

# **RESPONSE TO COMMENTS**

**SUBMITTED BY:**

Carroll County Water Authority

Indian Creek Reservoir

Permit Application Number 200900042

July 2, 2010

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**1. U.S. EPA, Jennifer S. Derby, 2/9/2010**

**Comment A:** EPA requests a 30-day extension of the comment period until March 15, 2010.

**Response:** The Corps extended the comment period from 30 to 60 days with a deadline of March 15, 2010.

**2. U.S. EPA, James D. Giattina, 3/15/2010**

**Comment A:** Based on our assessment of the available information, as discussed in more detail below, we find that the project does not comply with the Section 404(b)(1) Guidelines or the April 10, 2008 Mitigation Rule. EPA has significant concerns about the scope of the proposed work and the associated impacts to aquatic resources of national importance (ARNI). Thus, we recommend that the permit for the project, as currently proposed, be denied.

**Response:** Applicant contends that it filed a complete Section 404 permit application that complies with the 404(b)(1) Guidelines and that it is aware that it must provide a final mitigation plan prior to the issuance of the 404 permit. Applicant asserts that the proposed work will not impact aquatic resources of national importance. More detailed responses to EPA's specific concerns are below.

**Comment B:** Also, based on the complexities of the project and the scope of the direct, indirect and cumulative impacts, we recommend you consider preparation of an environmental impact statement (EIS) for this project.

**Response:** Applicant asserts that an Environmental Impact Statement is not required in this instance as the project will not significantly affect the quality of the human environment. An Environmental Assessment will provide the information necessary for the Corps to take a "hard look" at the direct, indirect and cumulative impacts of the project. Moreover, the current submittal contains the level of detail on alternatives, environmental impacts and mitigation required for the National Environmental Policy Act (NEPA) analysis. The alternatives analysis thoroughly considers the no action alternative, water conservation, recycle and reuse of wastewater, groundwater, purchase of water from an existing source, and an upland constructed flow augmentation reservoir in addition to surface water supply alternatives. Applicant selected a preferred alternative that will minimize direct, indirect and cumulative impacts. Applicant has worked to address the concerns of the resource agencies and will continue to attempt to resolve all legitimate agency concerns through the 404 process. Moreover, Applicant will work with the Corps to assess the cumulative impacts of the project. An EIS will not result in a more meaningful analysis of the project impacts; the main effect will be to delay the project further, at great expense to the Applicant.

**Comment C:** Please note that in response to the growing number of water supply projects in Georgia, in April 2004 your office, in cooperation with EPA and other federal and State agencies, developed an approach and a set of criteria for evaluating proposed water supply projects, such as new water supply reservoirs. This approach followed a progression of pre-application steps that were designed to reach consensus on the purpose of the project and the

alternatives analysis prior to the submittal of a formal application. Unfortunately, this project did not follow that process. The application for the project was submitted in December 2008 and the JPN was not issued until January 2010. Thus, it appears there was ample time to initiate the interagency approach. Absent of such an approach, an EIS is warranted.

**Response:** Applicant contends that it has made a substantial effort to engage the federal and state agencies throughout the early stages of the permitting process. On December 31, 2008, Applicant prepared and submitted a Section 404 Permit application that included the studies and supplemental information required by the Corps. The Corps held the application pending a certification of need from EPD. Upon issuance of the need certification, the Corps deemed the application complete and issued a Joint Public Notice on January 13, 2010. In addition, the Corps extended the comment period from 30 to 60 days. Applicant presented an overview of the project at an Interagency Review Team meeting on January 13, 2010 which was attended by representatives from the Corps, EPA, EPD, and F&WS. Applicant conducted an interagency site visit to the reservoir and both mitigation sites on February 25, 2010. The site visit was attended by representatives from the Corps, EPA, F&WS and EPD. Applicant also conducted a public information meeting on March 4, 2010.

Based on the foregoing, Applicant asserts that there has been sufficient interagency coordination and an EIS is not warranted. See Response to Comment B above.

**Comment D-1: Project Purpose:** The applicant's stated project purpose is to meet a predicted unmet water demand of 18 MGD in the unincorporated portion of Carroll County for the year 2060. The 18 MGD is based on population projections and an expected water usage rate of 135 gallons per capita per day (gpcd) by the year 2060. It does not appear that the population projections fully account for the current slower rate of development and associated population growth. EPA requests that the applicant consider the more recent projections being developed by the State of Georgia.

**Response:** Applicant agrees with the restatement of its project purpose and calculation of unmet water demand. Contra to EPA's assertion, Applicant contends that its population projections are accurate. By letter dated August 19, 2009, the Georgia Environmental Protection Division certified the need for the Indian Creek reservoir. Applicant has expended significant time and resources pursuing a Section 404 permit to construct the Indian Creek reservoir based on the unmet water demand of 18 mgd approved by EPD. Applicant should not be required to continually re-work its project based on new population projections. Such a requirement would be unduly burdensome and impede Applicant's ability to secure adequate water supplies for Carroll County's current and future citizens.

**Comment D-2: Project Purpose:** The second element of the demand calculation is the gpcd. Currently Carroll County has a gpcd of 110. It is unclear if this accounts for the conservation measures implemented during the recent drought. However, we are concerned that the applicant is predicting a nearly 23 percent increase in the gpcd and used this as a basis for the 18 MGD projection. We consider water efficiency measures to be central to water supply planning because reservoirs are very costly in both money and environmental impacts. The applicant has not provided evidence that all water efficiency measures have been considered in the future

water demand projection.

**Response:** Applicant included a Water Supply Needs Assessment report as a part of its Section 404 permit application (the “Report”). The Report predicts that the gcd will increase overtime as the community develops and more intensive landscape watering occurs. This prediction is based on the per capita water use rate trends of the counties in the Metropolitan North Georgia Water Planning District.

The Report also explains how water conservation was accounted for in the gcd calculations:

*Future per capita water consumption was projected in this study anticipating aggressive water conservation. With the recent droughts, Georgia residents and water utilities have become increasingly aware of the limits of their water supplies and the need for water conservation. It is thus assumed that water conservative practices, the installation of low flow fixtures, and seasonal outdoor watering restrictions when imposed, will result in some reduction in water use. The CCWA [Carroll County Water Authority] has also implemented a water conservation rate structure and implemented other measures to reduce water use throughout their systems including extensive metering, plumbing ordinances and codes, public education programs, and systems to track nonrevenue water and minimize water loss (CCWA 2005). Additionally, it is expected that water conservation in Carroll County will be facilitated by EPD’s ongoing water conservation programs to be implemented through the State-wide Water Plan. While 2060 water consumption in Carroll County could be as high as the 2001 MNGWPD average of 168 gcd, 135 gcd is considered to be a better estimate given the Authority’s emphasis on water conservation and EPD requirements. Water Supply Needs Assessment, 4.1.2.*

Accordingly, water conservation efforts reduced the gcd from 168 gcd to 135 gcd.

**Comment -3: Project Purpose:** EPA sees a significant need for coordinated regional planning for the future water supply needs of all communities within this basin and development of a plan to provide for efficient resource management, ensure adequate quantity and quality of drinking water with acceptable prices and maintaining adequate downstream flows to minimize environmental impacts. Ideally, this planning would be done by a regional or State level authority. This would eliminate the potential conflicting interests as local governments try to secure the water resources to meet their local needs. For example, we note that the proposed reservoir would only serve unincorporated Carroll County and not Carrollton or other municipalities. Thus, we consider it necessary to evaluate this project in the context of the overall current and future water supply needs of the region, as it is likely there will be additional proposed projects of this type in the future.

**Response:** The West Georgia Regional Water Authority was created in 1988 by the Georgia General Assembly and consists of members from Carroll County, Haralson County, Paulding County and Polk County. It is a regional water supply planning entity for the Tallapoosa Basin watershed. As early as 1988, the Authority identified the need for additional water supply in the Tallapoosa Basin and made several unsuccessful attempts to permit a 50 mgd reservoir to serve the member cities. Permitting a single, large reservoir in the Tallapoosa Basin may no longer be

feasible due to endangered species in the area and funding shortfalls. Thus, the Authority has shown support for the individual efforts of its members to identify smaller reservoirs to meet their needs. By Resolution dated December 18, 2008, the Authority expressed its support for Applicant's efforts to permit a reservoir on Indian Creek.

Creating a regional or State level authority beyond those already in existence is beyond the scope of Applicant's proposed project. Further, Applicant's need projections take into account the water supply needs of Carroll County as a whole, including the municipalities. The needs assessment assumes that water resources will be shared between the cities and county within the Tallapoosa Basin. In fact, water supply sharing between the Authority and Carrollton reduces the Authority's 2060 water supply deficit from 20.7 mgd to 18 mgd.

**Comment D-4: Project Purpose:** Finally, water usage in Alabama-Coosa-Tallapoosa (ACT) basin has been controversial. It does not appear that the proposal addressed the larger basin context. EPA, therefore, recommends that a third party EIS, administered by your office, be developed to provide a regional perspective and also independently evaluate the applicant's positions and data related to the project purpose. This could serve as a template for the assessment of similar projects and assist the state and local governments in a comprehensive planning process.

**Response:** Applicant asserts that the Indian Creek reservoir is supported by the regional planning entity for the Tallapoosa Basin. See Response to Comment D-3 above. Applicant further asserts that an EIS is not necessitated. See Response to Comment B above regarding the EIS.

**Comment D-5: Project Purpose:** In Summary, we find the stated project purpose may not reflect the current and future growth rates. The proposal lacks a regional planning context, and has not addressed water efficiency measures.

**Response:** Applicant contends that the project purpose does reflect current and future growth rates. Applicant further asserts that it did and continues to participate in regional planning efforts through its membership on the West Georgia Regional Water Authority. See Response to Comment D-3 above. Moreover, Applicant's calculation of water supply need did take into account conservation and efficiency measures. See Response to Comment D-2 above.

**Comment E-1: Alternatives Analysis:** The applicant has conducted a two tier alternatives analysis. Tier 1 looked at several reservoir alternatives and combinations of alternative water supply sources, water purchase, additional conservation measures and 8 reservoir sites. Tier 2 focused on four reservoir alternatives. The alternatives analysis did not provide a detailed "side by side" evaluation of all of these proposed alternatives as would be done in an EIS. The evaluation of alternatives is also limited in the factors considered. We found the evaluation of the alternatives to the proposed reservoir to be without substantive detail.

**Response:** Applicant asserts that it provided ample detail to evaluate the alternatives considered. A more detailed "side by side" comparison of all possible alternatives is not warranted given their inability to meet the project purpose.

**Comment E-2: Alternatives Analysis:** Of the four reservoir sites evaluated in some detail, the applicant has selected the site, Indian Creek, with the greatest impacts to waters of the U.S. Since all of the four alternatives could meet the project purpose, it appears the applicant has not selected the least damaging practicable alternative. The reasons for the rejection of the other three alternatives are not clear.

**Response:** Applicant detailed the selection of the preferred alternative in its Alternatives Analysis included in the Section 404 permit application. All four of the reservoir alternatives are located on existing NRCS dam sites. The existing dams have impaired the stream systems at each site. Thus, all four sites have comparable functional impacts to the streams and wetland inundated. Moreover, the preferred alternative selection criteria not only considers impacts to water of the U.S., but also impacts to the human environment, cultural resources, water quality, and project cost. All four alternatives have comparable impacts to water quality and waters of the U.S. Indian Creek reservoir is the least environmentally damaging, practicable alternative because it has fewer impacts to cultural resources, superior storage capacity, steeper terrain which allows for fewer acres impacted and fewer homes impacted.

**Comment E-3: Alternatives Analysis:** We are also unclear as to why the pumping rate for the preferred alternative is 33.2 MGD, nearly double the necessary yield. It appears pumping was a factor in rejecting the other three alternatives.

**Response:** The estimated pumping rate represents the diversion capacity needed to yield 18 mgd based on the reservoir storage, evaporation rate, required in-stream flow releases. The ability to pump from the river is directly related to the amount of stream flow. The necessary yield of 18 mgd cannot be pumped from the river at all times. Pumping capacity needs to be well in excess of yield so that more water can be pumped during high stream flows since little or no water may be pumped during low stream flows. Just as a battery stores, but doesn't produce, energy; a reservoir stores water but doesn't produce it. Water would be stored in the reservoir during periods of higher stream flow (produced by rainfall and runoff) for use during periods of lower stream flows when no water can be pumped.

Applicant's engineers generated a yield spreadsheet incorporating flow data through March 10, 2010. The spreadsheet shows that Indian Creek reservoir at elevation 1190 (10 billion gallons stored) will require 10.5 mgd of diversion *capacity* from Indian Creek and 31 mgd of diversion *capacity* from the Little Tallapoosa River to satisfy the unmet demand. While this ultimate capacity will be needed at times, the average combined pumping rate (for the 57 year simulation period) at the Indian Creek and Little Tallapoosa diversions is 17 mgd.

Note that the trend towards higher minimum in-stream flow requirements directly transfers to a need for higher diversion pumping capacities since there are fewer days when pumping can take place.

Pumping capacity was considered in rejecting the other reservoir sites because these other smaller reservoir options required larger maximum diversion pumping capacities with more pronounced impacts on Little Tallapoosa River flows.



**Comment E-4: Alternatives Analysis:** The overall assessment of the four reservoir sites also had no detailed assessment of the current physical, chemical and biological integrity of the alternative reservoir sites. The size of the wetland and stream impacts of each alternative needs to be accompanied by a functional assessment.

**Response:** Applicant contends that it conducted a detailed assessment of the current physical, chemical and biological integrity of the alternative reservoir sites. All four alternative reservoir sites are located on impounded streams. Applicant's consultant, Eco-South, Inc., field verified the presence of jurisdictional waters using a handheld GPS unit and examined levels of function and impairment at each of the four sites. Eco-South's assessment revealed that the four alternatives were functioning at similar levels of impairment due to the bifurcation of the systems and similar watershed conditions. None of the sites contained old growth wetlands, and none of the streams were especially productive and/or stable. All of the streams exhibited some previous and present impact from adjacent agricultural operations.

Applicant asserts that it is not required to provide functional assessments for each alternative. Section 332.4(c)(5) *Baseline Information* of the Final Mitigation Rule, does not require the collection of functional baseline data on alternative project sites.

Applicant contends that the Indian Creek reservoir is the least environmentally damaging practicable alternative due to its superior storage capacity, minimal impacts to infrastructure and comparable impacts to similar aquatic resources. Conducting functional assessments on the other alternate sites is not prudent given the ample data to support selection of the preferred alternative. Resources are better spent on reservoir management and compensatory mitigation.

Appropriate baseline data will be collected on the mitigation sites and submitted as part of a revised compensatory mitigation plan as requested by the review agencies and required by the Final Mitigation Rule.

**Comment E-5: Alternatives Analysis:** As noted above, without a regional planning process it is unclear what other regional alternatives may exist. For example, it is possible that other water authorities also have unmet future demands and joint ventures with these utilities, which could include ownership interests, and may meet the demands of multiple water suppliers. This assessment of regional alternatives is appropriate in the context of a project with this magnitude of impacts. Thus, we find that the applicant has not fully assessed the alternatives and did not select the least damaging practicable alternative. Through the interagency review process, there would have been a detailed assessment of the alternatives and a consensus developed on a preferred alternative before proceeding further in the process.

**Response:** As stated in response to Comment D-3, the project is supported by the West Georgia Regional Water Authority. Based on the needs assessments prepared by the Authority dating back to 1988, the proposed reservoir is necessary to meet future water needs and the reservoir is consistent with regional planning efforts. The project as proposed is sized to meet the Applicant's needs. If Applicant had included the demands of multiple water suppliers, the

project would be larger with additional stream and wetland impacts.

As provided in response to Comment C, Applicant submitted a complete Section 404 permit application, hosted interagency site visits to the reservoir and mitigation areas, held an interagency pre-application meeting and held a public information meeting during the 60-day comment period. Applicant followed the interagency review process.

**Comment F-1: Impacts of the Preferred Alternative:** The applicant's preferred alternative is a 643-acre impoundment on Indian Creek with a phase one supplemental withdrawal further downstream on Indian Creek and phase 2 withdrawal on the Little Tallapoosa River. One of our concerns is that the applicant has not adequately characterized the impacts to jurisdictional waters of the U.S. At the site visit EPA saw evidence that one stream that had been classified as "intermittent" had, on cursory examination, what appears to be a healthy biological community of organisms more indicative of a perennial stream. Time and access issues did not permit further field assessment of the applicant's jurisdictional determination. We are concerned that the determinations for flow had been conducted during the summer of an extended and historic drought, and questions remain about the accuracy of perennial stream extent, given what we observed. We recommend the applicant use a well documented approach, such as the North Carolina method, to characterize all streams that will be impacted by the reservoir.

**Response:** Applicant acknowledges the concerns EPA raised at the February 25, 2009 interagency site visit. Applicant's consultant, Eco-South, Inc., conducted a jurisdictional verification site visit with the Corps project manager on May 21, 2010. Eco-South, Inc. and the project manager examined the ephemeral drainages EPA questioned. Applicant agreed to employ the North Carolina methodology on stream channels originating within the proposed reservoir. Data forms and photo documentation will be provided to the Corps supporting the jurisdictional determination revisions. However, additional stream lengths are not anticipated as a result of applying this methodology.

**Comment F-2: Impacts of the Preferred Alternative:** Reservoirs have the potential for considerable direct, indirect and cumulative impacts. The applicant has provided no comprehensive assessment of the impacts of the preferred alternative. An EIS would fully evaluate these impacts with independent data. We recommend the following items to be assessed in detail.

1. An extensive analysis of the use of water efficiency measures to achieve the projected demands;
2. An extensive analysis of a combination of water efficiency measures, groundwater resources, existing reservoir sources and non-reservoir obtained surface water resources.
3. Functional assessment of all wetland, stream and upland habitats to be filled, flooded or cleared at a maximum (not just average) pool level including future expansions;
4. Stream impacts described by stream level of function and in linear feet;
5. Description of pre-impoundment flows and water quality;
6. Full evaluation of any 303(d) listed or outstanding resource waters;
7. Proposed adjacent land uses and watershed scale land uses with potential changes;
8. Impacts of upstream and downstream discharges and withdrawals and interbasin transfers;

9. Biological and water quality impacts to Lake Lanier.
10. The potential for reservoir eutrophication, including modeling of nutrients;
11. The potential for reservoir aquatic weed problems;
12. The potential for reservoir volume loss due to sedimentation;
13. Human impacts, local opposition, relocations and condemnation, environmental justice;
14. Cumulative impact issues including historical wetland/stream loss in watershed;
15. Impacts of related facilities including treatment plants, distribution lines and storage facilities;
16. Wastewater treatment plans to handle the growth in the water supply system.
17. Loss of flood plains and flood storage capacity; and
18. Plans for providing adequate protected buffer areas through conservation easements, including the specific parameters of the conservation easements.

In summary, the applicant's description of the direct, indirect and cumulative impacts of the project in the application is incomplete.

**Response:** Applicant is aware that reservoirs have the potential for direct, indirect and cumulative impacts. Applicant selected a preferred alternative that will minimize direct, indirect and cumulative impacts. The National Environmental Policy Act (NEPA) requires that an action be analyzed in the proper context to determine impacts on the environment that result from the incremental impact of the proposed action when added to other actions. Applicant will work with the Corps to further assess the cumulative impacts of the project. As this analysis is completed, it will be submitted to the Corps as required by NEPA.

Applicant further contends that an EIS is not necessary. See Response to Comment B above.

**Comment G-1: Minimization:** Because there is only limited information on the design of the project and its direct, indirect and cumulative impacts, it is not possible to determine if the applicant has minimized, to the maximum extent practicable, these impacts. We recommend the applicant do the following related to minimization measures:

1. Describe how levels of downstream dissolved oxygen, temperature, flow quantity and periodicity and water quality will be maintained to ensure maintenance of existing uses;
2. Develop a dam operation and release plan based on monitoring to simulate natural conditions;
3. Develop a plan for erosion and sediment control during construction;
4. Develop a reservoir maintenance plan including any maintenance dredging and disposal.
5. Develop a plan for shoreline buffers/setbacks/restrictions on development (with enforcement);
6. Propose fish passage structures if appropriate;
7. Provide for relocation of species of concern;
8. Describe restrictions/guidelines on recreational uses;
9. Describe reservoir destratification measures prior to release if needed; and
10. Develop and provide for implementation of a watershed management/source water protection plan including measures/ability/willingness to protect the proposed reservoir watershed.

In summary, the applicant has not provided adequate information to determine if they have taken all practicable measures to minimize the impacts of the preferred alternative.

