek, Tanyard Creek, Allatoona Creek, and Rowland Spring Branch). These eleven tributaries account for more than 99.5% of the inflow to Lake Allatoona (Rose, 1999). Lake Allatoona drains an area of about 2870 km^2. The mean annual discharge of its tributaries varies considerably, ranging from approximately 1×10^6 m^3 (i.e., Owl Creek, Kellogg Creek, and Rowland Spring Branch) to greater than 1500×10^6 m^3 (upper Etowah River). In order to model each of these eleven tributaries with reasonable accuracy, the entire Lake Allatoona watershed was subdivided into six sub-watersheds (Figure 1). One SWAT model (SWAT 2000 version) was set up for each sub-watershed. The six sub-watersheds

were denoted as Upper Etowah, Shoal Creek, Little/Noonday, Owl/Kellogg, Acworth/Allatoona, and Stamp/Rowland.

Precipitation and temperature data were obtained from eleven National Oceanic and Atmospheric Administration weather stations and two local weather stations administered by the Georgia Automated Environmental Monitoring Network (http://www.griffin.peachnet.edu/bae, last accessed August 18, 2006) (Figure 1). In addition, stream observations were obtained to calibrate streamflow, suspended sediment (SS) and total P (TP) concentrations. The Etowah River daily streamflow at Canton, GA was obtained from the USGS gage station (#2393000). Bi-weekly measurements of instantaneous streamflow and SS and TP concentrations in the eleven primary Lake Allatoona tributaries were obtained from the Clean Lakes Study from May 1992 to May 1996.

PARAMETER ESTIMATION

P-Related Parameters in SWAT

In SWAT, in addition to P management parameters such as P fertilization rates, there are a number of model parameters that primarily govern P generation and transport/transformation processes in soils and streams (Table 1). The first six parameters are related to soil processes except for GWSLP, which is the concentration of soluble P in groundwater. The last six parameters govern the transformation processes pertaining to P in streams. In this paper, methods are demonstrated to *individually* estimate several soil related P parameters (including PHOSKD, PSP, SOL_SOLP, and SOL_ORGP) and to

collectively estimate six P parameters related to stream processes (including RS2, RS5, BC4, MUMAX, RHOQ, and AI2).

Estimating P-Related Parameters in Soils

Four out of the six P parameters related to soils can be estimated using soil test P and STATSGO or SSURGO databases, which are available for most of the country. These four parameters are initial Labile P concentration in the surface soil layer (SOL_SOLP), initial organic P concentration in the surface soil layer (SOL_ORGP), P sorption coefficient (or P availability index, PSP), and P soil partitioning coefficient (PHOSKD). The soil P pools and transformations between these pools were adopted from the Erosion-Productivity Impact Calculator (EPIC) model developed by Williams et al. (1983, 1984). These routines were described in two papers that are important for understanding the meaning of SWAT parameters: Jones et al. (1984) and Sharpley et al. (1984).

SOL_SOLP

The Labile P pool in SWAT is important because it is the source of dissolved P in runoff and plant P uptake. The initial Labile P concentration, which is referred to in the SWAT User's Manual (in many instances) as "soluble" P (SOL_SOLP), is dissolved P and a portion of weakly sorbed P. Sharpley et al. (1984) measured Labile P as anion exchange resin extractable P (Sharpley, 2000), which is not normally measured by soil test laboratories. Labile P is a form of "bioavailable P" and there are other methods for measuring this fraction including the iron oxide strip method (Sharpley, 2000) used

recently by Vadas et al. (2006). Fortunately, the concentration of Labile P is linearly related to the concentration of P extracted by other methods such as Mehlich-1 (also known as double acid) (Sims, 2000a), Mehlich-3 (Sims, 2000b), Bray (Bray and Kurtz, 1945), and Olsen (Olsen et al., 1954), which are commonly measured by soil test laboratories across the U.S. Sharpley et al. (1984) provided a list of regression equations to convert Bray P, Olsen P, and DP (double acid P) to Labile P. In Georgia, the Cooperative Extension Services Lab at the University of Georgia measures STP on soil samples submitted to the lab using a Mehlich-1 extraction method. The equation from Sharpley et al. (1984) for "highly weathered soils" (which would apply to the Lake Allatoona watershed where Ultisols are common) is:

$$P_l = 0.24M1 + 2.9 \quad \textbf{1}$$

where P_l and $M1$ are Labile P and Mehlich-1 P (or double acid extractable P) concentrations, mg kg^{-1}, respectively.

However, the relationship between P_l and $M1$ depicted by Equation 1 varies considerably among soils (Sharpley et al., 1984). In order to develop such a relationship specific to the soils in the Lake Allatoona watershed, Mehlich-1 and anion exchange resin (AER) P were measured on soil samples collected from the watershed (twelve sampling sites were identified and are shown in Figure 1). The relationship between AER P and Mehlich-1 P (that is, the relationship between P_l and $M1$) is plotted in Figure 2 and described by Equation 2.

$$P_l = 0.570M1 + 7.41 \quad \textbf{2}$$

Vadas (2001) found a similar relationship between P_l and $M1$ for Coastal Plain soils from DE, MD, and VA.

Equation 1 from Sharpley et al. (1984) is also shown and it is clear that the data are fit better by the equation developed in this study (Equation 2). The steeper slope of Equation 2 than Equation 1 may be due to the more weathered nature of the soils in the Lake Allatoona watershed. The mean pH of the samples in this study was 4.6 compared to 5.6 for the "highly weathered" soils analyzed by Sharpley et al. (1984). However, in situations where a locally developed relationship between P_l and $M1$ (such as Equation 2) is not available, the three equations given in Table 2 of Sharpley et al. (1984) can be used to derive values for SOL_SOLP (and PHOSKD discussed later) for different types of soil including calcareous, slightly weathered and highly weathered soils, following the procedure discussed above. The best guide for choosing the equation that applies for a model user is probably soil pH, given as a mean for the soils in the study by Sharpley et al. (1984) as 7.7 for calcareous soils, 6.4 for slightly weathered soils, and 5.6 for highly weathered soils. The other indicator would be calcium carbonate content (which a user might be less likely to have), which was 91 mg kg^{-1} in calcareous soils and zero in slightly weathered and highly weathered soils.

The average M1 soil test P concentrations (by crop, county, and year) were obtained from the University of Georgia's Cooperative Extension Services Lab's website (http://aesl.ces.uga.edu/scripts/programs/soil/soil.prg?SOSoilSummaries, last accessed August 23, 2006). The average Mehlich-1 P concentrations and the numbers of soil

samples for different land uses from each county during the period 1992-1996 are listed in Table 2. The corresponding values of SOL_SOLP converted using Equation 2 are provided as well. Because of insufficient samples from counties for forest landuse, average concentrations were used from the entire Piedmont region of the state during the period 2001-2004. Mehlich-1 P concentrations of pasture were among the greatest, while forest had least Mehlich-1 P concentrations. The general trend was: pasture > row crop > urban lawn > forest. The average Mehlich-1 P concentrations from the counties located in the upstream watersheds (Upper Etowah and Shoal Creek) were greater than those from the counties located in the watersheds surrounding Lake Allatoona (Little/Noonday, Owl/Kellogg, Acworth/Allatoona, and Stamp/Rowland).

SOL_ORGP

Sharpley et al. (1984) also provided a regression equation (Equation 3) for calculating total organic P from total nitrogen in the top 10 mm of soil:

$$P_o = 44.4 + 1130 N_t \quad \textbf{3}$$

where P_o is total organic P, mg kg^{-1}; and N_t is total nitrogen, %. Since measurements of N_t were not available, a soil C:N ratio of 11:1 was assumed and the total nitrogen (N) content in soils was estimated from the organic carbon (C) content in the STATSGO database. Franzluebbers et al. (2000) reported that C:N ratios for pastures in the Southern Piedmont region are typically between 11 and 15 so the chosen value was on the low end of this scale and the total N content may have been overestimated. The soil organic P in

the humic pool, SOL_ORGP, was assumed to be approximately the same as the total organic P in the soil (P_o). Values for SOL_ORGP were calculated for different soil mapping units in the Lake Allatoona watershed (Column 2 in Table 3).

PSP

The P availability index, which is also called the P sorption coefficient (PSP), controls the rate of exchange between the inorganic Labile P and Active P pools in soils. Sharpley et al. (1984) also provided regression equations for calculating PSP, given soil Labile P concentration, clay content, and organic carbon content. The latter two properties are available in STATSGO and SSURGO databases. For highly weathered soils, the equation is

$$PSP = 0.39 - 0.047 \ln CL - 0.053 OC + 0.0045 P_l \quad \textbf{4}$$

where, CL is the clay content, %; OC is the organic carbon content, %; and P_l is the area-weighted mean of the Labile P concentrations in soils of different land uses in the Lake Allatoona watershed (shown in Table 2), mg kg^{-1}. Calculated PSP values for the soils in these simulations are shown in Table 3 (Column 3). However, there is only one value for PSP in each SWAT model. The area-weighted average of PSP for the entire Lake Allatoona watershed for the calibration period (1992-1996) was 0.29.

PHOSKD

PHOSKD, the P soil partitioning coefficient, is a ratio of the Labile P concentration in soil to the soluble P concentration in runoff. Schroeder et al. (2004) measured the concentration of dissolved reactive P (DRP) in runoff from typical Piedmont soils (Cecil and Madison series, both fine, kaolinitic, thermic Typic Kanhapludults) under simulated rainfall. Studies for soils in other states were listed in Table 1 of this publication. DRP concentration was described as a function of Mehlich-3 P (M3) in surface soils,

$$DRP = 0.0017M3 + 0.15 \quad \textbf{5}$$

where DRP is the DRP concentration, mg L^{-1}; $M3$ is the Mehlich-3 P concentration in surface soils, mg kg^{-1}.

In order to find the relationship between the DRP in runoff and the Labile P in soils, this relationship between DRP and M3 was converted to a relationship between DRP and Labile P (anion exchange resin P). This was done by first converting M3 to Mehlich-1 P (M1) and then converting M1 to Labile P. A study by Shuman et al. (1988) indicated that, for a typical Piedmont soil, the relationship between M1 and Mehlich-2 (M2) extracted P could be described as

$$M1 = 0.72M2 - 1.71 \quad \textbf{6}$$

where $M1$ and $M2$ are the Mehlich-1 P and Mehlich-2 P concentrations in surface soils, respectively. Since Mehlich-2 P is a good approximation of Mehlich-3 P, Equation 6 can be used to describe the relationship between M1 and M3 as well (Mehlich, 1984).

Using the relationships between M1 and Labile P (Equation 2), M1 and M3 (Equation 6), and M3 and DRP (Equation 5), an equation is obtained by substitution:

$$DRP = 0.00414 P_l + 0.123 \qquad (7)$$

where DRP and P_l are defined above. The value of PHOSKD was obtained by taking the reciprocal of the slope term (0.00414 kg L^{-1}) of Equation 7. Hence, the value of PHOSKD was 242 m^3 Mg^{-1}. If the locally developed relationship between M1 and Labile P is not immediately available, Equation 1 can be used to derive the value for PHOSKD for "highly weathered soils", which is about 102 m^3 Mg^{-1}. The default value for PHOSKD in SWAT is 175 m^3 Mg^{-1}, which is between these two values and therefore a reasonable estimate for the soils in the Lake Allatoona watershed. However, if the equations from Sharpley et al. (1984) for "slightly weathered" or "calcareous soils" are used, the values for PHOSKD are 55 and 42, respectively. In these cases, the default value would clearly not be appropriate.

Like PSP, PHOSKD takes a single value for the entire watershed under simulation. In a review of several studies, Sharpley et al. (1996) found that the relationship between surface runoff P and soil P was too variable to allow the use of a single or average relationship. However, Vadas et al. (2005) reviewed 17 studies that were part of a national project to determine the relationship between runoff P

concentrations and soil P and found little difference among soils that used the Mehlich-3 extractant. Furthermore, Vadas et al. (2007a) used essentially the same equation as Equation 7 to derive concentrations of dissolved inorganic P in runoff from soil Labile inorganic P assuming Labile inorganic P was half of Mehlich-3 P (Mehlich, 1984; Vadas et al., 2007b). Therefore, the approach to estimating the value of PHOSKD is considered to be reasonable.

There are a number of limitations to the way soil P is modeled in SWAT 2000. The use of a single value for the watershed for PSP and PHOSKD has been mentioned. Equation 4 shows that PSP is a function of soil Labile P and, since that varies with time, so should PSP; but it is a constant in SWAT. Another problem is the lack of a manure P pool that is separate from the other soil P pools (Vadas et al., 2004), especially in simulations with unincorporated solid manures. Without a separate manure P pool, P in applied manure instantly becomes part of the soil P pools. In grasslands where manure is not incorporated, broiler litter has little initial contact with the soil and is readily transported in runoff. Under these circumstances, SWAT can be expected to underestimate P losses in runoff from storms for a significant time after manure is applied. Vadas et al. (2007a) have developed a model compatible with SWAT that has a separate manure pool and, in simulations for a site in Georgia, it showed that the manure pool contributed directly to runoff for a matter of months after manure application.

Estimating P-Related Parameters in Streams

SWAT uses a simplified version of in-stream processes from the USEPA QUAL-2E river model (Brown and Barnwell, 1987). SWAT assumes that P exists in streams in

three pools – algal biomass, organic P and dissolved inorganic P (Figure 3). If one assumes the majority of the algal biomass is attached algae, then the total P in the water column consists of organic P and inorganic P pools (within the dashed-line circle in Figure 3). The overall effect of algal uptake and decay, organic P settling and inorganic P benthic release is the net assimilation rate of total P in the water column. If the net assimilation rate is positive, then the river is a sink for the total P in the water column. For inorganic P, the overall effect of algal uptake, organic P mineralization, and benthic release is the net assimilation rate for inorganic P in the water column.