**Response:** Applicant selected a preferred alternative that will minimize direct, indirect and cumulative impacts. The National Environmental Policy Act (NEPA) requires that an action be analyzed in the proper context to determine impacts on the environment that result from the incremental impact of the proposed action when added to other actions. Applicant will work with the Corps to assess the cumulative impacts of the project. As this analysis is completed, it will be submitted to the Corps as required by NEPA.

**Comment H-1: Compensatory Mitigation:** While the proposed permit does not appear to comply with the Section 404(b) (1) Guidelines, we will also comment on the proposed compensatory mitigation plan. Overall, the plan is conceptual and, as currently proposed, does not comply with the requirements of the April 2008 Mitigation Rule. A major shortcoming of the proposal is that the applicant has not proposed an approach to assess the wetland and stream functional losses from the project, and has not applied any methodology or rationale to assess the adequacy of the proposed mitigation plan. We recommend this as a key requirement in order to conduct a comprehensive evaluation of the mitigation plan.

Another shortcoming of the plan is that the applicant is proposing project specific mitigation. The Mitigation Rule has a hierarchy of preference of mitigation approaches, with the use of commercial mitigation banks being the highest preference. The applicant has not demonstrated why one or more commercial mitigation banks cannot meet part or all of the mitigation requirements of the project. This is particularly important since it is unclear what experience or past success this applicant has had with the implementation of mitigation plans. It has been our experience that it is rare for a reservoir mitigation plan that was permitted to be implemented as proposed. Numerous permit revisions to accommodate changes in mitigation plans have been observed in the past. In some cases, the projects have been constructed while the mitigation plan is still undergoing modification, which is not acceptable. Some applicants have run out of funds to implement the mitigation plan (or to even build the facilities needed to utilize the reservoir). The use of approved mitigation banks would eliminate these problems.

**Response:** The new mitigation rule was created to insure no net loss of water quality functions and values. The district engineer must determine the required mitigation based on what is practicable and meets the “no net loss” rule. Ecological success, sustainability, proximity of compensation to impact site and “costs of the compensatory project” all will aid in the determination. (Sec. 332.3 a,1 Federal Register vol 73, No. 70/Thursday, April 10, 2008/Rules and Regulations).

The proposed reservoir will impact 18.73 acres of early successional and forested wetlands. The majority of these wetlands (17.54 acres) are low quality, fringe wetlands that have developed in the littoral zone of an existing NRCS impoundment. Restoration efforts will return 22.8 acres of currently maintained cropland to a restored bottomland hardwood community on the banks of Big Indian Creek. This wetland mitigation area exists alongside the same stream proposed for inundation and would result in “no net loss” of wetland habitats. Stream impacts to 47,468 linear

feet of channelized stream will be offset by the preservation and/or restoration of 24,872 linear feet of stream with wide buffers (> 200-ft) equating to over 202 acres of riparian buffer along these streams. Furthermore much of these riparian buffers will benefit from the adjacent wetland restoration which will contribute beneficial functions to the adjoining stream system and the Little Tallapoosa River watershed.

Mitigation banks are good options for small projects because banks ensure adequate monitoring and maintenance results in a successfully restored ecosystem; however, mitigation banks may not be the best choice for local governments attempting to obtain a reliable source of drinking water through development of a reservoir. Public water supply projects generally have greater stream and wetland impacts than a commercial development. Specific site restoration can not only target the kind and location of the natural systems impacted by the reservoir, but also can restore functions to habitat at a more reasonable cost.

Moreover, the mitigation sites, although site-specific, serve the community in the same manner as a mitigation bank. The two mitigation sites proposed would both likely qualify as USACE approved mitigation banks due to their source and level of impairment and potential for significant ecological contribution to the watershed. The sites will be subject to the same rigorous success criteria and monitoring contingencies as a traditional bank. Mitigation sites will also be constructed and maintained by qualified and experienced consultants and backed by the financial assurances of a county-wide water authority.

In addition to the additional functions and values associated with the restoration and preservation efforts proposed in the mitigation plan, impacts will be mitigated by the new functions created by a protected large body of clean water.

The mitigation proposed clearly results not only in no net loss, but in both a numerical and functional gain to the watershed as a whole. Mitigation banks serve a vital purpose to the community as well as the environment, but site-specific mitigation is a better option for large public projects where cost and basic public needs are of concern.

**Comment H-2: Compensatory Mitigation:** The applicant has proposed various stream and wetland mitigation actions at two sites. The applicant has not adequately described the watershed context of the mitigation sites and thus not justified their selection, which is a fundamental requirement of the Mitigation Rule. The site visit showed some potential to replace stream and wetland functions at these sites, but there is nothing in the application resembling the type of mitigation plan required by the Mitigation Rule. Thus, it is not possible to assess whether the proposed sites and mitigative actions will replace the stream and wetland functions lost due to the construction of the proposed reservoir along with the reservoir's upstream and downstream impacts.

**Response:** The Applicant has proposed mitigation actions at the Big Indian Creek mitigation site and the Garrett Creek mitigation site. Both sites are significant to the local watershed due to their size and position within the watershed. Both sites are also large contributors of nutrients and sediment to the Tallapoosa Basin making them excellent candidates for restoration. In fact,

both sites would likely qualify as independent mitigation banks.

Applicant will collect appropriate baseline data illustrating the current level of impairment at these sites prior to initiating any work. Applicant will include its baseline findings in a detailed mitigation work plan for each site. Additionally, Applicant will submit a Final Mitigation Plan that complies with the Final Mitigation Rule.

**Comment H-3: Compensatory Mitigation:** If applicant-initiated mitigation is shown to be the justified approach, the applicant will need to collect the appropriate baseline data and restructure the proposal to meet the Mitigation Rule's requirements. As noted above, of particular importance will be the applicant's ability to implement whatever mitigation plan is permitted. This means firm options on any proposed mitigation sites. Also, of relevance is this applicant's past mitigation actions, such as those related to other water supply reservoirs. The applicant will also need to provide substantial financial assurances to guarantee that he can implement whatever mitigation plan is proposed. We can provide additional detailed comments when a detailed mitigation plan is developed.

**Response:** Prior to initiating any work on a mitigation site, the Applicant will collect appropriate baseline data illustrating the current level of impairment at these sites and include it with the submittal of a detailed mitigation work plan for each site to the appropriate regulatory agencies. The Compensatory Mitigation Plan will be restructured to meet the Final Mitigation Rule's requirements.

Applicant contends that the mitigation plan will be implemented and that water rates will be adjusted to account for the expense. Further financial assurances are not required given the public nature of the Authority and its ability to adjust water rates.

**Comment H-4: Compensatory Mitigation:** Beyond the requirements of the Mitigation Rule for an acceptable mitigation plan is the question of how much mitigation is needed to compensate for the lost functions caused by the project. As noted above, the applicant did not provide any quantitative assessment of the project's mitigation requirements or the functional replacement provided by the two mitigation sites. However, we view it the responsibility of your office, in consultation with the Interagency Review Team to provide specific guidance to applicants regarding quantifications of mitigation for large projects. Unfortunately, there continues to be a lack of an agreed upon approach to quantify the mitigation requirements of large projects, such as water supply reservoirs. In the past EPA has recommended a revised version of the Savannah District Standard Operating Procedure to quantify the stream and wetland mitigation credit requirements for a reservoir. These credits could then be purchased from one or more approved mitigation banks in compliance with the Mitigation Rule. Without this method of impact assessment, the use of mitigation banks may not be possible.

**Response:** Applicant agrees that the Savannah District Standard Operating Procedure is not an appropriate method of quantifying appropriate mitigation requirements associated with a public drinking water supply reservoir. However, at this time there is no consensus between the regulatory agencies on an appropriate method for quantification of these requirements. Applicant asserts that the preservation, enhancement and restoration of the two sites proposed is



adequate compensation for inundation of the impounded, bi-furcated, impaired aquatic system along Indian Creek.

**Comment I:** In summary, EPA finds that the current project purpose, to supply 18 MGD by 2060, may not be supported by realistic population growth projections or the implementation of water efficiency measures and other alternative water sources. The alternatives analysis is inadequate and the applicant appears to not have selected the least damaging practicable alternative. There is no full description of the direct, indirect and cumulative impacts of the preferred alternative, and there is inadequate evidence of minimization of the impacts of the preferred alternative. Thus, it does not appear to EPA that the permit for the project, as currently proposed, meets the Section 404(b)(1) Guidelines, and the proposed project may have substantial and unacceptable adverse impacts on ARNI. We therefore recommend that the permit be denied.

This letter follows the field level procedures outlined in the August, 1992 Memorandum of Agreement between the EPA and the Department of Army, Part IV, paragraph 3(a) regarding Section 404(q) of the Clean Water Act.

**Response:** Applicant contends that its population projections are realistic and that its Alternatives Analysis is thorough and complete. Indian Creek reservoir is the least environmentally damaging practicable alternative. The direct, indirect and cumulative impacts have, and continue to be, addressed through Applicant's continued compliance with NEPA. Applicant asserts that this project meets the Section 404(b)(1) Guidelines and will not have unacceptable adverse impacts on ARNI.

Applicant asserts that this letter does not follow the field level procedures outlined in the above-referenced MOA. It fails to provide the specific details required regarding why there may be substantial and unacceptable impacts to aquatic resources of national importance, and why the permit should be modified, conditioned or denied to protect the aquatic resources of national importance.

Moreover, the elevation of this permit is not warranted. The above-referenced MOA states "the elevation of individual permit cases should be limited to those cases where the net loss (i.e., after considering mitigation) from the project (i.e. within the scope of impacts being evaluated by the Corps), will result in unacceptable impacts to aquatic resources of national importance." The proposed mitigation for this permit produces a net gain rather than a net loss to aquatic resources. Applicant proposes to complete site-specific mitigation on two properties that would likely qualify as individual mitigation banks. These two sites generate mitigation credits in excess of the impacts resulting from the reservoir.

**Comment K:** EPA also finds that the proposed mitigation plan is not in compliance with the requirements of the Mitigation Rule and it may not adequately compensate for the project's impacts. Due to the complexity of the project, the amount of information involved, the need for independent information and assessment and ACT basin issues, we further recommend that your office consider preparation of an EIS on the specific project and related regional water supply issues, particularly since the project did not go through the interagency process. EPA considers that a broader area wide EIS that looks at the water supply needs of the basin is warranted.

**Response:** Applicant contends it fully responded to EPA's concerns summarized here in its Responses to Comments A-K above.

### **3. U. S. Fish & Wildlife Service, 3/15/2010**

**Comment A:** The U. S. Fish and Wildlife Service (Service) has received your January 13, 2010, Joint Public Notice (JPN) (2009000042). An extension for comments was given by the Corps until March 13, 2010. Carroll County Water Authority proposes to construct a pump storage water supply reservoir on Indian Creek, a tributary of the Little Tallapoosa River, in Carroll County, Georgia. The proposed project consists of construction a 1,600-foot-long dam to create a 643-acre reservoir. The Indian Creek reservoir would function in three phases; Phase I would pump-water from Indian Creek; Phase II and Phase III would supplement the reservoir storage by pumping from the Little Tallapoosa River. The proposed project would impact approximately 47,468 linear feet of perennial and intermittent streams, 0.38 acres of ephemeral stream channels, 36.8 acres of open water, and 18.8 acres of wetlands. We submit the following comments on this project under provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended, 16 U.S.C. 661 et seq.) and the Endangered Species Act of 1973 (Act) as amended (16 U.S.C. 1531 et seq.)

**Response:** Applicant concurs with the above statement.

**Comment B:** The applicant currently obtains most of its water supply from the 660-acre Snake Creek Reservoir located in the Chattahoochee River Basin. The applicant is permitted to withdraw 8 mgd from the reservoir, and surface water supply is supplemented by three wells with a combined yield of approximately 0.5 mgd. A water supply needs assessment concluded that Carroll County's projected 2060 water supply deficit is over 25 mgd. Water demand is projected to exceed existing supply in about 2023 in the Tallapoosa Basin and in about 2035 in the Chattahoochee Basin, assuming the water supplies from both basins are mixed and interconnected. If such mixing is not permissible, separate water treatment and distribution systems would be necessary and water demand in some areas of the Tallapoosa Basin would exceed supply prior to 2023. This future water demand is based on growth population trends in Carroll and surrounding counties. While much of Carroll County is currently sparsely developed and one of the slowest growing counties in the Atlanta commuting area, the applicant believes there is potential for substantial development within the planning period through 2060.

**Response:** Applicant contends that Carroll County has been one of the fastest growing counties in Georgia over the past decade. The Applicant desires to secure adequate water supply to meet the demands of its future population. The recital of Applicant's Water Supply Needs Analysis is correct.

**Comment C:** The applicant plans to create the proposed reservoir by expanding an existing Natural Resource Conservation Service (NRCS) dam. The existing dam creates a 32-acre reservoir on a small portion of the main stem of Indian Creek. The proposed reservoir would permanently inundate the existing impoundment, the main reach of Indian Creek and several unnamed tributary streams. The proposed dam would impound Indian Creek to 1190 feet above



mean sea level (MSL) with a surface area of approximately 643 acres. Although the existing dam and 32-acre reservoir have somewhat impacted Indian Creek, as many as 23 fish species have been identified in the Indian Creek system. This includes several that are endemics to the Tallapoosa River system such as: Tallapoosa shiner (*Cyprinella gibbsi*); Tallapoosa sculpin (*Cottus tallapoosae*); Tallapoosa darter (*Etheostoma tallapoosae*); and Muscadine darter (*Percina smithvanezi*). One federally-listed freshwater mussel species, fine-lined pocketbook (*Hamiota altilis*), occurs in the Tallapoosa system yet it is not known from the Little Tallapoosa system. A mussel survey was conducted by Jerry Dinkins with no listed mussels observed within the study area. The applicant also reviewed information on occurrences of protected species from the Georgia Department of Natural Resources. No state or federally listed species were found.

**Response:** Applicant asserts that the existing NRCS dam on Indian Creek has bifurcated the stream system, and although fish sampling has not been conducted, believes the dam has likely impacted and/or exterminated many of the fish species listed.

Applicant acknowledges that these species are native endemics and therefore important; however, they are not rare or protected species and cannot be considered such unless they are listed. These species are inhabitants of small streams with adequate water quality, and the species are largely confined to the Tallapoosa Basin region of Georgia. None of the species are considered rare, threatened or of special concern in Georgia. Most are G4 or G5 species (meaning globally secure or stable) and are all considered stable throughout their range. It is likely that any stream with water quality good enough to provide a source of drinking water in the Tallapoosa River system would also support most of these species.

Applicant concurs with the remainder of this comment.

**Comment D:** We are concerned that inundating 47,468 linear feet of stream habitat and 18.8 acres of wetlands will significantly deplete natural aquatic habitat within the Indian Creek watershed. These wetlands and streams, although degraded in certain areas, provide a considerably more diverse habitat for fish and wildlife than would the proposed lacustrine system. Piedmont streams typically support redbreast sunfish (*Lepomis auritus*), bluegill (*L. macrochius*), and other sunfish, gizzard shad (*Dorosoma cepedianum*), suckers (*Moxostoma* spp.), catfish (*Ictalurus* spp.) carp (*Cyprinus carpio*), largemouth (*Micropterus salmoides*) and spotted bass (*M. punctulatus*), and a number of smaller darters, medtoms, shiners, chubs and minnows. Inundation will eliminate wetland and upland habitat used by upland game species, such as whitetail deer (*Odocoileus virginianus*), dove (*Zenaidura macroura*), squirrel (*Sciurus* spp.) rabbit (*Sylvilagus floridanus*) and turkey (*Meleagris gallopavo*); fur-bearers, such as bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), red (*Vulpes fulva*) and gray fox (*Urocyon cinereoargents*), opossum (*Dipelphus marsupialis*), and beaver (*Castor Canadensis*); other small mammals; a diverse array of waterfowl and other migratory and resident birds, and numerous turtles, lizards, snakes, salamanders, frogs, and toads.

**Response:** Applicant contends that the Indian Creek reservoir will not significantly deplete natural aquatic habitat. The impacted streams and wetlands are degraded due to the existing dam. Since the system is degraded, it is unlikely that all of the above-listed species inhabit the

Indian Creek watershed. Moreover, the reservoir will expand the existing lake habitat that is home to many species. The reservoir will also have a vegetated buffer that will preserve the land habitat of many of the above-listed creatures.

The above-listed species are common throughout Georgia. Any minor impacts this project may have will not threaten their stability.

**Comment E:** The applicant plans on providing instream flows equivalent to the monthly 7Q10 for the Little Tallapoosa River and for Indian Creek. Although this is a better option than annual 7Q10 (lowest 7-day average flow that occurs (on average) once every 10 years), we recommend the applicant implement the 30/60/40% Mean Annual Flow for instream flows. The applicant would be required at all times to release from the reservoir the lesser of 30% of the mean annual flow or inflow during the months of July through November, 60% of the mean annual flow or inflow during the months of January through April; and 40% of the mean annual flow or inflow during the months of May, June, and December. For direct water withdrawals out of a stream, the applicant should allow 30% of the mean annual flow of the stream or the inflow to pass the instream withdrawal point. This flow regime would be much more protective of natural instream flows and variability of flows throughout the seasons to support downstream aquatic habitat.

**Response:** Applicant contends that its proposed monthly 7Q10 in-stream flow adequately protects downstream aquatic habitats. The 30/60/40% Mean Annual Flow standard does little to further benefit downstream habitats. Additionally, the 30/60/40% Mean Annual Flow is so restrictive, the required pumping and pipeline capacities would need to be quadrupled to meet unmet demand (120 mgd from the Little Tallapoosa and 42 mgd from Indian Creek versus 31 mgd and 10.5 mgd). This would add more than \$100 million to the cost of the project. The arguable marginal benefit of this more restrictive standard is more than counterbalanced by the untenable additional costs. The inefficient use of larger pumps, pipes and facilities, and the impacts, environmental and human, that these larger facilities would instigate.

**Comment F:** The applicant had proposed two separate mitigation sites to compensate for impacts from the proposed reservoir...The two sites appear to be potentially good mitigation sites, however, the credits produced from these sites fall short of compensating for stream impacts (47,468 linear feet impacted to 24,872 linear feet of stream mitigation). We realize at this point there is no standardized SOP calculation worksheet for reservoirs due to the large impacts created by these projects. However, we recommend the application acquire additional mitigation to sufficiently compensate for stream impacts.

**Response:** Applicant agrees that there is no standardized SOP calculation worksheet for a reservoir; however, Applicant contends that it has proposed adequate mitigation. In the absence of a standardized assessment, Applicant used the Savannah District's 2004 SOP worksheets (without applying a scaling factor) as a guide to develop the mitigation plan.

Under the SOP, the proposed project would result in a need for 220,934 stream mitigation credits and 138 wetland mitigation credits. The proposed mitigation plan would generate 432,265 stream mitigation credits and 102.7 wetland mitigation credits. Included in this calculation are passive mitigation areas that will function as wetlands. These areas are not subject to any

success criteria throughout the monitoring period yet they will perform a host of wetland functions. In addition, the SOP does not account for the aquatic functions provided by a reservoir.

The Big Indian Creek Mitigation Site is designed to generate 282,928 stream credits (98,228 channel restoration and 184,700 riparian restoration) and 102.69 wetland credits. This site is located on the impact stream and would likely qualify as an USACE approved mitigation bank. The site is a large continuous tract with a variety of aquatic resources providing a wide array of aquatic functions. 200-foot buffers, four times the minimum buffer width, are proposed for the riparian restoration areas which are currently used for row crop agriculture and cattle production. Although the 200-foot riparian buffers are proposed as stream mitigation, these buffers will also function as wetland restoration areas due to their interconnectivity with adjoining hydric soils and adjacent wetland mitigation areas. Ultimately, these riparian areas will provide wetland functions as well as wildlife migration corridors along the restored stream channels.

The Garrett Creek Mitigation site generates 149,337 stream credits (55,623 channel restoration and 93,714 riparian restoration). The site also includes 13.89 acres of passive mitigation that will perform as a restored wetland. The passive mitigation areas are not included in the credit calculations, but they will substantially enhance the chemical, physical and biological function of the site. Passive mitigation areas are areas of hydric soils that have been impaired due to cattle grazing. These areas will be protected using cattle exclusion fencing which will allow them to regenerate naturally without any supplemental planting. These areas will support hydrophytes and act as a buffer to the stream mitigation components, protecting the stream from any anthropogenic activities occurring on nearby lands.

**Comment G:** We recommend Corps deny authorization of this permit pending submittal of a stream mitigation plan sufficiently compensate for stream impacts.

**Response:** Applicant contends that its Mitigation Plan provides sufficient stream mitigation to compensate for the proposed impacts. See Response to Comment F above.