Stream assimilation of nutrients is the capacity of streams to remove water column nutrients through physical, chemical, and biological processes and retain them in an immobile form under normal conditions. Retention decreases the load to downstream aquatic systems (such as Lake Allatoona). Streams not only store nutrients but also transform nutrients from biologically available forms into non-available forms and vice versa. Thus, it is important to accurately estimate the contribution of streams in retaining (or releasing) nutrients when estimating loadings from a large drainage system. Stream ecologists use the concept of "uptake length" (or "spiraling length") to measure the net assimilation rate of nutrients in streams (Newbold et al., 1981; Mulholland et al., 1985; Stream Solute Workshop, 1990; see also Marti et al., 2004; Haggard et al., 2005b for its applications in streams receiving point source discharges).

The uptake length (S_w) is defined as the average distance that a dissolved nutrient molecule travels before being immobilized. An on-site experiment under base flow conditions is normally conducted to determine the uptake length of a nutrient in streams. In such an experiment, a small steady injection of nutrient is added into a stream; then the

concentration at the injection point and at different distances downstream is measured over time until the concentration at each sampling point reaches a constant value. The nutrient concentrations in the water column plotted as a function of the distance downstream of the injection point stream normally exhibit an exponential decay relationship shown in Equation 8 (Newbold et al., 1981; Stream Solute Workshop, 1990). The uptake length is then defined as the reciprocal of the net decay constant determined by the on-site experiment (Equation 9). Specifically,

$$C_x = C_0 e^{-kx} \quad \textbf{8}$$

$$S_w = \frac{1}{k} \quad \textbf{9}$$

where C_x is the nutrient concentration at distance x from injection point; C_0 is the nutrient concentration at the injection point; and k is the net decay coefficient of the nutrient in the stream. When Equations 8 and 9 are used to determine the uptake length, a conservative tracer, such as Cl^-, needs to be added with the nutrient to adjust for any dilution effects due to increasing stream discharge downstream from the injection point.

In a manner similar to the experiments conducted by stream ecologists, the addition was simulated of a small point source in a headwater sub-basin in the SWAT models, then the in-stream parameter values (that is, RS2, RS5, BC4, MUMAX, RHOQ and AI2) were adjusted *collectively* to get an uptake length of P similar to the values measured in the streams in this region. In SWAT, the main channel length of each sub-basin and the flux (as opposed to concentration) of P at each sub-basin's outlet was

available, so there was no need to account for a dilution effect on concentrations. Then, Equation 10 (rather than Equation 8) was used to estimate the net decay constant of P in streams.

10 $$F_x = F_0 e^{-kx}$$

where F_x and F_0 are P fluxes at distance x downstream from the injection point and at the injection point. By plotting $\ln(F_0/F_x) \sim x$, k and thus S_w was estimated (Figure 4). Table 4 lists the uptake length of total P and inorganic P in the relatively large streams in the Lake Allatoona watershed.

Gibson (2004), during the summer of 2001, measured the uptake length of soluble reactive P in the main stem of Chattahoochee River near Atlanta and found that it ranged from 11 to 85 kilometers, which is comparable with the uptake lengths of inorganic P estimated in the SWAT model simulations, except that the estimated uptake lengths of total P and inorganic P in Amicalola Creek are slightly longer. The longer uptake length in Amicalola Creek could be due to the high gradient and resulting swift stream flow in this stream. The uptake length obtained through the SWAT model experiments was simulated during a dry period from July 11 to August 10, 1992. Among six USGS weather stations located in the Upper Etowah River basin, only one station recorded one day precipitation exceeding 25 mm during this one-month period. The uptake length of total P was slightly shorter than that of inorganic P, which implied that the loss of organic P from river water column was faster than that of inorganic P.

Since the simulations of P uptake length were conducted under baseflow conditions (as are the field measurements of stream ecologists including Gibson, 2004), they ensured that the in-stream P parameter values were appropriate for this type of flow. Under storm conditions, scouring of sediment high in P could increase the total P in the water column and transport P further downstream. This would result in a longer nutrient uptake length when stormflow conditions are included. The simulations of uptake length were also performed over the entire calibration period and it was found that uptake lengths were much longer, 71-227 km. This indicated that on a long-term basis, the stream reaches are not a large sink for P and most of the P that enters streams in the Lake Allatoona watershed reaches the lake within a few years.

MODEL CALIBRATION

The SWAT models were calibrated adopting a classical approach suggested by the SWAT User's Manual – stream flow is calibrated first and the calibrations of sediment and P concentrations follow (Neitsch et al., 2002). Except for the Etowah River daily streamflow, the calibrations of stream discharge in all tributaries were carried out manually due to the relatively sparse datasets (bi-weekly sampling). The daily streamflow in the Etowah River at Canton, GA was calibrated automatically by the method proposed in Lin and Radcliffe (2006). After streamflow was calibrated, the SWAT parameters governing sediment and phosphorus generation and transport processes were manually calibrated against observed SS and TP concentrations in streams and their corresponding loads estimated by the Clean Lake Studies. Besides visual comparison, Nash-Sutcliffe (NS) coefficients (Legates and McCabe, 1999) were used to gauge the goodness-of-fit of

the model calibration for the streamflow and the SS and TP concentrations in streams for the entire calibration period (May 1992 to May 1996). However, the SS and TP annual loads from the 11 tributaries to Lake Allatoona were calibrated based on one year of data (from May 13, 1992 to May 12, 1993), when the correspondent loads estimated by the Clean Lake Study were available (Rose, 1999). The calibrated P-related parameters included PERCO and GWSLP but not P-related parameters in streams (RS2, RS5, BC4, MUMAX, RHOQ and AI2).

RESULTS AND DISCUSSION

Graphical comparisons between model simulations and observations of streamflow, SS and TP concentrations in the six primary tributaries to Lake Allatoona are shown in Figures 5 through 7. In general, the visual comparisons showed that the models simulated the patterns and the magnitudes of the observed streamflow, SS and TP concentrations reasonably well with a few exceptions. First, as shown in Figure 5, the observed low flow conditions in the spring of 1996 were over-predicted in four out of the six primary tributaries – the low flow rates in the spring of 1996 for Shoal Creek, Little River, Lake Acworth Discharge, and Stamp Creek were over-predicted, while those for Etowah River and Noonday Creek were predicted reasonably well. There is no clear explanation for this. Except for the Etowah River, we were not able to evaluate the model's performance during the high flow conditions in the same time period since there were no observations of high flows. But, the model did well for the Etowah River where the observed high flow rates were available. Second, the model did not catch a rising limb of the hydrograph from a rainfall event during the fall of 1993 for Stamp Creek

(bottom-right panel in Figure 5). Consequently, the model failed to match the TP observations during the same time period (magenta dashed line in the bottom-right panel in Figure 7). For SS, there were not sufficient observed data to verify the model simulation during this period (bottom-right panel in Figure 6). These mismatches could be due to the fact that no rain gage used in the simulation was located in Stamp/Rowland watershed (see Figure 1). Third, the model over-predicted SS concentrations under some low flow conditions in the Little River (middle-left panel in Figure 6). For example, the model over-predicted SS concentrations during the fall of 1993 and 1995. This may be due to the simple treatment of wetlands by SWAT. According to the National Land Cover Data 1992 (http://www.mrlc.gov/, last accessed August 18, 2006), there were about 900 acres of natural wetlands along the Little River. During low flow conditions, the wetlands may have trapped more sediments than the model simulated.

Part of the miss-match between predictions and observations may be due to a difference in temporal scales. Except for daily streamflow in Etowah River, all other observations of stream discharge, SS and TP concentrations in the six primary tributaries were *instantaneous* measurements. However, the SWAT model outputs of stream discharge and concentrations of SS and TP in streams were *daily* average values. This difference is especially important during storm events when instantaneous values are likely to be higher than daily averages.

Nash-Sutcliffe coefficients were used to evaluate the closeness of fit between modeled and observed time series. The coefficients can take on a value from $-\infty$ to 1, with greater values indicating better agreement. The NS coefficients for discharge ranged from -1.4 for the Lake Acworth Discharge tributary to 0.38 for the Etowah River (Figure 5),

indicating that the best model fit occurred on the largest tributary to Lake Allatoona. For SS concentrations, NS coefficients ranged from -3.7 for the Shoal Creek tributary to 0.15 for the Etowah River (Figure 6). The NS coefficients for TP concentration ranged from -3.5 for the Little River tributary to 0.02 for the Noonday Creek (see column 5 in Table 5). These values showed SWAT was not able to predict SS and TP concentrations as accurately as streamflow. There were three positive NS coefficients for streamflow simulation, but only one positive NS coefficient in either SS or TP simulation.

Figure 7 also shows the comparisons of the observed and simulated TP concentrations using default values for the P-related parameters. All other parameters remained unchanged. SWAT models using default values for their P-related parameters under-predicted the TP concentrations during storm events in all six major tributaries. Consequently, the SWAT models using default values for their P-related parameters considerably underestimated TP load from the six major tributaries (Table 5). The Bias of SWAT TP Load in columns 3 and 4 is the difference between the TP load estimated by SWAT and the TP load estimated by the Clean Lakes Study. A smaller absolute value means a closer SWAT estimate of TP load to the Clean Lakes Study's estimate. A comparison of the values in columns 3 and 4 shows that the SWAT models using estimated P-related parameters provided better TP load estimates than the SWAT models using default P-related parameters. This is mainly due to the estimated initial soil P concentrations (SOL_SOLP and SOL_ORGP) which were much higher than the default values (zero). However, the effect on the NS coefficients was mixed when using estimated P-related parameters. Three NS coefficients (Shoal Creek, Noonday Creek and Lake Acworth Discharge) were slightly improved (including one positive value), and

three other NS coefficients (Etowah River, Little River and Stamp Creek) were worsened. Therefore, NS coefficients may not be an ideal index for water quality model calibration when water quality observations are sparse and the majority of water quality samples are taken during baseflow conditions.

CONCLUSIONS

Soil test P and STATSGO databases were utilized to estimate upland P-related parameters in SWAT: SOL_SOLP and PHOSKD were estimated using a soil test P database while SOL_ORGP and PSP were estimated using the STATSGO database. The concept of "uptake length" in stream ecology was adopted to collectively estimate P-related parameters in streams (i.e., RS2, RS5, BC4, MUMAX, RHOQ, and AI2). The overall effect of these six P parameters reflects the net assimilation rate of P in streams. The values of P uptake length in the SWAT models estimated through numerical experiments were comparable to the "uptake length" measured by stream ecologists in the streams located in the same region as the Lake Allatoona watershed.

The TP concentrations in streams during storm events were increased by using P-related parameters estimated through the methods described in this paper, mainly due to increased initial soil P concentrations (SOL_SOLP and SOL_ORGP). Consequently, the SWAT estimates of TP annual loads from the six major tributaries were more consistent with the TP annual loads estimated by the Clean Lakes Study. However, there was no consistent improvement in the simulations of TP concentrations in streams under base flow conditions. Since the majority of water quality samples was taken under base flow conditions, not all NS coefficients of the TP concentrations in the six major tributaries

were improved using the estimated P-related parameters. These calibrated models were used to simulate the P loads to Lake Allatoona under changing landuse conditions in the second paper (Lin et al., 2008).

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Figure Captions

Figure 1. Lake Allatoona watershed and the six sub-watersheds.

Figure 2. Relationships between $M1$ P and AER P based on soil samples in this study and the regression equation from Sharpley et al. (1984).

Figure 3. In-stream P processes adopted by SWAT. P pools within the dashed-line circle represent total P in the water column.

Figure 4. Relationship of $\ln(F_0/F_x) \sim x$ for (a) total P and (b) inorganic P.

Figure 5. Comparison of discharges of six major tributaries (— modeled, + observed).

Figure 6. Comparison of suspended sediment concentrations of six major tributaries (— modeled, + observed).

Figure 7. Comparison of TP concentrations of six major tributaries (– – simulations using estimated P parameters, – – simulations using default P parameters, + observations).

Table 1. P-related parameters in SWAT.

Parameter Name	Definition (Unit)	SWAT Default Value	Prior Estimated Initial Value	Bounds	Spatial Distribution Level
SOL_SOLP	Initial Labile P concentration in surface soil layer (mg kg^{-1})	0	Vary[†]	0-100	County
SOL_ORGP	Initial organic P concentration in surface soil layer (mg kg^{-1})	0	Vary[†]	0-4000	Soil Mapping Unit
PHOSKD	P soil partitioning coefficient (m^3 Mg^{-1})	175	242	50-400	Watershed
PSP	P sorption coefficient	0.4	0.29	0.01-0.7	Watershed
PPERCO	P percolation coefficient (10 m^3 Mg^{-1})	10	Calibration	10-17.5	Watershed
GWSLP	Concentration of soluble P in groundwater contribution to streamflow from sub-basin (mg L^{-1})	0	Calibration	0-1000	Sub-basin
RS2	Benthic (sediment) source rate for dissolved P in reach at 20 °C (mg dissolved-P m^{-2} day^{-1})	0.05	0.001	0.001-0.1	Watershed
RS5	Organic P settling rate in reach at 20 °C (day^{-1})	0.05	0.1	0.001-0.1	Watershed
BC4	Rate constant for mineralization of organic P to dissolved P in reach at 20 °C (day^{-1})	0.35	0.01	0.01-0.70	Watershed
MUMAX	Maximum specific algal growth rate at 20°C (day^{-1})	2.0	2.9	1.0-3.0	Watershed
RHOQ	Algal respiration rate at 20°C (day^{-1})	0.3	0.05	0.05-0.50	Watershed
AI2	Fraction of algal biomass that is P	0.015	0.01	0.01-0.02	Watershed

[†] See Table 2 and Table 3.