#### **4. U. S. Army Corps of Engineers – Allatoona Lake, Jonathan Wise, 2/25/2010**

**Comment A:** This email is in reference to the Joint Public Notice distribution of the 404 permit application Number 200900042, designated applicant Carroll County Water Authority. After review, the Allatoona Lake Project has no comments concerning this issue.

**Response:** No response necessary.

#### **5. GA State Representative, District 69 Randy Nix, 2/23/2010**

**Comment A:** It is an honor and privilege to represent Carroll County as a member of the Georgia State Legislature.

Despite recent rains, most Georgians have not forgotten the severe drought that was experienced over the last several years. Based on these experiences, communities should be pursuing

proactive measures to ensure adequate and reliable water supplies to safeguard against the next prolonged dry spell. Fortunately, the Carroll County Water Authority is taking just that approach.

I understand the Water Authority has filed a 404 Permit application with your office for construction of the Proposed Indian Creek reservoir, and if approved, this project will be capable of fulfilling the county's water supply needs in the Tallapoosa Basin for generations to come. The Water Authority has kept me informed on the development of this project, and I am convinced the Indian Creek reservoir project is a well-thought out plan that minimizes the impacts to the environment while meeting the area's needs.

The Water Authority should be commended for their hard work in selecting this site and assuring a bright future for Carroll County. I ask the Corps to expedite the approval of the project's permit.

**Response:** Applicant concurs with this comment.

**6. GA State Representative, District 68, Tim Bearden, 2/22/2010**

**Comment A:** I have the honor and privilege of representing the citizens of Carroll County by serving as a member of the Georgia State Legislature.

As a member of Carroll County's local delegation, one of my responsibilities is to keep abreast of local issues that may impact my constituents. The Carroll County Water Authority has kept me informed of the development of the proposed Indian Creek reservoir in northwestern Carroll County. I am firmly convinced that the Indian Creek reservoir is the right selection at the right time and my support of this project remains strong.

Like most of Georgia, my constituents have experienced severe drought over the past several years, and we are thankful that the rains have returned. Georgia residents have come to understand that water is a precious commodity that we do not truly appreciate until it is in short supply. I commend the Water Authority's vision and endeavor to assure that water will be locally available not only now but far into the future, even under prolonged drought conditions.

I ask that the Corps waste no time in approving the Carroll County Water Authority's Indian Creek reservoir permit.

**Response:** Applicant concurs with this comment.

**7. GA Dept. of Natural Resources, Frances E. Fiegle, 1/21/2010**

**Comment A:** The proposed dam will have to meet the design criteria of the Georgia Safe Dams Act and Rules for Dam Safety regardless of its hazard classification because it is a water supply dam. The engineering design, construction plans and specifications will be reviewed by our office and will have to be approved before construction can begin.

Our office will determine the hazard classification of the dam in the near future to determine if it will have to be permitted as well.

**Response:** Applicant concurs with this comment and acknowledges that it will follow the appropriate procedures in obtaining approval of its dam design through the Georgia Safe Dams Program.

**8. GA Dept. of Natural Resources, Dan Forster, 2/16/2010**

**Comment A:** We recommend that the applicant address how the proposed project will affect aquatic habitats and species of Indian Creek and Little Tallapoosa River. For instance, the applicant should address how flow requirements for aquatic habitats and species of the Little Tallapoosa River will be met during pumping and removal of water from the Little Tallapoosa. According to our records (Appendix attached), several state and federally listed species are known from the Indian Creek Watershed (HUC 10) or from the main stem Little Tallapoosa River. The federally listed finelined pocketbook (*Hamiota altilis*) mussel has not been recorded in the Indian Creek or Little Tallapoosa watersheds, but is known from the larger Tallapoosa River watershed (HUC 8) within Georgia. Based on stream size and available habitat in Indian Creek, it is of potential occurrence and may warrant a mussel survey.

**Response:** Applicant included a report entitled “Safe Yield Computations and In-Stream Flow Considerations” with its Section 404 permit application. The report addresses the flow requirements, Monthly 7Q10, which will ensure that the proper flow is maintained. Applicant concurs that the finelined pocketbook mussel has not been recorded in the Indian Creek or Little Tallapoosa watersheds. Applicant commissioned Gerald Dinkins of Dinkins Biological Consulting to conduct a survey for mussels at the intake locations on Indian Creek, Indian Branch and the Little Tallapoosa River at Indian Creek. Mr. Dinkins did not locate any federally listed mussels. Applicant contends that an additional mussel survey is not warranted.

**Comment B:** Water supply reservoirs not only provide water to residents in the basin, but can also provide public recreation to the local community. Consideration should be given to providing public bank and boating access for reservoir users. Revenues generated by reservoir recreation would provide an economic benefit to the surrounding region. Management of fish populations can be coordinated with the Wildlife Resources Division (WRD) before and after reservoir construction. WRD has worked cooperatively with other municipalities and water authorizes throughout north Georgia to develop high quality fishing opportunities on water supply reservoirs, and we recommend that public fishing be a component in the final reservoir.

**Response:** Applicant appreciates DNR’s offer to assist it in developing a recreational fishing lake. Applicant does intend to request that public fishing be allowed in the Reservoir Management Plan submitted to EPD for approval.

**9. GA DNR, Historic Preservation Division, Elizabeth Shirk, 2/28/2010**

**Comment A:** Based on the information provided, HPD understands a Phase I cultural resources survey has been completed for the proposed project. Please forward the survey report to HPD

for our review and comment, as it becomes available.

Please refer to project number **HP-100120-004** in any future correspondence regarding this undertaking.

**Response:** Applicant will provide a copy of the report.

**10. GA State Clearing House, Barbara Jackson, 1/19/2010**

**Comment A:** Correspondence related to the above project was received by the Georgia State Clearinghouse on 1/19/2010. The review has been initiated and every effort is being made to ensure prompt action. The proposal will be reviewed for its consistency with goals, policies, plans, objectives, programs, environmental impact, criteria for Developments of Regional Impact (DRI) or inconsistencies with federal executive orders, acts and/or rules and regulations, and if applicable, with budgetary restraints.

The initial review process should be completed by 2/17/2010 (*approximately*). If the Clearinghouse has not contacted you by that date, please call (404) 656-3855, and we will check into the delay. We appreciate your cooperation on this matter.

**Response:** No response required.

**11. GA State Clearing House Memorandum, Barbara Jackson, 2/22/2010**

**Comment A:** The state level review of the above referenced Joint Public Notice/Permit Request has been completed. This request has been found to be consistent with state goals, policies, plans, objectives, and programs, with which the state is concerned.

Additional Comments: The applicant/sponsor is advised that the Soil & Water Conservation Commission was included in this review but did not comment within the review period. Should they submit comments within the next two weeks, we will forward to you.

The applicant/sponsor is advised to note additional comments from DNR's Safe Dams Program and from DNR's EPD/Flood Plain Management.

**Response:** Applicant concurs with this assessment. Applicant will address specific comments received by the Clearinghouse below:

**a. Three Rivers Regional Commission, Jan Edens, 2/9/2010**

**Comment B:** Please find enclosed Form SC-3 for the above referenced project. We mailed twenty-four packets and received three (3) responses. We are assuming that the proposal is considered to be consistent with area wide goals. I have attached copies of the responses, as well as a copy of the mailing list, for your records.



**Response:** Applicant concurs with the assessment that the proposal is considered to be consistent with area wide goals.

**b. Three Rivers Regional Commission, Janet Edens, 2/0/2010**

**Comment C:** This notice is considered to be consistent with those state or regional goals, policies, plans, fiscal resources, criteria for developments of regional impact, environmental impacts, federal executive orders, acts and/or rules and regulations with which this organization is concerned.

**Response:** Applicant concurs with this assessment.

**c. Town of Roopville, Hon. R. A. Merrell, Mayor, (no date)**

**Comment D:** This project will be needed in the future and I assume that it will be done.

**Response:** Applicant concurs that the project is needed.

**Comment E:** It should be paid for by all who will use or profit from it, but like all projects of this type, it will be financed mostly by the taxpayers and current CCWA customers. I assume that tap fees, etc. will pay some of the costs.

**Response:** Applicant is exploring its financing options. The project will be paid for by CCWA revenues.

**Comment F:** In addition to the costs to citizens who will never benefit from it, we should consider the effects on our quality of life from higher taxes, more traffic, crowded schools, and increases in crime brought on by any increase in population.

**Response:** Applicant contends that it is constructing the reservoir in anticipation of the projected population growth for Carroll County. Applicant's intent is to enhance citizen's quality of life by providing needed water supply.

**Comment G:** This is a personal comment, not a recommendation for or against the project. Quality of life is the most important thing we still have in parts of Carroll County and development destroys it. Do we want to become another Gwinnett??

**Response:** Applicant agrees that quality of life is important.

**d. Three Rivers Regional Commission, Jeannie Brantley, 2/5/2010 (sent by Sandra Parker, Coweta County Planning Department)**

**Comment H:** Ellis Cadenhead, General Manager of the Coweta County Water

and Sewer Authority, was asked to review the Joint Public Notice for the Carroll County Indian Creek Water Supply Reservoir issued by the Army Corps of Engineers, Savannah District, dated January 13, 2010. Mr. Cadenhead submitted the following remarks:

The Coweta County Water & Sewerage Authority has reviewed the document from Three Rivers Regional Commission from the Applicant Carroll County Water Authority. We have no comments in regard to the proposed reservoir. As an added note, our Authority placed a pipe across the new Chattahoochee bridge on GA Hwy. 16 in anticipating a connection to Carroll County Water Authority at some time in the future for added redundancy for both systems.

**Response:** Applicant concurs with this comment.

e. **Heard County Board of Commissioners, Hon. June Jackson (no date)**

**Comment I:** This proposal is considered to be consistent with those Areawide (goals), (policies), (objectives), (plans), (programs), and (fiscal resources) with which this organization is concerned. (Line through inappropriate word(s)).

**Response:** Applicant concurs with this comment.

f. **GA DNR SAFE Dams Program, Dallan Woosley/Ed Fiegle, (no date)**

**Comment J:** This notice is considered to be consistent with those state or regional goals, policies, plans, fiscal resources, criteria for developments of regional impact, environmental impacts, federal executive orders, acts and/or rules and regulations with which this organization is concerned.

*[The dam has not yet been classified. Will have to meet the requirements of the Safe Dams Act and Rules for Dam Safety. Already responded to the US ACOE 404 notification.]*

**Response:** Applicant concurs with this comment and acknowledges that it will follow the appropriate procedures in obtaining approval of its dam design through the Georgia Safe Dams Program.

g. **GA DNR Flood Plain Management, Collis Brown, 2/1/2010 (no date)**

**Comment K:** This notice is considered to be consistent with those state or regional goals, policies, plans, fiscal resources, criteria for developments of regional impact, environmental impacts, federal executive orders, acts and/or rules and regulations with which this organization is concerned.

*[See Attached]*

**Response:** Applicant concurs with this comment.



**h. GA DOT OFC of Transportation Planning, Angela Alexander, 2/10/10**

**Comment L:** This notice is considered to be consistent with those state or regional goals with which this organization is concerned.

**Response:** Applicant concurs with this comment.

**12. State of Alabama, J. Brian Atkins, 3/11/2010**

On behalf of the Alabama Office of Water Resources and the State of Alabama (“Alabama”), I submit the following public comments regarding the application by Carroll County Water Authority for a permit to construct a reservoir (“Indian Creek reservoir”) on Indian Creek in the Tallapoosa River Basin. While reserving its rights to file supplemental comments should additional information become available, Alabama raises the following concerns and comments:

**Comment A: Need for Project**

**Comment A-1:** Alabama believes that well-designed and operated pump-storage reservoirs can be an appropriate means to meet local water supply demand. However, Alabama also recognizes that such projects have the potential to become “water factories” generating far more water supply capacity than actually needed by the project operator. Alabama will object to, and take all appropriate action to prevent, any project that is operated primarily to generate excess water for sale as a commodity outside of the applicant’s service area. This is particularly true where, as here, the service area in question is in close proximity to other river basins. Alabama strongly believes that any water withdrawn from the Little Tallapoosa Basin should be used, treated, and discharged in the Little Tallapoosa Basin.

**Response:** Applicant concurs that pump-storage reservoirs are an appropriate means to meet local water supply demand. However, the mere use of a pump-storage reservoir does not create a “water factory”. The Georgia Environmental Protection Division closely governs withdrawals from Georgia’s streams. The Applicant obtained a certification letter from EPD dated August 19, 2009 which states that the Indian Creek reservoir is needed. EPD allows withdrawals based on the needs of the defined service area. Applicant’s service area for this project is the Tallapoosa Basin portion of Carroll County. Applicant’s unmet need is based on the projected demand within its current service area.

**Comment A-2:** Along these lines, Alabama has concerns regarding the population projections used to justify the size of the project. Those projections seem to be out of line with similar projections used for other purposes by both Carroll County and the Atlanta Regional Commission. Alabama believes that the Corps must independently evaluate the projected need for this project, and ensure that the applicant’s population projections are reasonable and not inflated to justify construction of a project with excess capacity.

**Response:** Applicant contends that its population projections are reasonable and were not generated to construct a project with excess capacity. Applicant's intent is to secure adequate water supplies for its service area within the Tallapoosa Basin through 2060. Applicant acknowledges that its population projections differ from those in the Carroll County Comprehensive Plan and the ARC study; however, Applicant believes it is prudent to plan conservatively.

**Comment A-3:** Finally, Alabama strongly believes that any attempt to expand the capacity of the proposed project beyond the 18 MGD calculated yield will require additional permitting and public review and comment. The applicant should not be allowed to enter into water supply contracts or other water supply obligations in excess of the 18 MGD yield number used in the project application without submitting a revised application that is subjected to scrutiny by the Corps and interested stakeholders.

**Response:** Applicant contends that at this time, it does not intend to expand the capacity of the proposed project beyond 18 MGD.

#### **Comment B: Inter-Basin Transfers**

**Comment B-1:** Alabama is concerned about the possibility of inter-basin transfers of water withdrawn from Indian Creek reservoir. As noted by the applicant, the divide between the Tallapoosa and Chattahoochee River Basins runs through Carroll County. Unfortunately, Alabama does not see any information regarding the potential for Inter-basin transfers included in the application materials.

**Response:** Applicant's service area for the proposed reservoir is the Little Tallapoosa Basin portion of Carroll County. Applicant purposefully selected this service area so as to minimize inter-basin transfers.

**Comment B-2:** While it appears the applicant has estimated return flows to the Tallapoosa Basin at approximately 10 million gallons per day ("MGD"), Alabama sees no data or analysis to support this estimate. Nor does the application appear to contain any information regarding the location of the estimated return.

**Response:** Applicant estimated a return flow of 10 mgd in the year 2060 for water modeling purposes. A direct return ratio of 55% was assumed as a conservative estimate. Actually, the returned wastewater will most likely be greater than 55%. The exact location of the return in the year 2060 is unknown.

**Comment B-3:** The fact that the proposed reservoir site and pumping intake are so close to the Alabama state line raises the possibility that even relatively minor inter-basin transfers could have a significant impact on the flows in the Little Tallapoosa River as it enters Alabama. Alabama requests that any potential inter-basin transfers be fully evaluated in the NEPA process, as further described below, and further requests that it be provided with any and all information, data, or analysis relating to potential inter-basin transfers of water withdrawn from the proposed Indian Creek reservoir. Alabama believes that any permit of the proposed project should be conditioned on the

implementation of safeguards against significant inter-basin transfers.

**Response:** See Response to Comment B-1 above. Applicant will continue to comply with the NEPA process.

### **Comment C: Pump-Storage Operations**

**Comment C-1:** Without access to more detailed information, Alabama cannot access the downstream impacts, if any, of the proposed pumping from the Little Tallapoosa River contemplated by Phase II and Phase III of Indian Creek reservoir Operations. Specifically, the application does not contain detailed information on the timing of pumping operations for any of the proposed operational phases. However, as a general matter, Alabama believes that careful assessment of the specific pumping operations proposed in connection with the Indian Creek reservoir is essential to ensure that pumping does not adversely impact downstream flows and the environment. Certainly, pumping operations should be conducted in such a way to ensure that flows in the Little Tallapoosa are not significantly impacted.

**Response:** Applicant provided Alabama with detailed information regarding the operation of the reservoir, including modeling spreadsheets. On January 26, 2009, Applicant and its consultants met with Trey Glenn (ADEM) and Brian Atkins (ADECA) and presented a complete overview of the proposed reservoir including detailed information on its operation and an analysis of impacts to stream flow at the Georgia/Florida State Line. Applicant provided ADEM and ADECA a complete copy of the presentation and an interactive yield modeling spreadsheet. Additionally, Applicant provided a complete electronic copy of the Section 404 permit application to Tom Littlepage (ADECA) on January 27, 2010. Applicant is willing to provide additional information as needed.

The timing of pump operations is discussed in the Safe Yield Computations and In-stream Flow Considerations report under tab 8 of the Section 404 permit application. The report states: “If the reservoir is not full at the end of the day (without diversion pumping), the lesser of the following volumes was computed and diverted to the reservoir:

- the amount of pumping needed to refill the reservoir,
- the designated diversion pumping capacity, or
- the diversion volume that can be accommodated beyond minimum in-stream flow requirements.”

Accordingly, the timing of pump operations depends on the reservoir storage deficit, the pumping capacity, and the amount of flow available in the diversion stream. The spreadsheet yield model provided to Alabama allows manipulation of each variable.

The minimum in-stream flow bases for all elements of the project have been established using Monthly 7Q10<sup>1</sup> values. Pumped diversions from either Indian Creek or the Little

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<sup>1</sup> The 7Q10 is defined as the average seven consecutive day flow rate that is expected to occur once in ten years.

Tallapoosa River are bounded by the minimum of the pumping capacity, the storage deficit in the reservoir and the amount of flow available in the diversion stream above and beyond the Monthly 7Q10 for the location in question. Additionally, the model allows for assessment using either the Indian Creek Diversion or the Little Tallapoosa River Diversion on a priority basis to bound operational latitude and define the set of possible operating conditions. The spreadsheet yield model includes user information and daily delineation of operations, flows and storage levels over more than 57 years of gage record. This model has been provided to ADECA and others.

**Comment C-2:** At a minimum, Alabama needs to be able to access the criteria for pumping operations. For example, what parameters will drive the pumping schedule – reservoir level, customer demand, stream flow, or some combination of all three? Alabama needs assurance that the proposed project will not be operated in such a way that excess water supply capacity is generated as a matter of course. For example, in normal to wet years, the reservoir should be able to remain relatively full without excessive pumping. However, if the project operator is selling water outside of its service area, the potential exists for more or less continuous pumping. Such pumping could induce conditions in the Little Tallapoosa River that mimic dry years – i.e., unfettered sale of water from the project could pump the Little Tallapoosa River into a drought – like condition. Likewise, in dry years. Alabama would expect the storage pool at the proposed reservoir to be fully tapped and not keep artificially high by pumping in order to promote recreational activity or bolster lakeside property values. Alabama cannot assess the impact of the proposed project without much more detailed information regarding how the reservoir will be operated.

**Response:** The criteria for pumping operations are discussed in Response to Comment C-1 above.

Applicant intends to utilize the reservoir to service customers in its service area within the Little Tallapoosa Basin. Customer demand will impact the reservoir level, along with natural inflows, evaporation, in-stream flow releases from the reservoir, and diversions into the reservoir. The need for and extent of pumping is driven by reservoir level and available stream flow for diversion.

The watershed of the Indian Creek reservoir is only 4.8 square miles. The long-term difference between natural runoff and reservoir evaporation is about 3.8 cfs (2.5 mgd). Therefore, even during normal to wet years, a substantial portion of water supplies need to originate from Indian Creek and the Little Tallapoosa River.

In dry years, the level of the reservoir will drop due to limited availability of flows sufficient to support storage restoration. The magnitude and duration of future drought conditions are impossible to predict. Therefore, if the reservoir is not full, diversion pumping into the reservoir would be expected to occur any time flows are available for diversion from either Indian Creek or the Little Tallapoosa River. Only by doing so can the yield of the reservoir be attained.

Applicant would like to assure Alabama that the Indian Creek reservoir project is being pursued as a water supply project, not as a residential amenity or recreational lake. Operation of the reservoir is to provide protection against a drought similar to the conditions that prevailed in 2007-2008.

**Comment C-3:** Alabama believes that any permit for this project should be conditioned on implementation of a well-defined set of operational rules. In addition, Alabama believes that the agency or entity with control over reservoir operations should be clearly defined, and that appropriate means should be approved for oversight of actual reservoir operations.

**Response:** Applicant will have control over reservoir operations under the regulatory authority of the Georgia Environmental Protection Division. The reservoir operations are more fully described in Response to Comments C-1 and C-2 above.