Table 2. Initial values for the spatially distributed parameter SOL_SOLP.

Land Use	County	Mehlich-1 P (mg kg^{-1})	Soil Sample Size (count)	SOL_SOLP (mg kg^{-1})
Pasture	Bartow	27.9	358	23.3
	Cherokee	59.1	207	41.1
	Cobb	25.1	80	21.7
	Dawson	93.4	108	60.6
	Forsyth	90.0	460	58.7
	Fulton	43.5	152	32.2
	Lumpkin	119.2	195	75.3
	Pickens	64.6	152	44.2
	Average	65.3	214	44.6
Row Crop	Bartow	29.4	247	24.1
	Cherokee	24.5	23	21.3
	Cobb	19.8	28	18.7
	Dawson	43.2	48	32.0
	Forsyth	51.0	31	36.5
	Fulton	37.4	18	28.7
	Lumpkin	58.1	96	40.5
	Pickens	3.5	4	9.4
	Average	33.3	62	28.8
Urban Lawn	Bartow	26.0	328	22.2
	Cherokee	22.7	486	20.3
	Cobb	30.7	2648	24.9
	Dawson	20.6	73	19.2
	Forsyth	19.9	1241	18.7
	Fulton	40.9	2412	30.7
	Lumpkin	54.0	154	38.2
	Pickens	22.4	81	20.2
	Average	29.6	928	24.3
Forest	Piedmont	13.0[†]	376	14.8

[†] Measured during 2001-2004.

Table 3. Initial values for the spatially distributed parameter SOL_ORGP and calculation of watershed-wide parameter PSP.

Soil Map Unit	SOL_ORGP (mg kg^{-1})	PSP
GA007_1	134.0	0.29
GA015_1	119.1	0.32
GA017_3	119.1	0.27
GA018_4	134.0	0.31
GA019_6	223.6	0.25
GA023_1	253.4	0.24
GA025_6	89.2	0.33
GA026_9	119.1	0.28
GA027_1	372.9	0.17
GA028_2	89.2	0.33
GA101_5	119.1	0.30
Area-Weighted Mean		0.29

Table 4. Simulated uptake lengths of total P and inorganic P in streams.

Stream	Total P		Inorganic P	
	k (km^{-1})	S_w (km)	k (km^{-1})	S_w (km)
Etowah River	0.0106	94	0.0083	120
Amicalola Creek	0.0067	149	0.0062	161
Longswamp Creek	0.0194	52	0.0154	65
Little River	0.0187	53	0.0146	68
Chattahoochee River[†]		11-85[‡]		

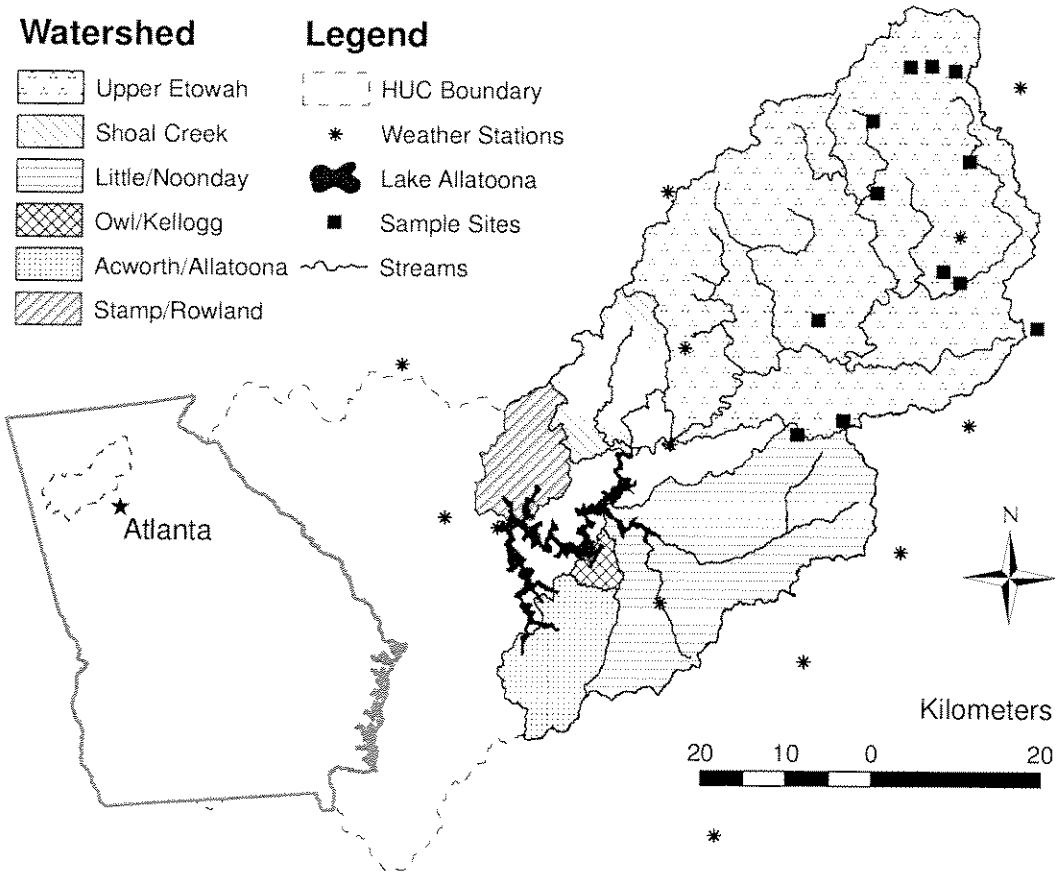
[†]Chattahoochee River is in the watershed adjacent to the Lake Allatoona watershed.

[‡]Measured uptake length of soluble reactive P during summer of 2001 (Gibson, 2004).

Table 5. Comparisons of P simulations by SWAT models using *estimated* and *default* P-parameters

Tributaries	Clean Lakes Study TP Load (kg yr^{-1})	Bias of SWAT TP Load (kg yr^{-1}) †		NS Coefficient	
		Estimated P-parameters	Default P-parameters	Estimated P-parameters	Default P-parameters
Etowah River	158752	-42001	-70315	-0.21	-0.17
Shoal Creek	4153	-654	-2325	-0.57	-0.58
Little River	12669	1798	-4887	-3.50	-1.40
Noonday Creek	21685	-8454	-13478	0.02	-0.26
Lake Acworth Discharge	247	53	-64	-1.60	-1.70
Stamp Creek	834	-305	-575	-1.70	-1.30

†Difference between the TP load estimated by SWAT and the TP load estimated by the Clean Lakes Study using estimated P-parameters or default P-parameters.