#### **Comment D: Water Quality**

**Comment D-1:** Alabama is very concerned about the potential for additional degradation of water quality as a result of operations at the proposed reservoir. Beginning at the Alabama/Georgia state line and running over thirty miles into Alabama, the Little Tallapoosa is listed as impaired under Section 303(d) of the Clean Water Act. This section of the Little Tallapoosa has been heavily impacted by run-off from farming and grazing operations, and while reservoir operations are unlikely to increase the contaminant load in the stream, they do have the potential to exacerbate existing water quality problems. Decreases in the volume of water moving downstream translate into increased concentrations of pollutants, which in turn have the potential to further degrade the in-stream aquatic environment.

**Response:** Applicant contends that the proposed reservoir will have a *de minimis* impact to downstream water quantity and water quality. As shown in the down stream studies included in the Section 404 permit application, Applicant proposes to protect downstream flows by maintaining a monthly 7Q10 release. Protecting downstream flows will prevent increased concentrations of pollutants.

Applicant contends that the reservoir will not increase the contaminant load in the stream and will potentially decrease the contaminant load. Reservoirs are not conducive to fecal coliform. Water stored in the reservoir and released as a part of its minimum instream flow will likely contain less contaminants than water normally flowing down the river. At the very least, the positive water quality impacts of the reservoir will balance or negate any negative impacts associated with a *de minimis* decrease in water quantity.

**Comment D-2:** Alabama will take action to protect the quality of water entering its borders, and simply cannot evaluate the potential for water quality problems from the proposed project without a detailed understanding of how the reservoir will be operated. While Alabama understands that there are minimum stream-flows below which no pumping will occur, Alabama cannot agree to any proposed pumping regime that allows the minimum flows to become a ceiling and a floor. Reductions in the natural variability

of stream flows due to pumping can have a significant adverse effect on water quality and aquatic environments in Alabama.

**Response:** Applicant has and will continue to provide information to Alabama to demonstrate the negligible impact the proposed project will have on downstream flows and water quality. Moreover, the minimum flows are not a ceiling, they are a floor. It would be impossible to make these flows to be a ceiling since the reservoir storage has nowhere near the capacity to remove such flow quantities.

**Comment D-3:** Under no circumstances should any pumping be allowed during periods of low flow or drought, particularly if the effect of pumping would significantly reduce flows at the Alabama state line or result in water quality problems. In addition, Alabama notes that it does not appear that all of the requirements for compliance with Section 401 of the Clean Water Act have been satisfied at this time, and Alabama expects to receive a full opportunity to submit detailed evaluations of the impacts of the proposed project during the Section 401 certification process.

**Response:** Applicant asserts that its project will have a minimal impact on downstream flows and that it proposes to adhere to a minimum instream flow of monthly 7Q10. The creek and river pumpage during low flows (monthly 7Q10 low flows) will cease and water will be withdrawn solely from the reservoir for water supply purposes. During low flow times, the reservoir will release the monthly 7Q10 low flows or the flows entering the reservoir whichever is less.

Applicant's permit application filed with the Corps on December 28, 2008 is a joint permit application under Section 404 and Section 401 of the Clean Water Act. Applicant contends that it will address any additional concerns Alabama may have, but that the Section 401 certification process is well underway.

**Comment E: Return Flows.** Alabama notes that the applicant has assumed a return flow of 10 MGD into the Little Tallapoosa Basin for purposes of assessing instream flows. Alabama is unclear as to how the applicant arrived at this number for return flows, and formally requests copies of any data, information or analysis used to arrive at the 10 MGD figure included in the application. Alabama is particularly concerned about the validity of this assumption, as Alabama understands that Carroll County has, in the past, practiced land application of treated wastewater instead of discharging that treated wastewater back into the Little Tallapoosa Basin.

**Response:** See Response to Comment B-2 above. Applicant has returned wastewater using land application systems in the past. The cities of Bowdon, Carrollton, Temple, and Villa Rica return wastewater through a combination of LAS and direct discharges in the Little Tallapoosa Basin. Although indirect, land application systems accomplish the same purpose as direct discharge. Moreover, Applicant's return flow estimate is conservative enough to account for potential future use of land application systems. It is likely return flows will exceed the 10 mgd used for planning purposes.

**Comment F: Impact to Threatened Species.** The joint public notice includes a request to the



U. S. Department of the Interior, Fish and Wildlife Service – along with other agencies – for information regarding whether any listed species (or species proposed for listing) may be present in the area. Obviously, that information is essential to any evaluation of the direct impacts of this proposed reservoir on threatened or endangered species. However, consideration should also be given to the potential impacts on downstream species in the Little Tallapoosa (and greater ACT) Basin as a result of regulated flows associated with reservoir operations. As both the Corps and the applicant are aware, portions of the Tallapoosa Basin have been designated as critical habitat for certain species of threatened or endangered freshwater mussels. There is no indication that all necessary consultation under the Endangered Species Act has been undertaken or that all reasonable and prudent measures have been established to minimize any take of known downstream species dependent on specific, seasonal river flows.

**Response:** U. S. Department of the Interior, Fish and Wildlife Service provided a comment stating that no federal threatened or endangered species are known in the Little Tallapoosa River or Indian Creek. Moreover, Applicant commissioned Gerald Dinkins to conduct a freshwater mussel survey at the intake locations on Indian Creek, Indian Branch and the Little Tallapoosa River at Indian Creek. The survey did not identify any threatened or endangered freshwater mussels. Formal consultation has not been requested by Fish and Wildlife Service. Applicant contends that formal consultation is not warranted due to the lack of direct or indirect impacts to threatened or endangered species.

#### **Comment G: Inadequate Information Regarding Downstream Impacts**

**Comment G-1:** Alabama requests that the Corps independently model the impacts of the proposed project on stream flow in the Little Tallapoosa and provide a copy of the model to Alabama for further review.

**Response:** Applicant has provided its model spreadsheets and data to Alabama such that it can undertake its own analysis of the proposed operation of the reservoir. Applicant will make this data available to the Corps upon request.

**Comment G-2:** Alabama further requests that any permit for the construction of this reservoir be conditioned upon the establishment of a seasonal schedule for withdrawals that ensures that downstream impacts are minimized, particularly during low flow and drought conditions. Given the proximity of the proposed reservoir to the Alabama state line, Alabama is very concerned about the potential for reduced flows in the Little Tallapoosa River as it enters Alabama, and therefore requests that the Corps carefully assess any such impacts.

**Response:** Applicant asserts that the proposed reservoir will have minimal impacts to downstream flows and will adhere to a monthly 7Q10 release schedule. Said schedule will by its nature take into account seasonal (monthly) flows and thereby minimize impacts during low flow and drought conditions.

**Comment G-3:** Finally, Alabama notes that the applicant indicates that copies of the spreadsheet models used to assess yield and in-stream flows will be provided upon request. Alabama has been provided with the data used to populate the spreadsheet

model, but has not been provided with information sufficient to analyze the assumptions underlying the model or the formulas used to generate the model output. Alabama requested a copy of this spreadsheet model via-email to the applicant's consultant on March 5<sup>th</sup>. Our request was forwarded to the project's attorney. To date, we have not received the spreadsheet model. Therefore, we again formally request a copy of the spreadsheet model in electronic format in order for us to be able to fully evaluate the inputs and assumptions made by the applicant.

**Response:** Applicant provided a copy of the spreadsheet model to Mr. Brian Atkins (ADECA) on January 28, 2009. Applicant sent additional copies of the above-requested information through its consultant, Dave Campbell of Schnabel Engineering. Mr. Campbell provided the information via electronic-mail to ADECA on March 12, 2010 at 4:08pm.

**Comment H: Inadequate Information Regarding Need For Pumping Capacity.**

**Comment H-1:** Alabama has questions regarding the applicant's conclusions regarding yield and pumping requirements. While each alternative site was modeled for a safe yield of 18 MGD Alabama cannot tell from the information provided why the pumping capacity required to satisfy that yield from the proposed reservoir is so high. For example, the applicant seems to conclude that diversion pumping capacity of at least 33 MGD's is required to satisfy a total demand of only 18 MGD from Indian Creek reservoir. Alabama requests additional information on this subject, and a more thorough explanation of how the applicant arrived at these pumping numbers. Moreover, Alabama believes that the Corps should independently assess the applicant's analysis of the diversion pumping needed to satisfy the projected consumptive demand.

**Response:** See Comment 2, EPA, Response to Comment E-3.

**Comment H-2:** Finally, as a general matter, Alabama objects to any proposed project that includes pumping capacity far in excess of that needed to satisfy the projected water supply needs of the applicant. As noted above, the concept of a pump-storage reservoir is that the pumps will be used to fill the reservoir in times of flood or high flow, where the water can be stored for use during dry periods. Alabama objects to, and will oppose, any project that operates in a manner that confounds or contradicts the underlying concept of a pump-storage project. This includes any effort by the applicant to use excess pumping capacity to justify undertaking water supply obligations beyond the 18 MGD yield upon which the project application is based or to keep reservoir levels high in dry months to accommodate recreational purposes.

**Response:** Applicant asserts that the pumping capacities presented are those that are needed to satisfy the projected water supply needs of the Tallapoosa basin portion of its service area. As noted by the Commenter, "the concept of a pump-storage reservoir is that the pumps will be used to fill the reservoir in times of flood or high flow, where the water can be stored for use during dry periods." Because the reservoir watershed is very small, nearly all of the project yield must come from diversions. In recognizing that diversions cannot be accommodated during dry periods, the volume of water that needs to



be withdrawn during higher flows needs to make up for this deficit. It is not uncommon for the diversion pumping capacity to be from two to five times the yield of a pump-storage reservoir project, especially where the reservoir and/or diversion is located on a small watershed. The development of the spreadsheet for this project has been undertaken using broadly accepted analysis techniques that perform a daily mass balance of reservoir inflows and outflows to validate that the usable storage is sufficient to provide the needed yield throughout the drought of record.

**Comment I: Cumulative Impacts:** At the present time, Alabama is aware of several proposed or otherwise contemplated activities within the Tallapoosa River Basin within the State of Georgia that have or will impact the quantity, quality or timing of water flow into Alabama, including other proposed or constructed water supply storage reservoirs. When the Corps conducts its NEPA review of the current permit application, Alabama believes that the Corps is required to conduct a full and adequate analysis of the environmental impacts of these activities, specifically including the indirect and cumulative impacts of these permits and any other activity within the Coosa and Tallapoosa Basins.

**Response:** To its knowledge, Applicant's proposed reservoir is the only water supply project currently in the Section 404 permitting process in the Tallapoosa Basin. The West Georgia Regional Water Authority's application for a 50 mgd reservoir on Beech Creek has been withdrawn.

The National Environmental Policy Act (NEPA) requires that an action be analyzed in the proper context to determine impacts on the environment that result from the incremental impact of the proposed action when added to other actions. The Applicant will work with the Corps to assess the cumulative impacts of the project. As this analysis is completed, it will be submitted to the Corps as required by NEPA.

**Comment J: Request for Public Hearing.** Alabama appreciated the opportunity to attend the recent public information meeting conducted by the applicant. The meeting was an informal and useful first step in ensuring that all interested stakeholders are fully informed of the details of the proposed project. However, as noted in these comments, critical information regarding the operations of the proposed project have not yet been made available. Until such information is provided, any assessment of reservoir impacts will be incomplete. Because of the substantial public interest associated with water reservoir projects in the Tallapoosa River Basin, the State of Alabama respectfully requests that the Corps hold a public hearing to solicit additional input from interested stakeholders on this permit request as part of its NEPA review process. The public hearing should not be held unless the applicant provides the additional information requested and the Corps has had an opportunity to review the modeling work performed by the applicant.

**Response:** Applicant acknowledges that Mr. Larkin Radney, counsel for the Alabama Office of Water Resources, attended and participated in the public meeting on March 4, 2010.

Applicant asserts that the information requested by Alabama was provided through Mr. Dave Campbell via electronic-mail to ADECA on March 12, 2010. Applicant welcomes the

opportunity to provide any additional information or clarification Alabama may need to evaluate the project.

Further, Applicant believes that the public has been provided ample opportunity to evaluate and comment on the project. The Corps issued a Joint Public Notice to over 4,000 recipients to solicit public comment on the proposed project. In addition, a notice was posted on the Corps' website. The Corps provided an extended 60 day period in which interested parties could provide comments.

Applicant conducted public meetings specifically to discuss its water supply options on August 8, 2008 and September 18, 2008. Applicant's consultants presented the water supply alternatives and a detailed analysis of each option. Public comments were heard at each meeting. Applicant published four articles in the local newspaper including:

1. August 17, 2008 full-page article detailing the reservoir alternatives being considered and welcoming comments and questions from the public;
2. September 6, 2008 article summarizing the Question and Answer session that occurred during the August 8, 2008 public meeting;
3. October 10, 2008 article announcing the selection of Indian Creek Reservoir as the preferred alternative; and
4. February 27, 2010 advertisement of the March 4, 2010 public information meeting.

Additionally, Applicant conducted a public information meeting on March 4, 2010. The meeting was advertised in the local paper and the date was coordinated with the Corps who notified the state and federal agencies. This meeting provided an opportunity for interested parties to hear a presentation about the project, ask questions, and express comments. The Applicant also provides open and easy access to information about the proposed reservoir through its monthly public meetings and website. Interested members of the public may submit questions directly to the Authority through the website or participate in the public meetings. The Corps and the Applicant made substantial efforts to provide opportunities for the public to comment on this project. A public hearing would not provide any additional information that is not already available.

**Comment K: Preparation of an Environmental Impact Statement.** As a result of the impact of this facility upon downstream flows, the impacts to downstream water quality, and the cumulative downstream impacts from the various water resources projects undertaken and proposed within the State of Georgia, Alabama believes that issuance of this permit will constitute a major federal action significantly affecting the quality of the human environment. As a result, Alabama respectfully requests that, if the Corps proceeds with processing this permit, an Environmental Impact Statement (EIS) be prepared as opposed to an Environmental Assessment/Finding of No Significant Impact. Alabama further requests that it be included in the Scoping Process for the EIS. The Office of Water Resources will coordinate any additional input from Alabama agencies during the NEPA process.

**Response:** The Applicant asserts that an Environmental Impact Statement is not required in this instance as the project will not significantly affect the quality of the human environment. An Environmental Assessment will provide the information necessary for the Corps to take a "hard

look” at the direct, indirect and cumulative impacts of the project. Moreover, the current submittal contains the level of detail on alternatives, environmental impacts and mitigation required for the National Environmental Policy Act (NEPA) analysis. The alternatives analysis thoroughly considers the no action alternative, water conservation, recycle and reuse of wastewater, groundwater, purchase of water from an existing source, and an upland constructed flow augmentation reservoir in addition to surface water supply alternatives. Applicant has worked to address the concerns of the resource agencies and will continue to attempt to resolve all legitimate agency concerns through the 404 process. An EIS will not result in a more meaningful analysis of the project impacts; the main effect will be to delay the project further, at great expense to the Applicant.

**13. Dept. of Conservation and Natural Resources, M. Barnett Lawley, 2/10/2010**

**Comment A:** Due to the potential biological impacts to Alabama public trust resources, the Alabama Division of Wildlife and Freshwater Fisheries (ADWFF) is concerned and requests to be a cooperating agency during the entire permitting process.

**Response:** Applicant asserts that the proposed reservoir will have minimal impacts to Alabama public trust resources. Further the Georgia Environmental Protection Division is a cooperating agency for purposes of addressing any potential biological impacts.

**Comment B:** We recognize the need to provide a long-range water source for Carroll County. Although meeting water supply needs of our society is vital, the loss of wildlife and their habitat must be minimized. The ADWFF is particularly concerned about the detrimental effects downstream of this project on aquatic biota due to reductions to instream flows.

**Response:** Applicant agrees that Carroll County needs a long-range water source and that the loss of wildlife and their habitat must be minimized. Applicant asserts that the Indian Creek reservoir will have *de minimis* impacts to downstream aquatic biota.

**Comment C:** We request the applicant be required to maintain continuous minimum instream flows downstream of the two water intakes and below the dam. These flows should mimic natural variability and be protective of aquatic biota. The applicant should determine the water quality and quantity changes due to the proposed water withdrawal, and their effects on the aquatic biota in the Little Tallapoosa River, particularly within Alabama.

**Response:** Applicant concurs with the need for continuous minimum in-stream flows downstream of the two water intakes and below the dam. Applicant also agrees that these flows should mimic natural variability and be protective of aquatic biota. This is why Applicant decided to apply a monthly 7Q10 basis for all in-stream flows.

**Comment D:** The proposed withdrawals may impact hydroelectric generation at R.L. Harris Dam operated by Alabama Power Company. These potential impacts should be investigated.

**Response:** Applicant contends that the proposed reservoir will not impact hydroelectric generation at R.L. Harris Dam. The average consumptive demand (water supply deliveries plus

reservoir evaporation less return flows) of the Indian Creek reservoir water supply project is approximately 10 million gallons per day (mgd)<sup>2</sup>. The average flow within the R.L. Harris watershed is about 1,500 mgd. The water utilized in connection with the Indian Creek reservoir is negligible when taking into consideration the sheer size of the R.L. Harris watershed. In fact, the reservoir's consumptive demand is less than 1/3 of the average evaporation off of the R L Harris Reservoir (calculated based on evaporation rates used for the Indian Creek reservoir).

**Comment E:** The applicant has conducted a preliminary alternative analysis and we request the Corps of Engineers evaluate the alternative analysis to determine the least damaging practicably alternative, provided the alternative does not have other significant adverse environmental consequences.

**Response:** Applicant has provided a complete analysis of the alternatives and asserts that Indian Creek reservoir is the least environmentally damaging, practicable alternative.

**Comment F:** The ADWFF does not object to the proposed permit if all biological and environmental concerns are satisfactorily addressed. We strongly urge the Corps of Engineers to require an Environmental Impact Statement (EIS) to address these concerns. We may see the need to address other issues as the permitting process continues, particularly if an EIS is required. Finally, we also request input and consultation throughout the permitting process in matters relating to Alabama public trust resources.

**Response:** Applicant contends that all biological and environmental concerns will be satisfactorily addressed. However, Applicant asserts that an Environmental Impact Statement is not required in this instance as the project will not significantly affect the quality of the human environment. An Environmental Assessment will provide the information necessary for the Corps to take a "hard look" at the direct, indirect and cumulative impacts of the project. Moreover, the current submittal contains the level of detail on alternatives, environmental impacts and mitigation required for the National Environmental Policy Act (NEPA) analysis. The alternatives analysis thoroughly considers the no action alternative, water conservation, recycle and reuse of wastewater, groundwater, purchase of water from an existing source, and an upland constructed flow augmentation reservoir in addition to surface water supply alternatives. Applicant has worked to address the concerns of the resource agencies and will continue to attempt to resolve all legitimate agency concerns through the 404 process. An EIS will not result in a more meaningful analysis of the project impacts; the main effect will be to delay the project further, at great expense to the Applicant.

#### **14. Carroll County Board of Commissioners, Bill Chappel, 2/18/2010**

**Comment A:** It is my understanding that the Carroll County Water Authority has filed a permit application with your office for the proposed Indian Creek reservoir in northwestern Carroll County. I am writing to let you know of my support for this project and of the project's importance to all Carroll County residents.

Over the past several years, the citizens of Carroll County have seen and felt the devastating

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<sup>2</sup> 18 mgd water supply + 2 mgd avg. evaporation - 10 mgd return flows = 10 mgd

effects of prolonged drought and many have come to understand that water conservation efforts alone are not enough. Current citizens and future generations deserve to have a reliable water supply that is capable of meeting their needs for the foreseeable future.

At just over 500 square miles, Carroll County is one of the largest counties in Georgia. The County is located in close proximity to the metropolitan areas of Atlanta and Birmingham and has easy access to Interstate 20. These factors provide the County with ample opportunity and potential for significant industrial and residential growth.

The Indian Creek reservoir will help to ensure that the County will not be inhibited by lack of an adequate water supply, which is why I believe this project is so important. Water Authority officials together with their consultants investigated numerous potential reservoir sites and have demonstrated that the Indian Creek site is the best alternative.

In closing, I have become convinced that the proposed Indian Creek reservoir is a well-thought out plan that addresses the County's water supply needs in an environmentally and economically sound way, and I ask that the Corps expedite approval of this project.

**Response:** Applicant concurs with this comment.

**15. Randolph County Commissioner, Thomas "June" Waldrep, 3/5/2010**

Randolph County is located in eastern Alabama, south west of Carroll County, location of the proposed Indian River Reservoir. Lake Wedowee lies in Randolph County and collects watershed drainage from both the Upper Tallapoosa (Alabama) and Tallapoosa Headwaters (Georgia) watersheds. Both the Tallapoosa River and the Little Tallapoosa River originate in Georgia and empty into Lake Wedowee.

**Comment A:** The Town of Wedowee and the surrounding towns and communities enjoys the benefits of a lake community; and the success of economic well-being depends upon Lake Wedowee and control of good recreational summer pool water levels. We have great concern that the proposed Indian River Reservoir will adversely affect the already marginal Lake Wedowee water levels.

**Response:** Current Lake Wedowee water levels are a function of the current operation of the dam and are outside of the control of the Applicant. Please refer to the response to Comment 13, Dept. of Conservation & Natural Resources, Response to Comment D regarding flow impacts.

**Comment B:** Lake Wedowee already struggles with power generation and downstream water flow requirements, along with insufficient river and stream water flows; and any water removed above Lake Wedowee during the low rainfall periods of summer, will worsen lake level control. If the Indian Creek reservoir permit is granted, provisions must be included to restrict withdrawal of Little Tallapoosa River water (and including Indian Creek) during low river flow periods so that sufficient water will continue to flow to Lake Wedowee. If sufficient water withdrawal restrictions are not granted, the reservoir permit request should be denied.

**Response:** The current operational considerations applied to Lake Wedowee are beyond the control of the Applicant. Applicant will maintain minimum in-stream flow standards acceptable to the Georgia EPD. These standards are based on historic monthly 7Q10 values. Water will be drawn from the diversion sources only if needed to refill the reservoir. Please refer to Comment 13, Dept. of Conservation & Natural Resources, Response to Comment D.

Based on the 57 year historic flow analysis, water supply operations for the Indian Creek water supply reservoir would result in the following flow impacts at Lake Wedowee:

<u>Flow Range</u>	<u>AAF Impact</u>	<u>% of Wedowee Avg.</u>
Less than 25% of AAF (21% of time)	4.4 mgd	0.3%
25% to 50% of AAF (23% of time)	10.2 mgd	0.7%
50% to 75% of AAF (16% of time)	11.3 mgd	0.8%
75% to 100% of AAF (11% of time)	12.3 mgd	0.8%
Greater than 100% of AAF (29% of time)	12.5 mgd	0.8%

AAF= Average Annual Flow

As demonstrated above, the proposed reservoir will be operated such that it will have less than a one percent impact on flows into Lake Wedowee.

**Comment C:** We heartily support the work that the Lake Wedowee Property Owners' Association does in monitoring and contesting water quality and water quantity issues in Lake Wedowee and the Upper Tallapoosa watershed. We concur with their documentation of water flows and water levels as supported by the United States Gage Service and the Alabama Power Company.

**Response:** Applicant is without sufficient information or knowledge to respond to this comment.

**16. City of Mount Zion, Mayor Sue Bloodworth, 2/22/2010**

**Comment A:** The City of Mt. Zion is located in north central Carroll County in close proximity to Interstate 20. The City has a land area of approximately 10 square miles and great potential for quality growth in the years ahead. One factor that could affect the City's future is the availability of water. Over the last few years, residents of the City have experienced the effects of a severe drought. During this time, many ideas have been brought forth related to water conservation and development of water supplies. I support water conservation measures, but believe that additional water supplies are the most appropriate method to mitigate the effects of a drought.

I understand that the Carroll County Water Authority has completed a study of potential water supply reservoir sites within the Little Tallapoosa basin and have selected the Indian Creek reservoir site as the best alternative. I fully support this selection and the construction of the Indian Creek reservoir. I believe that the impacts to the natural environment are far outweighed by the benefits that will be brought to our community.



I request that the Corps approve this project so our residents and future generations will have a dependable water supply for decades to come.

**Response:** Applicant concurs with this comment.

**17. City of Temple, Mayor Rick Ford, 2/24/2010**

**Comment A:** I want to inform you of my support for the Indian Creek reservoir. The City of Temple has experienced significant residential and commercial growth over the last decade. During this period, our water needs have been supplied by the Carroll County Water Authority and without a reliable water supply this development would not have been possible.

With our city limits bisected by Interstate 20, I believe that our growth potential is vast and that adequate planning and construction of infrastructure is crucial, which is why I support this project. The Water Authority has investigated numerous potential reservoir sites and has demonstrated that the Indian Creek site is the best alternative. The reservoir has the capacity to meet our long-term water needs while minimizing the impacts to the environmental and downstream users.

I am convinced that the proposed Indian Creek reservoir is an essential step in meeting the future needs of our City, and I ask that the Corps approve the construction of this project.

**Response:** Applicant concurs with this comment.

**18. City of Bowdon, Jimmy Neigs, 2/25/2010**

**Comment A:** I want to inform you of my support for the Indian Creek reservoir project. Most Georgians have experienced a severe drought over the last several years, and I believe efforts to reduce the impacts of droughts should be taken. I am certain the recent actions taken by the Carroll County Water Authority are essential steps in that direction.

Water Authority officials together with their consultants investigated many potential reservoir sites within the Tallapoosa Basin and have demonstrated that the Indian Creek site is the best alternative. The Indian Creek site, which is located at an existing Natural Resource Conservation Service (NRCS) dam, is capable of meeting the county's projected water demand for years to come while minimizing the effects on the environment and downstream users.

I ask that the Corps approve the construction of this project without delay.

**Response:** Applicant concurs with this comment.

**19. Town of Wedowee, Mayor Tim Coe, 3/4/2010**

Randolph County is located in eastern Alabama, south west of Carroll County, location of the proposed Indian River Reservoir. Lake Wedowee lies in Randolph County and collects

watershed drainage from both the Upper Tallapoosa (Alabama) and Tallapoosa Headwaters (Georgia) watersheds. Both the Tallapoosa River and the Little Tallapoosa River originate in Georgia and empty into Lake Wedowee.

**Comment A:** The Town of Wedowee and the surrounding towns and communities enjoys the benefits of a lake community; and the success of economic well-being depends upon Lake Wedowee and control of good recreational summer pool water levels. We have great concern that the proposed Indian River Reservoir will adversely affect the already marginal Lake Wedowee water levels.

**Response:** See Response to Comment 15 above (exact same comment).

**Comment B:** Lake Wedowee already struggles with power generation and downstream water flow requirements, along with insufficient river and stream water flows; and any water removed above Lake Wedowee during the low rainfall periods of summer, will worsen lake level control. If the Indian Creek reservoir permit is granted, provisions must be included to restrict withdrawal of Little Tallapoosa River water (and including Indian Creek) during low river flow periods so that sufficient water will continue to flow to Lake Wedowee. If sufficient water withdrawal restrictions are not granted, the reservoir permit request should be denied.

**Response:** See Response to Comment 15 above (exact same comment).

**Comment C:** We heartily support the work that the Lake Wedowee Property Owners' Association does in monitoring and contesting water quality and water quantity issues in Lake Wedowee and the Upper Tallapoosa watershed. We concur with their documentation of water flows and water levels as supported by the United States Gage Service and the Alabama Power Company.

**Response:** See Response to Comment 15 above (exact same comment).

## **20. Central Elmore Water & Sewer Authority, Robert L. Prince, Jr., 2/9/2010**

**Comment A:** CEW&SA is a major provider of potable water to residences and businesses in Central Alabama. The primary source of water for CEW&SA is drawn from Lake Martin, which is located in the Tallapoosa Basin in Central Alabama. Within the past number of years (CEW&SA) has experienced first hand the dramatic impact reduced water flow in the Tallapoosa Basin can inflict. This reduced water can have a significant negative impact in CEW&SA's ability to draw existing required water resources and to effectively serve over 66,000 individuals and businesses in Central Alabama. Most of the areas served by CEW&SA may not have cost effective alternative water sources.

Due to the factors noted above, CEW&SA opposes the above referenced project because of the negative impact on potential water flow and the available water resources in the Tallapoosa Basin. Ultimately this project will likely have a negative financial impact on CEW&SA and its individual and wholesale customers.



**Response:** Applicant asserts that the proposed reservoir will have a *de minimis* impact on flows into Lake Martin and no impact to CEW&SA's ability to serve its customers. The average consumptive demand (water supply deliveries plus reservoir evaporation less return flows) of the Indian Creek reservoir water supply project is approximately 10 million gallons per day (mgd). The average flow within the Lake Martin watershed is 8,200 mgd (820 times the consumptive demand from the Indian Creek water supply project). In fact, this 10 mgd of consumptive demand is also less than 1/4 of the average evaporation off of Lake Martin (calculated based on evaporation rates used for the Indian Creek reservoir).

**21. Alabama Power Company, Matthew W. Bowden, 3/12/2010**

**Comment A:** Alabama Power Company (APC) submits the following comments regarding the application by Carroll County Water (CCWA or Authority) for a permit to construct a reservoir on Indian Creek in the Tallapoosa River Basin to be known as the Indian Creek Water Supply Reservoir (Reservoir). APC would support the proposed project if it were to include reasonable requirements insuring adequate flows into APC's downstream Tallapoosa River Basin projects. However, as explained below, the data presented in the CCWA's Section 404 permit application is insufficient to determine the Reservoir's ability to maintain reasonable downstream flows at all times and is otherwise insufficient to determine the potential impact of the Reservoir on APC's Tallapoosa hydroelectric projects.

**Response:** Applicant asserts that it has provided adequate information regarding downstream flows in its Section 404 permit application. Applicant proposes to release monthly 7Q10 flows from the reservoir to minimize downstream impacts. Due to the minimal impact on downstream flows, the reservoir will not impact APC's Tallapoosa hydroelectric projects.

**Statement:** APC owns and operates 4 hydroelectric developments within the Tallapoosa Basin downstream of the proposed Reservoir – R. L. Harris Dam, Martin Dam, Yates Dam, and Thurlow Dam. Each of these hydroelectric developments is licensed by the Federal Energy Regulatory Commission (FERC) for specific project purposes, only one of which is hydroelectric power production. These hydroelectric developments also provide important flood control, recreation and economic opportunity, irrigation and drinking water, fish and wildlife habitats, environmental flows and navigation support on the Alabama River. APC is concerned about the proposed Reservoir's potential impacts on these project purposes. APC provides the following specific comments after having reviewed CCWA's Section 404 permit application:

**Comment B: Interbasin transfers.**

**Comment B-1:** Documents in the CCWA application explain that the southeastern third of Carroll County is located in the Chattahoochee River Basin while the northwestern two-thirds are located in the Tallapoosa River Basin. However, the Brown and Caldwell "Water Supply Needs Assessment" included in the application and dated November 2008 makes clear that because of where the population growth is expected to occur within the county (the Chattahoochee basin), a disproportionate amount of future water supply needed to meet the population growth must come from the Tallapoosa River.

**Response:** The service area for this project is the Little Tallapoosa River Basin areas

within Carroll County. Applicant purposely sized its needs by basin to minimize the potential for an inter-basin transfer. Moreover, the majority (two-thirds) of Carroll County's land and population lies in the Little Tallapoosa Basin.

**Comment B-2:** In a letter from CCWA to the Georgia Environmental Protection Division (GaEPD), CCWA states that "the Authority maintains over 30 interconnections with surrounding water utility systems allowing us to provide water to other water systems during times of need." That same letter states that "the Authority's goal is to minimize inter-basin transfer by approximating the water supply needs of each basin with the approximate demand from each basin." However, the application contains no details concerning how CCWA plans to accomplish that goal. Given the large number of interconnections, APC is concerned about CCWA's ability to adequately address inter-basin transfer issues. With the limited provided in the application, it is unclear how CCWA will comply with GaEPD's "provision for certification that the water stored in the proposed reservoir is used within and returned to the Tallapoosa Basin."

**Response:** Applicant does maintain numerous interconnections with surrounding water utility systems as a safe-guard during times of drought or emergencies. The purpose of the interconnections is not to circumvent or promote inter-basin transfers. Moreover, many of the interconnections are with water systems within the Tallapoosa Basin. Applicant intends that the water from the proposed reservoir will be used and returned in the Little Tallapoosa Basin.

#### **Comment C: Downstream flows.**

**Comment C-1:** The application does not adequately explain the maintenance of flows in the creeks downstream of the reservoir and diversion points or even the hydrology of the proposed Reservoir with its Phase I, Phase 2 and Phase 3 diversions.

**Response:** Please refer to the response to Comment 12, Alabama, Response to Comment C-1.

**Comment C-2:** The Safe Yield Computations and In-Stream Considerations Report (Report) included in the application states that separate accounting is made of discharges downstream of the reservoir site and discharges in the diversion source stream downstream of the proposed diversion, but does not explain what this separate accounting is or even what it means.

**Response:** This statement simply means that the Indian Creek pump station operations and the Little Tallapoosa River pump station operations are calculated separately so that the effects of each can be evaluated separately.

**Comment C-3:** The Report also does not explain how or when these diversions will be used to supplement low flows into the Reservoir. The Report suggests that the Minimum Instream Flows (MIF) were analyzed; however, there is insufficient detail in the Report to determine the Reservoir's ability to maintain downstream flows during low flow periods. While the Report states that the spreadsheet analysis accounted for MIF considerations

both in the reservoir stream as well as the diversion stream, it does not detail the extent to which those were considered.

**Response:** Applicant asserts that the report does explain how and when diversion will be used to supplement low flows into the Reservoir. The reservoir is located in a very small watershed (4.8 square miles). Therefore, very little water supply will originate from within the reservoir watershed. When water is available for diversion (i.e., flow is greater than the MIF) and the reservoir can accept those diversions, diversions will be used to supplement the reservoir. The MIF at the diversion is the monthly 7Q10, and only flows in excess of the MIF can be diverted. The reservoir will function to provide water supply and to maintain downstream flows by releasing the lesser of the monthly 7Q10 flow in effect for the month in question or actual inflow, if less. Also, refer to Comment 12, Alabama, Response to Comment C-1.

**Comment D: Water Quality.** There is insufficient information in the application to determine whether the construction and operation of the Reservoir will negatively impact water quality in APC's downstream projects or affect our ability to meet State of Alabama water quality standards.

**Response:** Applicant contends that it has provided sufficient information demonstrating that the proposed reservoir will not negatively impact water quality downstream. No pollutants will be added, and low flows will be protected.

**Comment E: Pumping capacity.**

**Comment E-1:** Under the proposal, CCWA intends to install diversion pumping structures in 3 phases, with an ultimate pumping (withdrawal) capacity of 25.5 MGD (55 CFS) out of the Little Tallapoosa River basin to support the Indian Creek reservoir to provide a safe yield of 18 MGD. Based on our experience during the recent drought in 2007 and 2008, APC questions whether there would be sufficient flow to support anything close to a 55 CFS withdrawal for use to recharge the Reservoir.

**Response:** The 25.5 mgd value was an earlier projection of need calculated during the 2007-2008 drought. Applicant agrees with the Commenter's in that flows in the Tallapoosa during the 2007-2008 drought were at the lowest levels ever recorded within the basin. After the 2007-2008 drought, the studies were updated and the currently proposed diversion capacity out of the Little Tallapoosa River is 31 mgd (48 cfs). A reservoir with 10 billion gallons of storage and diversion capacity of 41.5 mgd (31 mgd from the Little Tallapoosa River and 10.5 mgd from Indian Creek) is necessary to meet water demand during such a drought event. During calendar year 2007, the model (Phase III) shows that drought conditions limited combined diversion pumping from Indian Creek and the Little Tallapoosa River to an average of only 4.7 mgd (out of a total diversion *capacity* of 41.5 mgd). This limited diversion availability would instigate drawdown of the reservoir to meet water supply demand. With the return of higher flows, there would be a greater level of pumping to restore reservoir storage. The combined design pumping capacity of 41.5 mgd is what was determined to be needed to have the reservoir refill.

**Comment E-2:** Moreover, a withdrawal of this magnitude could result in lost hydroelectric capacity and energy generation at APC's downstream hydroelectric plants on the Tallapoosa River. It could also significantly impact our ability to meet downstream flow commitments.

**Response:** Applicant asserts that the change in flows and hydropower production at APC hydroelectric plants would be insignificant. The total average consumptive demand of the project is 10 mgd. R.L. Harris, the most upstream of the affected APC reservoirs, has an average flow of 150 times this amount. As noted previously, the consumptive demand from the Indian Creek Water Supply Reservoir Project is roughly equivalent to 1/3 of the evaporation losses from R.L. Harris.

**Comment E-3:** Additionally, pumping capacities were determined based in part on extended hypothetical flow data; since the drought of record is over, there is now sufficient data to update the pumping capacities. The USACE should utilize actual, not hypothetical, data in their detailed analysis.

**Response:** At the time the analyses were being performed, West Georgia was in the midst of the drought of record and simulating recovery flows based on the prior drought of record was determined to be the best approach. The flow data has since been updated to March 10, 2010 and shows full reservoir recovery. The updated spreadsheet yield analysis was forwarded to ADECA and others upon request. The response to Comment 12, Alabama, Response to Comment C-1 provides greater detail on the final project basis.

**Comment F: Return flows.** The CCWA states that 10 mgd of the water withdrawn will return to the Tallapoosa River, but, similar to the interbasin transfer issue discussed above, no documentation or supporting evidence was presented in the application to substantiate this claim. Thus, for all practical planning purposes it must be assumed that no significant amounts of the water withdrawn will be returned to the Tallapoosa River.

**Response:** Applicant estimated a return flow of 10 mgd in the year 2060 for water modeling purposes. A direct return ratio of 55% was assumed as a conservative estimate. Actually, the returned wastewater will most likely be greater than 55%. Assuming that none of the water would be returned is counter to common sense. While the exact location of the return in the year 2060 is unknown, since water supply use will be in the Tallapoosa Basin, so will the return flows.

**Comment G: Flood control.** APC operates the R. L. Harris Project in conformance with a flood control plan prescribed by the Mobile District Corps of Engineers. The presence of an upstream reservoir could change the characteristics of the Harris flood hydrographs. However, there is insufficient information in the application to assess the impacts on downstream flood characteristics that would be produced by the reservoir.

**Response:** The Indian Creek reservoir will be constructed on a 4.8 square mile watershed. No tangible impacts to flood operations at any of the APC hydropower reservoirs will result from flood attenuation provided within this 4.8 square mile headwater area.

**Comment H: Other outstanding questions.** Numerous questions regarding the effects of the Reservoir remain unanswered. Among these questions are:

**Comment H-1:** Would diversion pumping stop during low flow conditions?

**Response:** If the river flow at the diversion is less than the monthly 7Q10 (M7Q10), no diversion pumping would occur. If river flow is above the monthly 7Q10, water up to the permitted amount may be withdrawn provided the M7Q10 is protected. For example, during the calendar year 2007, the model (Phase III) shows that drought conditions would limit combined pumping (from Indian Creek and Little Tallapoosa River) to a daily average diversion of only 4.7 mgd (out of a total diversion *capacity* of 41.5 mgd). Please also refer to the response to Comment 12, Alabama, Response to Comment C-1.

**Comment H-2:** What downstream flows would be required from the Reservoir?

**Response:** The lesser of the applicable monthly 7Q10 or actual inflow.

**Comment H-3:** How would downstream flows be impacted by the Phase 1, 2 and 3 diversions?

**Response:** Applicant contends that the reservoir will have a minimal impact to downstream flows. The average consumptive demands (water supply deliveries plus reservoir evaporation less return flows) for Phases I, II and III, as assessed for the planning basis, are 7.3 mgd, 13.8 mgd and 10.1 mgd. Therefore, on average, downstream flows would be reduced by these amounts if the maximum yield is being delivered for each respective phase. Note that for the planning basis modeling, only Phase III reflects consideration of return flows, thus showing a higher consumptive demand for Phase II. If 5 mgd in return flow is considered for Phase II, the initial diversion capacity from the Little Tallapoosa River can be reduced to 7.5 mgd and consumptive demand becomes 8.8 mgd.

**Comment H-4:** Is it premature to approve a new reservoir in the Alabama-Coosa-Tallapoosa Basin before the Corps completes its EIS and updates its Master Manual for that Basin?

**Response:** Applicant contends that there is not a moratorium on permitting new reservoirs. Applicant contends that the Corps has not initiated nor does it need to initiate an EIS for this project. Applicant further asserts that the project should not be delayed due to updates to the Corps Master Manual.

**Comment H-5:** Should the NEPA analysis for the Reservoir be included in the EIS being prepared for the ACT Master Manual?

**Response:** Applicant asserts that this is not necessary. Any EIS for the ACT Master Manual and the NEPA analysis for the proposed reservoir can continue independent of one another.