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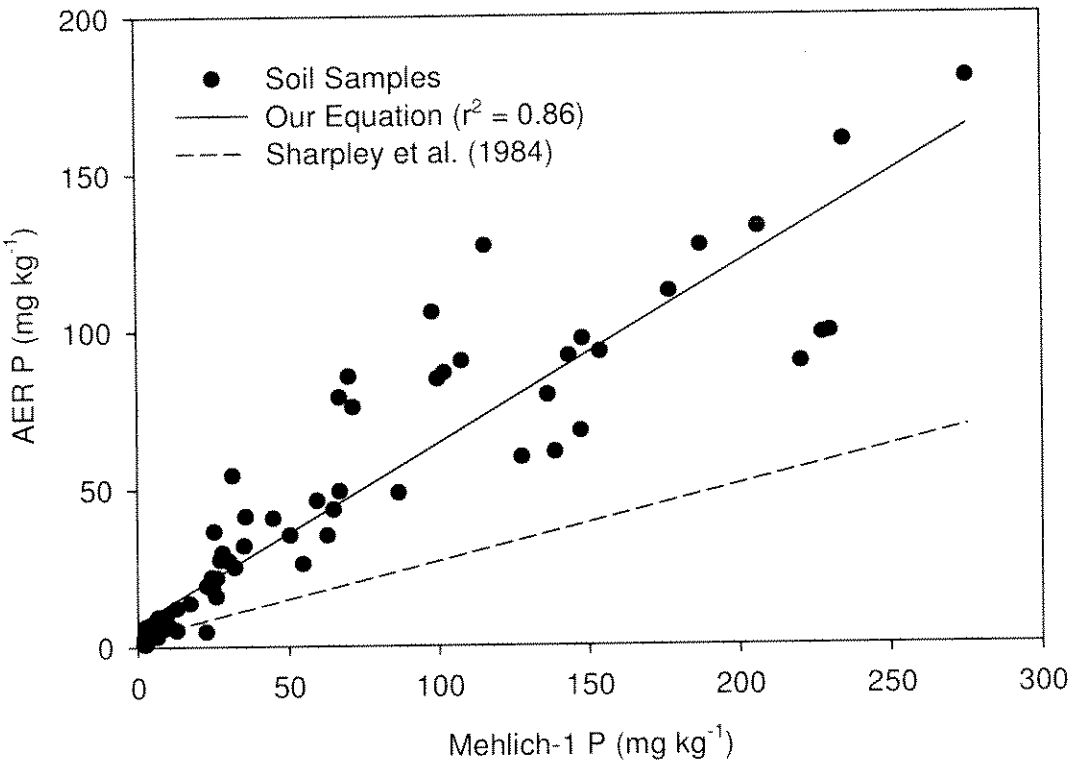

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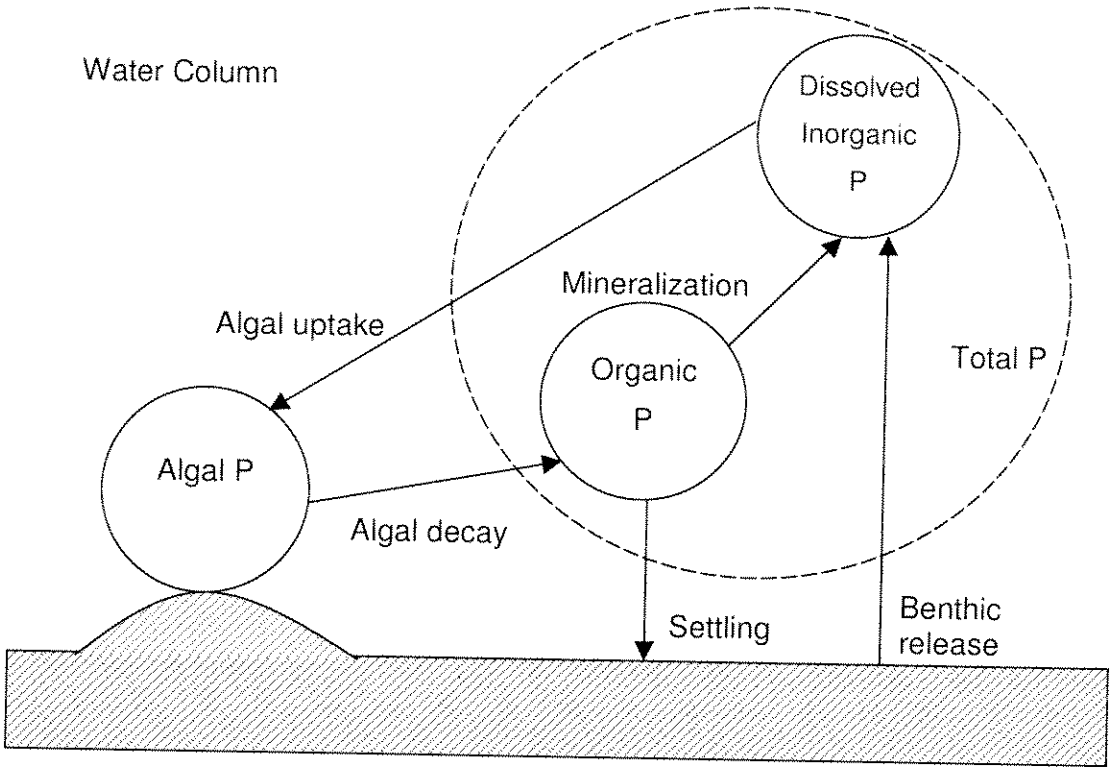