**Comment H-6:** What are the impacts on flood control?

**Response:** Negligible, but marginally beneficial on a local level.

**Comment H-7:** What requirements will be placed upon reservoir operations for flow maintenance downstream?

**Response:** See Response to Comments H-1 and H-2 above.

**Comment H-8:** What agency or authority will have the responsibility for assuring that any conditions or commitments made by CCWA in the application for this permit will be met?

**Response:** The Corps will enforce conditions included in the Section 404 permit.

**Comment H-9:** What agency or authority will assure that reservoir operations conform to plans outlined in the application?

**Response:** The Applicant will control the operations of the reservoir. The Georgia Environmental Protection Division will enforce the conditions in the withdrawal permit and assure that reservoir operations conform to those conditions.

**Comment H-10:** Are the projected needs for additional water supply reasonably accurate, and is a new reservoir the best alternative to provide for water supply?

**Response:** Applicant contends that its projected water supply needs are accurate and that a new reservoir is the least environmentally damaging, practicable alternative.

**Comment I:** In summary, APC believes that the information contained in the notice and the application is insufficient to fully assess the proposed Reservoir's potential impacts on APC's downstream projects. The Corps should request further data addressing the potential downstream impacts of the proposed Reservoir.

**Response:** Applicant contends that it has provided sufficient information showing that the proposed reservoir will have minimal impacts to downstream water quality and quantity. Applicant asserts that it has fully responded to APC's concerns in responses A through H above.

## **22. Turner Environmental Law Clinic, Larry Sanders, 3/15/2010**

**Comment A:** On behalf of the following organizations: Center for Biological Diversity, Environment Georgia, Georgia Canoeing Association, Save Our Saugahatchee, Mobile Baykeeper, Lake Martin Home Owners and Boat Owners Association, Alabama River Alliance, Coosa River Basin Initiative, Southern Environmental Law Center, and Georgia River Network, we submit the following comments regarding the construction of a water supply reservoir on Indian Creek in Carroll County. Our concerns, at this point, include the following issues, all of which are discussed in this letter:



- 1) The narrow definition of the applicant's purpose and need;
- 2) Applicant's insufficient analysis of alternatives;
- 3) Need for an independent evaluation of impacts of the of the project;
- 4) Comments concerning the permitting process

Based on our review of the application and all the supporting material submitted by the Carroll County Water Authority ("CCWA"), we recommend that the Corps of Engineers ("Corps") deny the permit. From the data at hand it is clear that CCWA cannot show a legitimate justification for construction of a reservoir of the size proposed.

**Response:** Applicant addresses all of the above-listed concerns in detail below. Applicant further states that it has provided ample evidence justifying the construction of the Indian Creek reservoir as proposed.

**Comment B:** We also respectfully request a public hearing so that our concerns, and the concerns of the citizens that we represent, may be explored more fully. We look forward to working with you further on this matter.

**Response:** Applicant contends that a public hearing is not warranted. The Corps issued a Joint Public Notice to over 4,000 recipients to solicit public comment on the proposed project. In addition, a notice was posted on the Corps' website. The Corps provided an extended 60 day period in which interested parties could provide comments.

Applicant conducted public meetings specifically to discuss its water supply options on August 8, 2008 and September 18, 2008. Applicant's consultants presented the water supply alternatives and a detailed analysis of each option. Public comments were heard at each meeting. Applicant published a full-page article in the local newspaper on August 17, 2008 detailing the reservoir alternatives being considered and welcoming comments and questions from the public.

Additionally, Applicant conducted a public information meeting on March 4, 2010. The meeting was advertised in the local paper and the date was coordinated with the Corps who notified the state and federal agencies. This meeting provided an opportunity for interested parties to hear a presentation about the project, ask questions, and express comments. The Applicant also provides open and easy access to information about the proposed reservoir through its monthly public meetings and website. Interested members of the public may submit questions directly to the Authority through the website or participate in the public meetings. The Corps and the Applicant have made substantial efforts to provide opportunities for the public to comment on this project. A public hearing would not provide any additional information that is not already available.

**Comment C: Narrow Definition of the Applicant's Purpose and Need**

**Comment C-1:** The Applicant's purpose and need are defined so narrowly as to preclude all alternatives except a large pumped-storage reservoir located within the Little Tallapoosa basin. NEPA requires the Corps to independently determine the project's general purpose, and to independently verify the applicant's stated need for the project. 42 U.S.C. § 4332(c); *See also* 40 C.F.R. § 230.10(a)(3) and *Sierra Club v. Van Antwerp*, 526 F. 3d 1353, 1366-7

(11<sup>th</sup> Cir. 2008). Based on the information available we recommend that the purpose and need be adjusted to more accurately reflect the likely needs of the community.

**Response:** Applicant asserts that its purpose and need are not narrowly defined and that they do accurately reflect the needs of the community. Applicant's purpose is to provide Carroll County with a reliable source of public water supply capable of satisfying the projected water demand during drought conditions in the Tallapoosa River Basin portion of the service area of CCWA for projected growth through the year 2060. Applicant neither narrowed its purpose to, nor only considered, large pumped-storage reservoirs.

Moreover, the current submittal contains the level of detail on alternatives, environmental impacts and mitigation required for the National Environmental Policy Act (NEPA) analysis. The alternatives analysis thoroughly considers the no action alternative, water conservation, recycle and reuse of wastewater, groundwater, purchase of water from an existing source, and an upland constructed flow augmentation reservoir in addition to surface water supply alternatives.

**Comment C-2: The proposed service area is already served by existing water supplies.**

**Comment C-2-A:** First, the proposed reservoir will not be the first CCWA large pumped-storage reservoir authorized to serve the citizens of the Little Tallapoosa basin. In fact, Snake Creek reservoir is licensed to serve the entire CCWA service area including the population of the Little Tallapoosa basin, is already functional. The Corps of Engineers issued CCWA a permit to construct Snake Creek reservoir in 1994 to serve the entire CCWA service area in **both** the Chattahoochee and Little Tallapoosa basins. Since then, CCWA constructed the reservoir but has not built infrastructure to deliver water to the Little Tallapoosa basin.

**Response:** Applicant acknowledges that the Corps issued a permit for the Snake Creek Reservoir. However, the Snake Creek Reservoir is located in the Chattahoochee River Basin. The Snake Creek reservoir alone will not meet the 2060 water supply needs even within the Chattahoochee Basin let alone Applicant's service area as a whole. In an effort to limit inter-basin transfers and meet its future water demands, Applicant proposes to construct and operate the Indian Creek reservoir in the Tallapoosa Basin. Lack of available water, not infrastructure is the issue.

**Comment C-2-B:** To date, CCWA has not seen great demand for the water stored in the Snake Creek reservoir in either basin. Consequently, most of the capacity of Snake Creek reservoir is currently unused. According to the Needs Assessment submitted with the permit application, CCWA currently produces only 4.48 MGD, while Snake Creek reservoir is currently permitted to produce 8 MGD, and has a design capacity of 13 MGD. Thus, CCWA proposes to hoard the water currently being stored in Snake Creek reservoir to meet future demand in the Chattahoochee basin, rather than use Snake Creek reservoir for its authorized purpose.

**Response:** Applicant is not attempting to hoard water. Applicant is actively pursuing

an additional water supply source to meet the future needs of its customers. Additionally, Applicant asserts that its efforts to avoid interbasin transfers are not an attempt to hoard water, but an attempt to comply with state policy.

**Comment C-2-C:** Second, the incorporated portions of the CCWA service area within the Little Tallapoosa basin, especially Carrollton, have ample capacity to serve any reasonably foreseeable population growth in the basin. Unlike CCWA, Carrollton has made significant investments in water storage, treatment, and delivery infrastructure within the Little Tallapoosa basin, as well as sewerage. Carrollton's permitted supply of 12 MGD is sufficient to serve a population of 88,000 at the 135 gallons per capita per day (gcd) assumed by CCWA in its Needs Assessment. Assuming a more reasonable daily per capita demand of 115 gcd, Carrollton alone has permitted capacity to serve a population of over 104,000. Future population growth outside of the City of Carrollton service area, should it occur, can be served by a much smaller reservoir than the one proposed, or by a combination of aggressive conservation and existing reservoirs.

**Response:** Applicant contends that Carroll County's cities do not have ample capacity to serve both its service area and the CCWA's service area through 2060. It is true that Carrollton is expected to have excess capacity and the yield of the proposed reservoir was reduced based on the assumption that Carrollton will be able to supply some water to the CCWA in the future. However, the CCWA currently provides water to the cities of Villa Rica, Mt. Zion, and Temple, Georgia in addition to Cleburne County, Alabama. The cities within Carroll County do not have adequate water supply to serve themselves let alone the unincorporated portions of the county.

Furthermore, reducing the daily per capita demand to 115 gcd as the Commenter suggests is arbitrary and counter to water demand trends.

Applicant's efforts to secure a permit for the Indian Creek reservoir demonstrate a significant investment in water storage, treatment and delivery infrastructure in the Little Tallapoosa Basin.

Applicant asserts that water conservation and/or a smaller reservoir will not meet the project purpose.

**Comment C-3: CCWA's Needs Assessment grossly over-estimates the future demand for water.**

**Comment C-3-A:** CCWA's population projections are unsupported and very significantly from other recent estimates. As part of developing its forecast for long-term water demand, the applicant predicted future population growth in Carroll County through the year 2060. The applicant projects that Carroll County's population will grow from approximately 120,000 people in 2010 to approximately 420,000 in 2060, foreseeing a 55% growth this decade alone. However, in the Carroll County Comprehensive Plan Update (2008) they estimate that by 2030 the population will likely only reach 148,421. This projection is based on the midpoint of collected

projections that vary from a low of 134,848 and a high of 163,979. Recognizing this large projection variance, Carroll County's location on the periphery of the Greater Atlanta area and the current recession the Comprehensive Plan Update favors a midpoint linear projection for their long term planning. CCWA's figures are in great excess of those contemplated by Carroll County. Currently, the State EPD, the Governor's Office of Planning & Budget, and the Carl Vincent Institute are in the process of putting together population numbers for the entire state. These numbers are still in progress. Once they are available, these numbers will be the best source of information on population projections for the state of Georgia.

**Response:** Applicant contends that its population projections are reasonable and supported by a number of studies. In 2002, Brown & Caldwell prepared a need study in connection with the West Georgia Regional Water Authority. The 2002 study estimated Carroll County's 2050 population at 446,680. The 2002 study was reviewed and concurred with by the Coosa Valley Regional Development Center and the Chattahoochee-Flint Regional Development Center.

In 2008, Applicant commissioned Trish Reifenberger of Brown & Caldwell, a well respected professional and expert in the field of water supply need projections, to prepare population projections. The 2008 study estimates a population of 416,000 in the year 2060. By letter dated August 19, 2009, the Georgia Environmental Protection Division certified the need for the Indian Creek reservoir. Applicant expended substantial resources assessing its water supply alternatives based on its population projections. If Applicant had to continually revise its Section 404 permit application to reflect new studies, the permitting process would be unduly delayed at Applicant's expense, and the citizens of Carroll County would not have adequate water supplies.

**Comment C-3-B:** Further, CCWA's per capita daily use estimate is unreasonable. The applicant projects that per capita water use in Carroll County will rise from 115 gallons per capita per day (gcd) in 2010 to 130 gcd in 2040 and 135 gcd by 2060. However, in a letter from EPD to CCWA dated November 9, 2009 EPD states that the CCWA's projected gcd "appear to be higher than expected for a county just starting to grow and develop." In this letter EPD requested calculations from CCWA that customized the regional Atlanta data to reflect more accurately the needs of Carroll County; provided the specifics of projected residential and industrial demand; considered the effect of new and existing housing stock; system water loss; and aggressive conservation measures. None of these calculations have been provided by CCWA. Moreover, the current permitted water supply in Carroll County is 29.22 million gallons per day (MGD). Assuming a reasonable per capita daily demand of 115, current supply can accommodate a population of approximately 254,000, or 216,444 people at 135 gcd. Extrapolating from all of the currently available data, the 2060 population of the entire county is unlikely to exceed 200,000. At the current county-wide average of 115 gcd, demand would be 23 MGD. Even using CCWA's unreasonable estimate of 135 gcd, CCWA would only require 27 MGD in 2060.

**Response:** Applicant contends that its per capita daily use estimate is reasonable based on the current per capita use of 110 gcd in Carroll County and the per capita use trends evidenced in other developed areas. The average per capita daily use in the Metropolitan North Georgia Water Planning District (MNGWPD) counties is 138 gcd.

Applicant has expended significant resources and time preparing its current assessment and has met with EPD on numerous occasions to present and discuss its findings. As a result, EPD issued a need certification letter on August 19, 2009.

**Comment C-3-C:** The fact that EPD has “certified” the application is not controlling as the Corps has a duty to independently analyze whether CCWA’s estimated demand is reasonable. We are unaware of any statutory or regulatory provision requiring the Corps to obtain state certification of an applicant’s needs assessment as a condition for issuing a § 404 permit. Likewise, no provision of Georgia law authorizes EPD to make such a certification.

**Response:** Applicant’s application is a joint application for both a Section 404 permit from the Corps and a 401 Water Quality Certification from EPD. The Corps may not issue a Section 404 permit without Applicant first obtaining a Section 401 certification. See 33 U.S.C.A. §1341; 33 C.F.R. §336.1. EPD will not issue a Section 401 certification or water withdrawal permit without first concurring with Applicant’s projections of water supply need.

**Comment C-3-D:** Moreover, EPD’s so-called “certification” is not supported by data or facts. Although the Corps requested that CCWA obtain “clear, unambiguous statement(s)” from EPD indicating that it has reviewed the applicant’s needs assessment, proposed service area, and alternatives, the “certification” letter from EPD does nothing of the sort. While the letter “concur[s] that there is a need for additional storage in the Tallapoosa Basin,” it does not indicate that EPD has reviewed CCWA’s needs assessment and agrees that CCWA requires 17.9 MGD in the Tallapoosa portion of Carroll County. Likewise, there is no indication in the “certification” that EPD considered the existing reservoirs currently authorized to serve the same population, or that EPD reviewed CCWA’s alternatives analysis and concurred that CCWA’s preferred alternative is also EPD’s preferred alternative. Under Georgia law, EPD must take into consideration the specified need when issuing water withdrawal permit applications. In this case, CCWA has applied for three withdrawal permits associated with the proposed Indian Creek reservoir. As noted in the “certification” letter, “EPD has made no conclusions at this point on other technical and permitting issues regarding the amount of the withdrawal.” Given EPD’s cursory review, it would be arbitrary and capricious for the Corps to rely on the “certification” letter when making its independent assessment of CCWA’s needs.

**Response:** Applicant contends that EPD’s certification of the need for the Indian Creek reservoir is supported by both data and facts. Applicant provided a copy of its needs assessment report to EPD in a meeting on November 21, 2008 and again with

the submittal of its Section 404 permit application on December 28, 2008. Applicant's consultants presented an overview of its assessments to EPD at three separate meetings (November 21, 2008, July 10, 2009, and July 30, 2009), the last of which included Director, Carol Couch. EPD's August 19, 2009 letter reflects EPD's careful consideration and review of Applicant's needs assessment and ultimate determination that the Indian Creek reservoir is needed.

Applicant submitted water withdrawal applications on March 9, 2009 and is working with EPD to process these permits.

**Comment D: Insufficient Analysis of Alternatives.**

**Comment D-1:** The alternatives analysis done by CCWA unreasonably rejects all alternatives but large pumped-storage reservoirs. The Corps' guidelines provide that applicants are required to choose the "least environmentally damaging practicable alternative." 40 C.F.R. § 230.10(a). As discussed above, CCWA defines the project purpose as meeting 2060 water demand for the Tallapoosa portion of its service area. CCWA projects a 2060 water supply deficit of 18 MGD in the Tallapoosa basin, and summarily rejected all alternatives that do not produce this yield. As a result, the only alternatives carried forward for analysis were large pumped-storage reservoirs.

**Response:** Applicant conducted a thorough alternatives analysis that included a review of the no action alternative, water conservation, recycle and reuse of wastewater, groundwater, purchase of water from an existing source, and an upland constructed flow augmentation reservoir in addition to surface water supply alternatives. Alternatives that do not produce a yield sufficient to meet the project purpose were rejected. In this instance, the only alternatives that were capable of meeting the project purpose were pumped-storage reservoirs. Had another alternative proved capable of meeting the project purpose, it would have also been carried forward.

**Comment D-2:** Aggressive conservation is the least environmentally damaging, and least costly, available alternative to meet the reasonably anticipated future water demand in the CCWA service area. For example, at the current rate of 222 gcp and a permitted supply of 12 MGD, Carrollton could accommodate a population of 54,000, approximately double the current population. If Carrollton could reduce its per capita daily demand to 175, it could supply 68,571 people. At 115 gcp, Carrollton has enough water to supply 104,000 people.

**Response:** Applicant factored conservation efforts into its per capita calculations. However, conservation alone is not sufficient to meet the future demand. Applicant's consultant, Brown & Caldwell, predicts that the population in the Tallapoosa Basin portion of Carroll County, including Carrollton, will be 259,500 in 2060. While conservation is an important element in meeting the 2060 water demands, it is not capable of meeting the entire need.

**Comment D-3:** While CCWA's Alternatives Analysis asserts that "the projected demand already includes water conservation," there is little evidence to back up this claim. The analysis does not identify what types of conservation measures are planned. Instead,



CCWA states that average demand in the Metro North Georgia Planning District counties is 168 gcd, and thereby implies that the 125 gcd selected to determine demand includes conservation measures. Notably, CCWA water customers currently consume only 75 gcd, and the current average use in the CCWA service area is 110 gcd, which includes Carrollton's current rate of 222 gcd. Without any explanation, CCWA presumes a dramatic increase in per capita water consumption even with water conservation. However, the mere fact that the project future demand in the CCWA (135 gcd) service area is less than current average demand in the Metro District has nothing whatsoever to do with water conservation. In its analysis, the Corps should include a genuine conservation alternative identifies specific conservation measures and a realistic assessment of their impact on per capita demand in the CCWA service area.

**Response:** Applicant factored conservation efforts into its calculation of unmet demand by reducing the per capita daily consumption from 168 gcd to 135 gcd. Applicant considered specific conservation measures and components in making this determination as follows:

*Future per capita water consumption was projected in this study anticipating aggressive water conservation. With the recent droughts, Georgia residents and water utilities have become increasingly aware of the limits of their water supplies and the need for water conservation. It is thus assumed that water conservative practices, the installation of low flow fixtures, and seasonal outdoor watering restrictions when imposed will result in some reduction in water use. The CCWA [Carroll County Water Authority] has also implemented a water conservation rate structure and implemented other measures to reduce water use throughout their systems including extensive metering, plumbing ordinances and codes, public education programs, and systems to track nonrevenue water and minimize water loss (CCWA 2005). Additionally, it is expected that water conservation in Carroll County will be facilitated by EPD's ongoing water conservation programs to be implemented through the State-wide Water Plan. While 2060 water consumption in Carroll County could be as high as the 2001 MNGWPD average of 168 gcd, 135 gcd is considered to be a better estimate given the Authority's emphasis on water conservation and EPD requirements. Water Supply Needs Assessment, 4.1.2.*

Even with aggressive conservation, the Indian Creek reservoir is needed to meet 2060 water supply demands. Further consideration of the water conservation alternative alone is not warranted given its inability to meet the project purpose.

**Comment D-4:** Expanding existing water supply reservoirs provides another possible "least environmentally damaging practicable alternative" to accommodate future demand in unincorporated portions of the county. In particular, an expansion of Carrollton's Sharpe Creek reservoir would allow CCWA to meet this demand. In 2008, the Georgia Environmental Facilities Authority published a study of increasing water supply yields from existing reservoirs, including Carrollton's Sharpe Creek Reservoir. Although the study did not estimate potential yield from increasing the size of the reservoir, it estimated that increasing the height of Sharpe Creek Reservoir by 10 feet would increase storage volume by 1.1 billion gallons. Expanding the existing Sharpe Creek Reservoir may have significant environmental benefits compared to CCWA's preferred alternative, although it

too would require pumping large volumes of water from the Little Tallapoosa River. The Corps should include this alternative in its analysis of the project.

**Response:** Applicant concurs that expanding existing reservoirs, like the NRCS dam on Indian Creek, limits environmental impacts normally associated with a new reservoir. Expanding the NRCS dam on Indian Creek is the least environmentally damaging practicable alternative.

Applicant asserts that expanding the Sharpe Creek Reservoir would not meet CCWA's 2060 demand. To provide for the Applicant's unmet demand, it was determined that a reservoir having 10 billion gallons of storage coupled with pumping stations on both Indian Creek and the Little Tallapoosa River would be needed (composite diversion drainage area of 298 square miles). The addition of 1 to 2 billion gallons at the Sharpe Creek Reservoir would fall well short of the storage capacity needed. Additionally, Sharpe Creek is located upstream of Carrollton on a highly regulated portion of the Little Tallapoosa River with a drainage area of less than 100 square miles and an existing diversion permit for 12 mgd. Therefore, expansion of the Sharpe Creek option cannot meet the project purpose.