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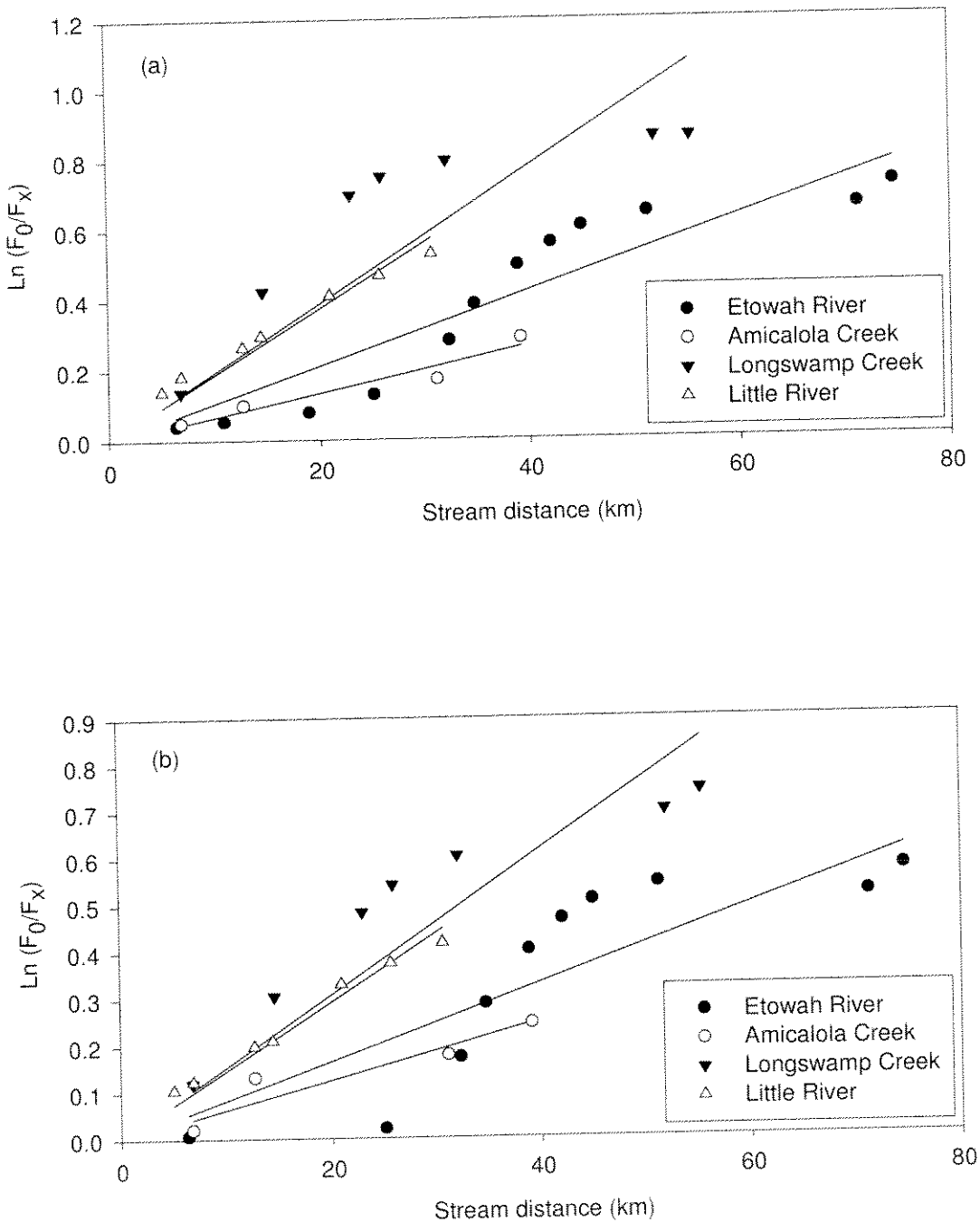

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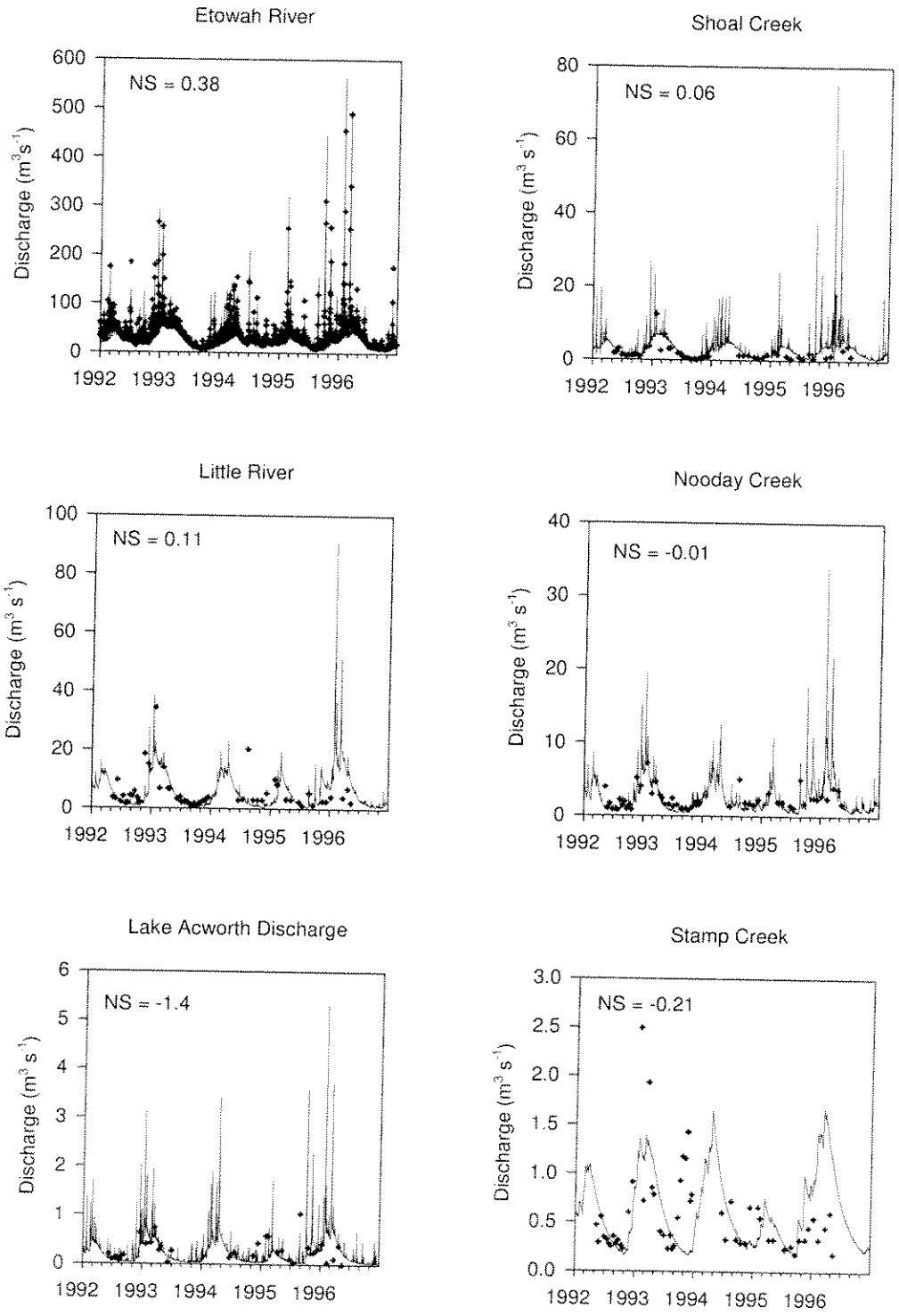


Figure 5. Comparison of discharges of six major tributaries (— simulations, + observations).