**Comment E: Need for an Independent Evaluation of Impacts of the Project.**

**Comment E-1:** The Corps must independently evaluate the likely impacts of the project, especially on water resources and aquatic biota of the Little Tallapoosa River and Indian Creek. 42 U.S.C. § 4332(C)(ii). CCWA's application does not provide include an evaluation of potential impacts to fish and wildlife resources. Instead, CCWA's Alternatives Analysis briefly addresses potential impacts to federally listed species only.

**Response:** Applicant submitted a thorough and complete alternatives analysis as a part of its Section 404 permit application.

**Comment E-2:** The Alternatives Analysis proclaims that "the potential for impacts to federally protected species is very low to non-existent"; however, this determination is based solely on the data from the Georgia Department of Natural Resources (GADNR) database, not on field studies, or even a review of the scientific literature. The GADNR database is not intended for assessing potential impacts of a proposed activity, and includes the following disclaimer:

Please keep in mind the limitations of our database...In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly.

The clear limitations of this database make it unreliable evidence that "no threatened species will be impacted by the proposed Indian Creek reservoir."

**Response:** The Applicant contends that federally listed species are not known to occur in the project footprint. The only federally listed species known in Carroll County is the Bald Eagle (*Haliaeetus leucocephalus*). A large water supply reservoir such as the Indian Creek reservoir would only serve to enhance habitat for this species as it prefers large, open

bodies of water. Moreover, Applicant's consultant, Eco-South, Inc., field surveyed the reservoir site and found no evidence of federally protected species.

In addition, Dinkins Biological Consulting conducted a survey for endangered freshwater mussels in two reaches of the Little Tallapoosa River and one reach of Big Indian Creek as part of the intake structure site assessment. No live mussels or dead shells were found in Big Indian Creek. A total of three live and four dead Southern rainbow (*Villosa vibex*) were found in the Little Tallapoosa River; however, this species is not listed as a state or federally protected species.

The presence of federally listed or threatened species in the vicinity of the reservoir is unlikely. Indian Creek is a heavily impaired system due to the existing impoundment and high levels of sedimentation associated with agricultural activities in the area. If Applicant determines that the proposed action may affect federally listed species or their critical habitat, it will initiate consultation under Section 7 of the Endangered Species Act.

**Comment E-3:** Further, there are numerous endemic species – some of which are state-listed as threatened or endangered – present in the Little Tallapoosa and Indian Creek. The Little Tallapoosa River system contains at least 8 aquatic species that are endemic to the system and one federally listed mussel species. Of these species 3 are listed by the state of Georgia as rare including Tallapoosa darter, Muscadine darter and Crayfish (*Cambarus englishi*). Also present in the Little Tallapoosa system is a state endangered species, the Stippled studfish, which is nearly restricted to the Tallapoosa system having only one other single known locale. The presence of these threatened and endangered endemic species make Applicants broad statement that no species or habitats will be impacted by the Indian Creek reservoir incorrect. Further, CCWA's limited discussion of federally-listed threatened and endangered species in their alternative's section is insufficient to meet Corps' NEPA and CWA obligations. 42 U.S.C. § 4332(C)(ii) and 33 U.S.C. §1252(b)(2). Finally, for a proper evaluation of the impacts on the aquatic biota of the area site-specific information about existing in-stream populations and habitat conditions are necessary. CCWA has not provided such information.

**Response:** Applicant asserts that it has provided the necessary information to meet NEPA and CWA requirements. See Response to Comment E-2 above.

Applicant acknowledges that these species are native endemics and therefore important; however, they are not protected species and cannot be considered such unless they are listed. These species are inhabitants of small streams with adequate water quality, and the species are largely confined to the Tallapoosa Basin region of Georgia. It is likely that any stream with water quality good enough to provide a source of drinking water in the Tallapoosa River system would also support most of these species.

**Comment E-4:** Also, as the proposed reservoir is not the only impoundment currently in the system cumulative impacts on the Tallapoosa system as a whole should be considered. Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the

United States. Under the COE guidelines, effects contributing to significant degradation include significantly adverse effects on aquatic ecosystem diversity, productivity, and stability. 40 C.F.R. §230.10(c)(3). A pump storage facility on the Little Tallapoosa River itself, as outlined in Phase II of Carroll County's plan, has potential to severely alter the ecosystem in this watershed. The Corps' guidelines also stress the importance of determining all of the effects that will be caused to the aquatic ecosystem. "Cumulative effects attributable to the discharge of dredged or fill material in waters of the United States should be predicted to the extent reasonable and practical." 40 C.F.R. §230.11(g)(2) Thus the applicant must analyze the effects from both phases of this project as well as existing impoundments.

**Response:** The NEPA requires that an action be analyzed in the proper context to determine impacts on the environment that result from the incremental impact of the proposed action when added to other actions. Applicant will work with the Corps to assess the cumulative impacts of the project. As this analysis is completed, it will be submitted to the Corps as required by NEPA.

Applicant asserts that the proposed reservoir will not severely alter the ecosystem in the watershed.

#### **Comment F: Comments Concerning the Permitting Process**

**Comment F-1:** The Corps should produce an Environmental Impact Statement ("EIS"), not an EA/FONSI, for the proposed project. NEPA requires that a federal agency prepare an EIS for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(C)(i). The issuance of a permit for construction of a reservoir under § 404 of the Clean Water Act is a major Federal action that will significantly affect the quality of the human environment. This assertion is supported by the fact that the reservoir will impact 47,468 linear feet of perennial and intermittent streams, 36.8 acres of open water, and 18.8 acres of wetlands. Additionally, the Council on Environmental Quality ("CEQ") regulations requires an EIS" when determining whether to prepare an EIS. 40 C.F.R. § 1501.4(a). Courts have consistently held that a reservoir permit application requires the preparation of an EIS. *See e.g., Alliance to Save the Mattaponi v. U.S. Army Corps of Engineers*, 600 F.Supp. 2d 121 (D.D.C. 2009); *Johnston v. David*, 500 F.Supp. 1323 (D. Wyo. 1980) (requiring an EIS be prepared and filed prior to the construction of the Toltec Reservoir); *Environmental Defense Fund v. Tennessee Valley Authority*, 468 F.2d 1164 (6<sup>th</sup> Cir. 1972) (Finding that an EIS must be filed for a dam and reservoir project). Central to each of these decisions is the basic concept that the proposed reservoir would significantly affect the quality of the human environment. The same is true of the proposed Indian Creek reservoir.

An EIS is required to be sufficiently detailed to serve two functions. 42 U.S.C. §§ 4321 *et seq.* First, an EIS is intended to ensure that the agency takes a hard look at the environmental effects of a proposed project. Second, an EIS should ensure that relevant information regarding the proposed project is made available to members of the public in order to facilitate their playing a role in the decision making process. Regarding the first role of an EIS, assessing the project's environmental effects, an agency is required to take a

“hard look” rather than merely relying on the unsupported (and contradicted) conclusions of staff. *See Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 445 (4<sup>th</sup> Cir. 1996) (finding that the Corps failed to take a hard look at zebra mussel infestation where the record provided no basis for evaluating the opinions or qualifications of staff). Further, the EIS must include a detailed statement effects which cannot be avoided should the proposal be implemented.” 42 U.S.C. §§ 44332(c)(i), (ii). The effects referred to above that must be considered in an EIS are defined broadly in the CEO regulations to include an analysis of ecological, aesthetic, historic, cultural, economic, social, or health effects. 40 C.F.R. § 1508.8(b). One example of the effects that must be considered is the impact that reservoirs have because they alter the natural hydrologic regime of streams and rivers and change the timing, amounts and duration of upstream and downstream flows. Streamflow is critical to the viability of native species, including the threatened species inhabiting Indian Creek. These issues are the illustrative and demonstrate the need for an EIS to allow the Corps to properly examine the direct, indirect, or cumulative impacts of the proposed reservoir prior to the granting of a permit.

**Response:** The Applicant asserts that an Environmental Impact Statement is not required in this instance as the project will not significantly affect the quality of the human environment. An Environmental Assessment will provide the information necessary for the Corps to take a “hard look” at the direct, indirect and cumulative impacts of the project. Moreover, the current submittal contains the level of detail on alternatives, environmental impacts and mitigation required for the National Environmental Policy Act (NEPA) analysis. The alternatives analysis thoroughly considers the no action alternative, water conservation, recycle and reuse of wastewater, groundwater, purchase of water from an existing source, and an upland constructed flow augmentation reservoir in addition to surface water supply alternatives. Applicant has worked to address the concerns of the resource agencies and will continue to attempt to resolve all legitimate agency concerns through the 404 process. An EIS will not result in a more meaningful analysis of the project impacts; the main effect will be to delay the project further, at great expense to the Applicant.

**Comment F-2:** If the Corps does not produce an EIS, the draft EA/FONSI that is produced should be made publically available and there should be a public comment period before the permit is issued. This point relates to a broader comment in that the Corps should take advantage of modern technology and make relevant documents and reports available on its website. By doing so, the Corps can easily increase transparency and opportunity for meaningful public participation in the permitting process.

**Response:** Applicant cannot comment on the internal policies of the Corps. However, Applicant does assert that public participation has been encouraged.

**Comment F-3:** Finally, we request that the Corps hold at least one public hearing “to consider the material matters at issue in the permit application.” 33 C.F.R. § 327.4(b). Our clients would like the opportunity to present information to the Corps concerning each of the issues raised in this comment letter, as well as any issues raised by others during the public comment period. This topic of reservoirs has become one of the great concern in

Georgia and the public interest may best be served by granting the public the opportunity for further factual development and exploration of these issues at a public hearing.

**Response:** Applicant contends that a public hearing is not warranted. The Corps issued a Joint Public Notice to over 4,000 recipients to solicit public comment on the proposed project. In addition, a notice was posted on the Corps' website. The Corps provided an extended 60 day period in which interested parties could provide comments.

Applicant conducted public meetings specifically to discuss its water supply options on August 8, 2008 and September 18, 2008. Applicant's consultants presented the water supply alternatives and a detailed analysis of each option. Public comments were heard at each meeting. Applicant published a full-page article in the local newspaper on August 17, 2008 detailing the reservoir alternatives being considered and welcoming comments and questions from the public.

Additionally, Applicant conducted a public information meeting on March 4, 2010. The meeting was advertised in the local paper and the date was coordinated with the Corps who notified the state and federal agencies. This meeting provided an opportunity for interested parties to hear a presentation about the project, ask questions, and express comments. The Applicant also provides open and easy access to information about the proposed reservoir through its monthly public meetings and website. Interested members of the public may submit questions directly to the Authority through the website or participate in the public meetings. The Corps and the Applicant have made substantial efforts to provide opportunities for the public to comment on this project. A public hearing would not provide any additional information that is not already available.

**Comment F-4:** Based on all the concerns expressed above we ask that the Corps reject CCWA's permit application as presented. We greatly appreciate the opportunity to comment in this process and look forward to working with you further. If you require any clarification or additional information please contact us.

**Response:** Applicant contends that its application should not be rejected as presented. It is a thorough and complete Section 404 permit application that complies with NEPA.

**23. GERA, Greg Smith, 2/16/2010**

**Comment A:** It is our understanding that based on the 2008 Final Rule for Compensatory Mitigation dated April 10, 2008; the District Engineer is to evaluate mitigation options based on what is "environmentally preferable" and in the following order:

- (1) Mitigation bank credits
- (2) In-Lieu fee program credits
- (3) Permittee-responsible mitigation under a watershed approach
- (4) Permittee-responsible mitigation through on-site and in-kind mitigation
- (5) Permittee-responsible mitigation through off-site and/or out-of-kind mitigation.



It appears that the proposed mitigation for the referenced permit would be considered either option #3 (permittee-responsible under a watershed approach) or option #5 (permittee-responsible through off-site mitigation), however there is not enough information presented about the mitigation site selection in order to make this determination. Additionally, there is no discussion as to why the proposed mitigation is the most “environmentally preferable” option, or how the other options (#1, 2, or 4) were considered and compared. Therefore, we would respectfully request that the District Engineer provide such an evaluation to our organization so that we may better understand how the applicant arrived at the proposed mitigation method.

**Response:** Applicant intends to provide a revised Mitigation Plan in compliance with the 2008 Final Rule. Applicant contends that the site-specific, permittee responsible mitigation proposed is the environmentally preferable option. See Comment 2, EPA, Response to Comment H-1.

#### **24. Lake Wedowee Property Owners’ Association, Oliver Kitchens, 1/29/2010**

**Comment A:** The LWPOA has great concern with the removal of water from the Little Tallapoosa River and its tributary, Indian Creek. While the project appears to be a needed future resource for potable (drinking) water in the Carroll County Water Authority supply system, removal of water from the feed streams feeding Lake Wedowee (Harris Dam) will have a detrimental effect during low rain-fall period from mid-May through November of each year.

**Response:** Please refer to Comment 13, Dept. of Conservation and Natural Resources, Response to Comment D.

**Comment B:** The notice states that 25 million gallon per day (mgd) will be removed from the reservoir to yield 18 mgd of potable quality water. Although the maximum removal flow number appears small in river flow, it corresponds to 38.58 cfs. A small portion of the processed waste water might be returned back to the river stream.

**Response:** As planned, almost all of the water provided by the Indian Creek reservoir would be used in the central to eastern portions of the Little Tallapoosa River Basin in Carroll County. It is typical for 60 to 70% of water use to be returned through treatment plant point discharges and by septic system percolation through the ground water. As Carroll County grows, more and more residences will be connected to sewer systems for advanced treatment and release.

**Comment C:** Our concern can be documented by reviewing Lake Wedowee water level records where lake level has a historical average of being 5 feet below the Harris rule curve on October 1<sup>st</sup>, the end of the summer pool period. Three factors that influence Lake Wedowee water level include rainfall, hydro power generation, and minimum downstream flow requirements at Tallassee (Tallapoosa River) and at Montgomery (Alabama River). Alabama Power Company does all it can to balance Tallapoosa River Basin water flow in conjunction with maintaining the Wedowee lake level along with the other competing water demands.

These factors have been explained in further detail in the attached letter to the Corps of Engineers, dated October 20, 2008, in response to the ACT Water Control Manual Revision Update. Although the comments in the letter address various Lake Wedowee issues, these

comments also apply to the Upper Tallapoosa River Watershed and the proposed project.

**Response:** Applicant asserts that the Indian Creek reservoir will have a *de minimis* impact on downstream flows into Lake Wedowee. See Comment 15, Randolph County, Response to Comment B, and Comment 20, Central Elmore Water & Sewer Authority, Response to Comment A.

**Comment D:** Three graphs are enclosed to show the effects of drought on the two main feed rivers and to Lake Wedowee (Harris Dam). The Tallapoosa River and Little Tallapoosa River graphs show a four months period in 2007 when both individual river flows were below the designed flow criteria for the Carroll County Water Authority water plan. (Similar results were obtained during the summer of 2008). The Harris rule curve graph sets the summer pool level at 793' and winter pool level at 785' and shows how the water level varies with the rule curve setting at different conditions.

The Alabama Power – Harris graph shows the Harris Dam rule curve (upper red line) and operating water levels for 2007 (heavy black line) and 2008 (green line). The 2007 trend line shows the extreme low water levels experienced at Lake Wedowee in November, with a low level of 13 feet below the rule curve. The 2008 trend line shows a much better water level but approved flow variances were obtained to raise lake level two feet above the rule curve in January, to fill the lake early, and to reduce downstream minimum flow requirements to ensure that Lake Wedowee would be filled to the summer pool rule curve level. Of course, the lake level started dropping down in June. The thin black line represents the historical average water level and it drops well below the Harris rule curve as the summer progresses.

The point in presenting this data is to show the effects of low rainfall in the area and how hard it is to maintain Lake Wedowee water level as specified by the Harris rule curve (upper red line). There is much political pressure to pass the water on down the Tallapoosa River Basin for generation, navigation, waste water plant discharge dilution, water supply, recreation, power plant cooling, endangered species, fish and wildlife, oyster production, etc. These demands leave little room for water to be removed above Lake Wedowee without an adverse effect.

**Response:** Applicant recognizes the recent adverse impacts from the drought. For the USGS gage at Heflin, Alabama, flows for the one year period from mid-February 2007 through mid-February 2008 were 52% of any other twelve month flow period in the 57 years of gage record. The severity of this drought condition also affected Applicant's project by requiring a much larger capital expenditure to develop a reliable water supply sufficient to survive a drought of this intensity and maintain downstream flows.

**Comment E:** A major concern is that the permit should restrict Little Tallapoosa River water withdrawal for the Indian Creek reservoir during periods when low Little Tallapoosa River flow occurs at the Newell Gauge. The minimum low flow requirement for Newell Gauge (for withdrawal) should be at least 50 cfs since the Little Tallapoosa River provides one third of the Lake Wedowee make up water flow and Harris Dam minimum discharge is based on – 160 cfs flow at Wadley. If the permit is granted and the project goes forward, please provide us the assurance that there will be sufficient guidelines instituted that will alleviate any water flow and

water quality situations that would result from water removal for the Carroll County Water Authority project.

**Response:** Applicant proposes to protect downstream flows by adhering to a monthly 7Q10 flow regime. Using the monthly 7Q10 basis, the Commenter's cited target flow at Newell (406 square miles) is exceeded (i.e., is >50 cfs) for 9 out of 12 months (on a drainage area prorated basis). The annual average of the monthly 7Q10 flows is nearly 150 cfs, about three times the noted target. For existing conditions without the project for the 57 year model period, streamflow at the Newell gage would fall below 50 cfs about 5.6% of the time. For the proposed Phase III conditions at full capacity, streamflow at the Newell gage would fall below 50 cfs about 6.7% of the time.

**Comment F:** Please place the LWPOA on the correspondence list for this project. The LWPOA would like to send representatives to the Indian Creek reservoir public meeting.

**Response:** The Corps maintains the correspondence list for the project. Applicant held a public meeting on March 4, 2010 and welcomed participation by all.

**Comment G: LWPOA questions regarding Indian Creek Reservoir:**

**Comment G-1:** What are the design holding capacity and the drawdown capacity of the proposed Indian Creek Reservoir?

**Response:** The proposed reservoir has a total capacity of 10 billion gallons and a usable storage capacity of 7.5 billion gallons. The bottom 25% of storage is set aside for long-term sediment accumulation and in recognition of the difficulty in treating water in the non-aerated lower strata of reservoirs.

**Comment G-2:** What elevation is set for the reservoir normal design water level and the maximum drawdown water level for supplying the water plant?

**Response:** The proposed full operating pool elevation of the Indian Creek reservoir is Elevation 1190, with a maximum planned drawdown of 53 feet (75% of full reservoir storage evacuated).

**Comment G-3:** Will there be a minimum flow through the dam and at what rate how will it be handled?

**Response:** The dam would be constructed on a 4.8 square mile watershed and would release the lesser of the applicable monthly 7Q10 flow or the natural inflow.

**Comment G-4:** What percentage of flow will Indian Creek supply to the Indian Creek Reservoir?

**Response:** The amount of flow originating in Indian Creek (inflow to the reservoir and water pumped from the Indian Creek diversion) would be 100% for Phase I, between 50% and 75% for Phase II, and between 24% and 55% for Phase III, depending on prioritization

of pumping source.

**Comment G-5:** What is the percentage of Indian Creek flow as compared to the Little Tallapoosa River flow at Newell Gage?

**Response:** It is reasonable to assume that runoff in Indian Creek is similar to other adjacent areas in the Little Tallapoosa River Basin. The drainage area of the proposed Indian Creek intake is 60.6 square miles (includes the Indian Creek reservoir) and the Newell Gage drainage area is 406 square miles, so Indian Creek flows at the diversion location would likely average about 15% of Little Tallapoosa River flow at Newell.

**Comment G-6:** What is the maximum rate of flow that will be removed from the Little Tallapoosa River when filling and supplying water for the Reservoir?

**Response:** For the duration of Phase I of the project (initial project facilities), no water would be diverted from the Little Tallapoosa River. Once the second phase of the project is completed, a maximum of 9.5 million gallons per day would be diverted, and upon completion of Phase III, the ultimate diversion capacity is estimated to be 31 million gallons per day. As stated previously, no pumping from the Little Tallapoosa River will occur if the river is at a monthly 7Q10 flow or less.

**Comment G-7:** Will the LTR pump controls be coordinated in conjunction with the Newell Gage flow and at what flow setting will the pumps be shut down to stop removing water from the Little Tallapoosa River during low river water flow periods?