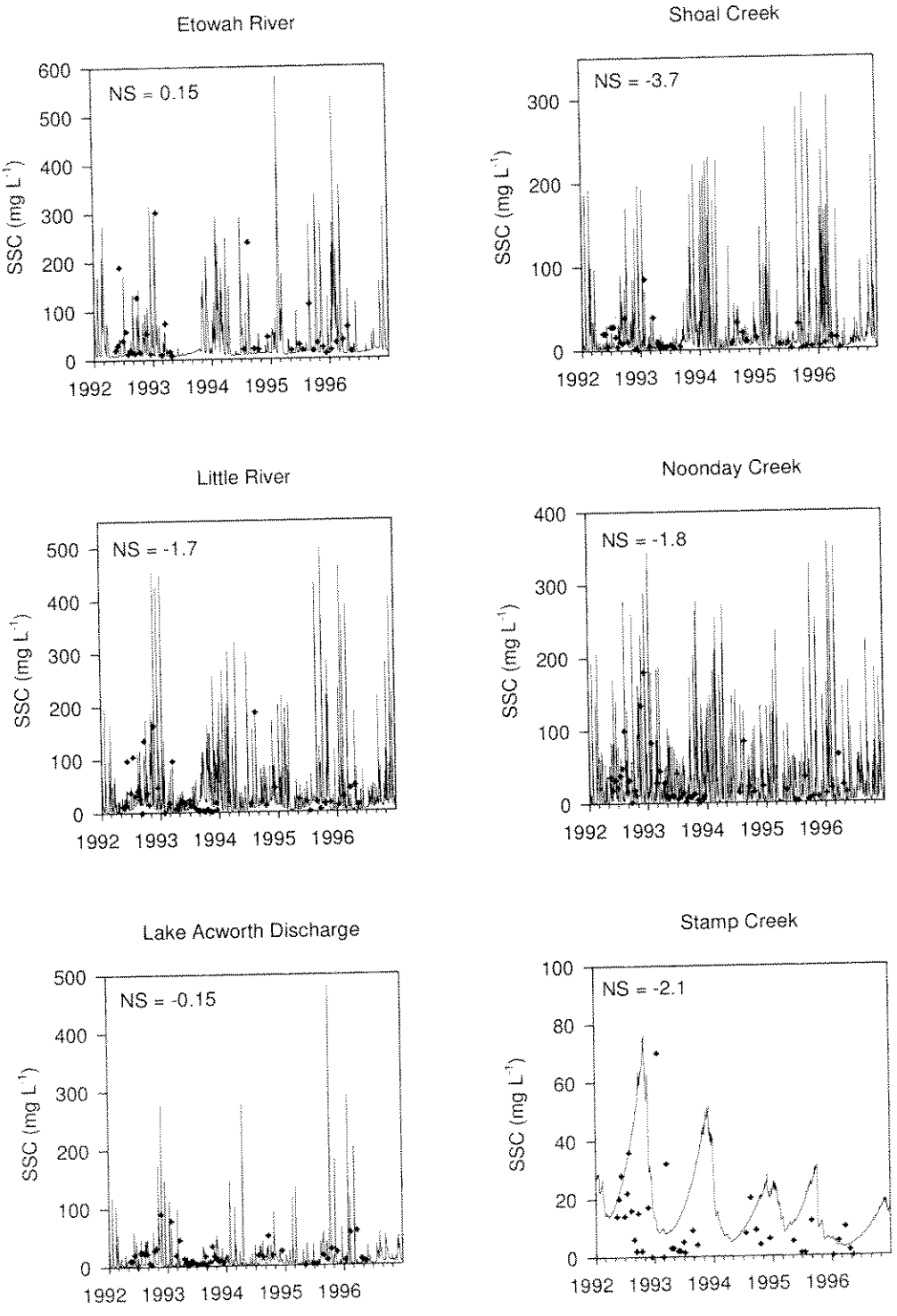
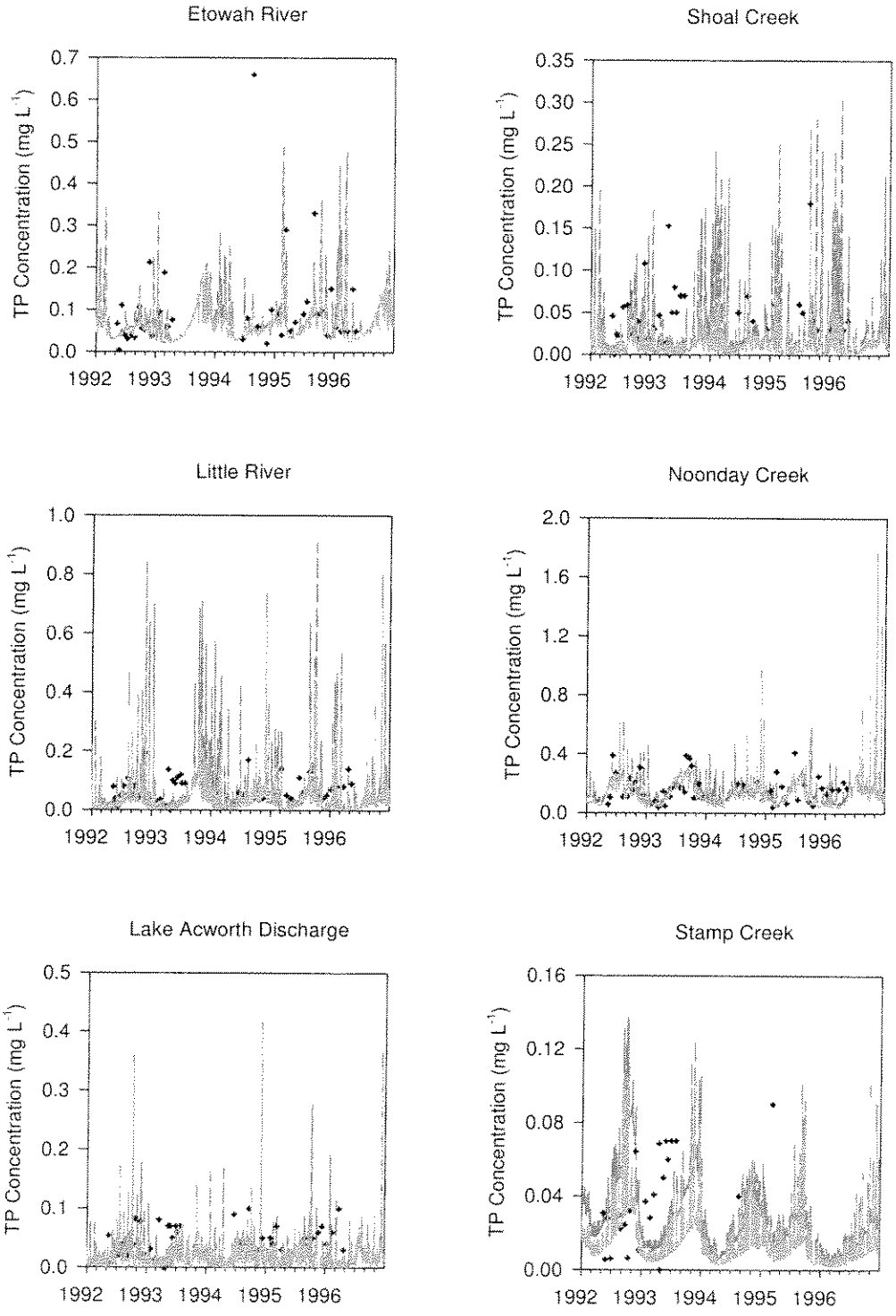


Figure 6. Comparison of suspended sediment concentrations of six major tributaries (— simulations, + observations).



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