**Response:** Operation of the Little Tallapoosa River diversion will likely be coordinated using flow measurements from the Newell Gage as a basis. Prorating of flows from the Newell Gage to the diversion intake would likely be accomplished on the basis of the ratio of drainage areas (237 sq. mi./406 sq. mi.  $\approx$  58%). Specific descriptions of minimum in-stream flows are presented in Comment 12, Alabama, Response to Comment C-1.

**25. Lake Watch of Lake Martin, Richard Bronson, 2/16/2010**

The following comments are submitted on behalf of members of Lake Watch of Lake Martin concerning the referenced project.

Lake Martin is the largest reservoir within the Tallapoosa River watershed and is recognized as the “economic engine” that drives the economy in central Alabama because of its clean waters and attraction to retirees from all parts of the country. Anything that poses a threat to the lake and watershed is of critical concern to our members.

**Comment A:** The Joint Public Notice solicits public comments but does not provide sufficient information on which to base those comments. Furthermore, stakeholders in Alabama are required to travel to Georgia to obtain copies of the application and supporting documents. Those documents must be made available in an electronic format. Despite the absence of sufficient information, we have some general concerns.

- Potential impact on water quality to downstream users
- Impact on aquatic habitat
- Impact on surface water availability, especially during dry periods
- Inter-basin transfers

**Response:** The Corps, not the Applicant, is responsible for determining the information to include in the JPN. The Corps makes available a copy of the complete Section 404 permit application for viewing and copying. The federal government does not have the funds, nor would the taxpayers want to shoulder the burden of providing the funds, to provide complete copies of the Section 404 Permit application to the more than 4,000 people who received a copy of the JPN.

Applicant addresses the specific concerns listed below.

**Comment B:** We have three requests:

**Comment B-1:** That the permit application and supporting documents be provided electronically.

**Response:** The Corps, not the Applicant, process requests for copies of the permit application and documentation. Requests for documents from the Corps are processed in accordance with the Freedom of Information Act.

**Comment B-2:** That the comment period be extended to allow adequate time for response.

**Response:** The Corps extended the comment period from 30 to 60-days.

**Comment B-3:** That at least two public hearings be conducted, one in Georgia and one in Alabama, preferably in Alexander City.

**Response:** Applicant contends that public hearings would be duplicative of public meetings held by the Applicant and would not produce any new or additional information given the numerous opportunities for the public to obtain information and provide comments.

The Corps issued a Joint Public Notice to over 4,000 recipients to solicit public comment on the proposed project. In addition, a notice was posted on the Corps' website. The Corps provided an extended 60 day period in which interested parties could provide comments.

Applicant conducted public meetings specifically to discuss its water supply options on August 8, 2008 and September 18, 2008. Applicant's consultants presented the water supply alternatives and a detailed analysis of each option. Public comments were heard at each meeting. Applicant published a full-page article in the local newspaper on August 17, 2008 detailing the reservoir alternatives being considered and welcoming comments and

questions from the public.

Additionally, Applicant conducted a public information meeting on March 4, 2010. The meeting was advertised in the local paper and the date was coordinated with the Corps who notified the state and federal agencies. This meeting provided an opportunity for interested parties to hear a presentation about the project, ask questions, and express comments. The Applicant also provides open and easy access to information about the proposed reservoir through its monthly public meetings and website. Interested members of the public may submit questions directly to the Authority through the website or participate in the public meetings. The Corps and the Applicant have made substantial efforts to provide opportunities for the public to comment on this project. A public hearing would not provide any additional information that is not already available.

**26. Lake Watch of Lake Martin, Richard Bronson, 3/15/2010**

The following comments concern the referenced project and supplement those submitted by letter dated February 6, 2010. Our organization continues to have strong concerns about the proposed reservoir for the following reasons.

**Comment A:** Needs assessment. We believe the needs assessment is seriously flawed. It cites a population projection that is overstated and inconsistent with plans developed by the Carroll County Water Authority and the Atlanta Regional Commission. The assessment uses unrealistic population growth predictions that are not based on sound evidence. This calls into question the fundamental basis for the proposed project.

**Response:** Applicant asserts that its need assessment is reasonable. By letter dated August 19, 2009, the Georgia Environmental Protection Division certified the need for the Indian Creek reservoir.

**Comment B:** Water quality. There is little evidence that the Carroll County Water Authority has given due consideration to downstream users in the Little Tallapoosa River basin. Until recently, a significant segment of that river in Georgia was 303d listed as impaired due to fecal bacteria contamination. And, although a TMDL was implemented in 2008, it is doubtful that water quality has improved sufficiently to withstand current and future waste loading while the river undergoes significant flow reduction from withdrawals to maintain the proposed reservoir yield. This is especially critical during low flow periods and droughts. The situation is exacerbated by the likelihood that Alabama will 303d list a 31-mile segment of the Little Tallapoosa River downstream from the Alabama-Georgia state line as impaired by fecal bacteria contamination. This too calls into question the wisdom of placing a reservoir in the proposed location.

**Response:** Applicant asserts that it has undertaken a thorough analysis of downstream impacts. Applicant included a downstream impact study with its Section 404 permit application. The study shows that the proposed reservoir will have minimal impacts to downstream water quality and water quantity. Moreover, the proposed reservoir will have no impacts on the



amount of fecal coliform colonies in the Little Tallapoosa River in Alabama. In fact, reservoirs produce hostile conditions (sunlight, algae, retention times) for fecal coliforms which ultimately lead to their destruction.

**Comment C:** Ground water. There is evidence that sufficient groundwater exists in the Carroll County area to satisfy their future water supply needs if accurate population projections are used. At a minimum, the potential to use groundwater to satisfy future needs requires more study.

**Response:** Applicant is not aware of any evidence that supports the notion that groundwater could satisfy its future water supply needs. To the contrary, Applicant commissioned Dr. William McLemore, the former state geologist, to conduct a review of existing groundwater studies in the region and he determined that groundwater resources in Carroll County are diffuse and inter-connected to the surface water regime. Dr. McLemore concluded that large, high-yielding wells in Carroll County are unlikely and that groundwater is not a viable means of meeting Carroll County's long-term needs.

Additionally, Larry Wood, the city manager for the City of Villa Rica, stated at the March 4, 2010 public meeting that Villa Rica hired a groundwater expert and spent the last two years, and taxpayer money, drilling to find water and has come up dry every time. Villa Rica supports the proposed reservoir because they recognize the necessity of surface water storage due to the unavailability of groundwater in Carroll County.

**Comment D:** Water allocation negotiations and litigation. The seemingly never-ending negotiations over water allocation between Alabama and Georgia and the resultant litigation creates great uncertainty for stakeholders. This situation begs for a moratorium to be placed on new reservoirs until resolution.

**Response:** Applicant asserts that neither Alabama nor Georgia have called for a moratorium on new reservoirs. Applicant contends that such a moratorium would be detrimental to its efforts to secure adequate water supply for its current and future customers.

**Comment E:** We believe the concerns stated above and cited by other stakeholders are substantial enough to warrant temporary suspension of the proposed reservoir project. Accordingly, we have two requests.

**Comment E-1:** That the permit application for the Indian Creek Reservoir be suspended pending a revised needs assessment and resolution of the water allocation negotiations and legal issues between Alabama and Georgia.

**Response:** Applicant asserts that the Corps should continue processing its Section 404 permit application. Neither Alabama nor Georgia has placed a moratorium on processing permit applications for new reservoirs. Moreover, for reasons contended in previous responses, Applicant's needs assessment does not require revisions.

**Comment E-2:** That the Corps of Engineers ensure that at least one public hearing is conducted within the Tallapoosa River Basin in Alabama, preferably in Alexander City or Wedowee.

**Response:** Applicant contends that a public hearing is not warranted. The Corps issued a Joint Public Notice to over 4,000 recipients to solicit public comment on the proposed project. In addition, a notice was posted on the Corps' website. The Corps provided an extended 60 day period in which interested parties could provide comments.

Applicant conducted public meetings specifically to discuss its water supply options on August 8, 2008 and September 18, 2008. Applicant's consultants presented the water supply alternatives and a detailed analysis of each option. Public comments were heard at each meeting. Applicant published a full-page article in the local newspaper on August 17, 2008 detailing the reservoir alternatives being considered and welcoming comments and questions from the public.

Additionally, Applicant conducted a public information meeting on March 4, 2010. The meeting was advertised in the local paper and the date was coordinated with the Corps who notified the state and federal agencies. This meeting provided an opportunity for interested parties to hear a presentation about the project, ask questions, and express comments. The Applicant also provides open and easy access to information about the proposed reservoir through its monthly public meetings and website. Interested members of the public may submit questions directly to the Authority through the website or participate in the public meetings. The Corps and the Applicant have made substantial efforts to provide opportunities for the public to comment on this project. A public hearing would not provide any additional information that is not already available.

**27. Lake Martin Resource Association, Steve Forehand, 2/10/2010**

**Comment A:** LMRA's interest in this project originates by virtue of Lake Martin's location downstream of the Project on the Tallapoosa River. Lake Martin is a 44,000 acre impoundment serving multiple municipal and industrial water supplies and riparian users. Currently the waters of Lake Martin constitute some of the cleanest water in the State of Alabama. LMRA is concerned that any upstream use that either diminishes flow or adds wastewater could imperil the water quality in Lake Martin. Any future use of waters in the Alabama, Coosa, Tallapoosa ("ACT") basin by Georgia should take into account the impact on upstream and downstream users in the ACT.

**Response:** Applicant has thoroughly studied the downstream impacts of the proposed reservoir. These studies concluded that the reservoir will have a *de minimus* impact on flows into Lake Martin. See Comment 15, Randolph County, Response to Comment B, and Comment 20, Central Elmore Water & Sewer Authority, Response to Comment A.

**Comment B:** LMRA urges the Army Corps of Engineers (COE) to immediately suspend this permit application 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 COE is certainly aware that the litigation was instituted after the proposed construction of a reservoir in Haralson County, Georgia. Since this permit application involves a proposed reservoir project in an adjacent county affecting the same river basin, this permit application should be suspended until the litigation is resolved. The ultimate resolution of this litigation will determine many aspects of water resource allocation among Alabama, Georgia and Florida. Many aspects of a permit granted as a result of this application could be rendered moot by the court proceedings. New permit applications in the ACT basin for withdrawals of this magnitude should be considered only after the court resolves water allocation issues.

**Response:** Neither Alabama, Georgia or the federal court have placed a moratorium on permitting new reservoirs. The reservoir previously proposed in Haralson County on Beech Creek was much larger (50 mgd) than the Indian Creek reservoir (18 mgd). The reservoir on Beech Creek also directly impacted endangered mussel species. Moreover, the West Georgia Regional Water Authority has withdrawn its permit application for the 50 mgd reservoir on Beech Creek.

Applicant contends that suspending the permit application for Indian Creek reservoir is not warranted given the minimal impacts it will have to downstream water quality and quantity.

**Comment C:** In the event that the COE does not suspend this application pending resolution of the current litigation, LMRA recommends that the COE perform an environmental assessment and an environmental impact statement pursuant to the requirements of the National Environmental Policy Act. Unless and until these studies are completed, the COE can not be sure of the effect of the project on the human environment. LMRA recommends that the environmental assessment and the environmental impact statement apply to the entire ACT basin to insure that both upstream and downstream impacts have been properly considered. In operating the Lake Martin reservoir, Alabama Power Company is required to release sufficient water in conjunction with releases from its projects on the Coosa River to provide navigation flow on the Alabama River. The environmental assessment and the environmental impact statement should take into account the impact on Alabama Power Company's ability to meet the minimum flow requirements without significant adverse effects on Lake Martin and other downstream users.

**Response:** The Applicant asserts that an Environmental Impact Statement is not required in this instance as the project will not significantly affect the quality of the human environment. An Environmental Assessment will provide the information necessary for the Corps to take a "hard look" at the direct, indirect and cumulative impacts of the project. Moreover, the current submittal contains the level of detail on alternatives, environmental impacts and mitigation required for the National Environmental Policy Act (NEPA) analysis. The alternatives analysis thoroughly considers the no action alternative, water conservation, recycle and reuse of wastewater, groundwater, purchase of water from an existing source, and an upland constructed flow augmentation reservoir in addition to surface water supply alternatives. Applicant has worked to address the concerns of the resource agencies and will continue to attempt to resolve all legitimate agency concerns through the 404 process. An EIS will not result in a more meaningful analysis of the project impacts; the main effect will be to delay the project further, at

great expense to the Applicant.

**Comment D:** The application does not include any details on how the proposed project would be operated during drought conditions. In conjunction with the environmental assessment and environmental impact statement, the Applicant should be required to develop a drought operations manual to assure appropriate downstream flow in drought conditions.

**Response:** Applicant will provide all documentation required by the Georgia Environmental Protection Division to obtain a water withdrawal permit. Applicant has a Drought Contingency Plan currently in place for its service areas.

**Comment E:** The COE has previously taken the position on other ACT projects that permits will not be considered until the water control manuals (the “WCM”) have been revised. The State of Georgia has also taken this position in comments filed in connection with the Federal Energy Regulatory Commission relicensing of Lake Martin. If the COE does not suspend this permit application pending revision of the WCM, it appears that the COE has changed its position and that revisions of the WCM are not longer necessary prior to consideration of permit applications. LMRA recommends that the COE inform other applicants for permits in the ACT basin that WCM revisions are not longer a prerequisite for permit consideration.

**Response:** Applicant asserts that the circumstances surrounding the relicensing of Lake Martin are more complex than stated here. Lake Martin is a substantially larger project with a considerably larger impact to the ACT system than the proposed Indian Creek reservoir. In fact, Lake Martin is more than 68 times bigger than the Indian Creek reservoir. While the decision ultimately rests with the Corps, Applicant asserts that suspending the permit application for this project is not warranted due to its insignificance within the ACT basin.

**Comment F:** In a study prepared for the Applicant by Brown and Caldwell and posted on Applicant’s website, the Applicant indicates that four alternate sites in Carroll County have been identified for construction of water supply reservoirs. Neither the application nor the above-referenced reports indicates whether permits for construction of all reservoirs will be sought. Each of the four alternate sites lists its capacity as 18 mgd for a total of 72 mgd for all four potential sites. Since the applicant has indicated its capacity needs through 2060 as only 25 mgd, LMRA is concerned that if all four reservoirs are constructed, the capacity will greatly exceed the need for Applicant. In that event, LMRA is concerned that other users will obtain the excess capacity, possibly resulting in inter-basin transfers of water from the ACT basin.

**Response:** Applicant’s proposal is to construct a single reservoir on Indian Creek with a yield of 18 mgd.

**Comment G:** Applicant’s website contains information showing the capacity of its wastewater treatment system as 0.45 mgd. The website does not indicate whether the wastewater treatment plant discharges into the ACT basin. Since its current wastewater treatment capacity is much less than its current water usage and its projected water needs, LMRA is concerned that the discharge of treated wastewater will not be located in the ACT basin. LMRA recommends that the COE undertake a study to determine the effects of greatly increased surface water

consumption from the ACT basin when that treated wastewater is not returned directly to the ACT basin. LMRA also recommends that the Applicant conduct further study to determine if its wastewater treatment capacity is sufficient to return water originating from the Project to the ACT basin as treated wastewater.

**Response:** Applicant currently uses a Land Application System to treat its wastewater. Applicant modeled the yield of the Indian Creek reservoir based on a return flow of 10 mgd in the year 2060. A direct return ratio of 55% was assumed as a conservative estimate. Actually, the returned wastewater will most likely be greater than 55%. The exact location of the return in the year 2060 is unknown, but it is Applicant's intent to keep the return flows in the Tallapoosa Basin.

**Comment H:** Due to the potential impact of the Project on upstream and downstream users in the ACT basin, LMRA requests that public hearings be held to help determine the potential impact of the Project on the ACT basin.

**Response:** Applicant contends that a public hearing is not warranted. The Corps issued a Joint Public Notice to over 4,000 recipients to solicit public comment on the proposed project. In addition, a notice was posted on the Corps' website. The Corps provided an extended 60 day period in which interested parties could provide comments.

Applicant conducted public meetings specifically to discuss its water supply options on August 8, 2008 and September 18, 2008. Applicant's consultants presented the water supply alternatives and a detailed analysis of each option. Public comments were heard at each meeting. Applicant published a full-page article in the local newspaper on August 17, 2008 detailing the reservoir alternatives being considered and welcoming comments and questions from the public.

Additionally, Applicant conducted a public information meeting on March 4, 2010. The meeting was advertised in the local paper and the date was coordinated with the Corps who notified the state and federal agencies. This meeting provided an opportunity for interested parties to hear a presentation about the project, ask questions, and express comments. The Applicant also provides open and easy access to information about the proposed reservoir through its monthly public meetings and website. Interested members of the public may submit questions directly to the Authority through the website or participate in the public meetings. The Corps and the Applicant have made substantial efforts to provide opportunities for the public to comment on this project. A public hearing would not provide any additional information that is not already available.

**28. Lake Martin Home Owners & Boat Owners Assoc., Jesse Cunningham, 2/12/2010**

**Comment A:** Please accept this letter as confirmation that our office has extended the comment period for the above project for an additional 30 days. Our Mr. John Glasier spoke with your office on February 10, 2010, and was assured the comment period would be extended to allow a more thorough examination of the documents available concerning this potential project.

Our organization obtained a copy of the application on February 8, four days before the close of

the announced public comment period. Our preliminary review of the document suggests there are significant issues relating to the needs assessment, the proposed project's phased implementation and related operational concept, the in-stream flow analysis, potential downstream environmental and economic impacts, and proposed compensatory mitigation plan that require further explanation before Georgia State and Federal Section 404 (33 U.S.C. 1344) water quality certifications are granted. Accordingly, we believe there is adequate justification to extend the comment period 30 days and conduct public hearings in both Georgia and Alabama to afford adequate stakeholder input.

**Response:** Applicant contends that a public hearing is not warranted. The Corps issued a Joint Public Notice to over 4,000 recipients to solicit public comment on the proposed project. In addition, a notice was posted on the Corps' website. The Corps provided an extended 60 day period in which interested parties could provide comments.

Applicant conducted public meetings specifically to discuss its water supply options on August 8, 2008 and September 18, 2008. Applicant's consultants presented the water supply alternatives and a detailed analysis of each option. Public comments were heard at each meeting. Applicant published a full-page article in the local newspaper on August 17, 2008 detailing the reservoir alternatives being considered and welcoming comments and questions from the public.

Additionally, Applicant conducted a public information meeting on March 4, 2010. The meeting was advertised in the local paper and the date was coordinated with the Corps who notified the state and federal agencies. This meeting provided an opportunity for interested parties to hear a presentation about the project, ask questions, and express comments. The Applicant also provides open and easy access to information about the proposed reservoir through its monthly public meetings and website. Interested members of the public may submit questions directly to the Authority through the website or participate in the public meetings. The Corps and the Applicant have made substantial efforts to provide opportunities for the public to comment on this project. A public hearing would not provide any additional information that is not already available.

## **29. Lake Martin Home Owners & Boat Owners Assoc., Jesse Cunningham, 3/15/2010**

**Comment A: Need for a reservoir** – The population projections for Carroll County through 2060 is out of line with other accepted projections. In fact, it seems the Brown & Caldwell projections are over double the projections of the Atlanta Regional Commission and a study by Woods & Poole. In addition, a daily consumption rate of 135 gal/per capita is well outside the consumption level recommended by legislation currently being considered by the Georgia Legislature at the direction of the Governor of Georgia.

**Response:** Applicant contends its population projections are valid and reasonable. See Comment 2, EPA, Response to Comments C and D.

**Comment B: Projected Ground Water Availability** – It appears that adequate ground water is available in Carroll County, without the addition of a reservoir, to meet the needs of the realistic growth potential of the county for the next 40 years. It is difficult to ascertain the reasoning for



the grossly exaggerated population projections; however, the Corps of Engineers should carefully examine the studies to correct the obvious overstatement of needs for this and future proposed projects.

**Response:** Applicant asserts that there is not adequate groundwater to meet the needs of the county for the next 40 years. Applicant is not aware of any evidence that supports the notion that groundwater could satisfy its future water supply needs. To the contrary, Applicant commissioned Dr. William McLemore, the former state geologist, to conduct a review of existing groundwater studies in the region and he determined that groundwater resources in Carroll County are diffuse and inter-connected to the surface water regime. Dr. McLemore concluded that large, high-yielding wells in Carroll County are unlikely and that groundwater is not a viable means of meeting Carroll County's long-term needs.

Additionally, Larry Wood, the city manager for the City of Villa Rica, stated at the March 4, 2010 public meeting that Villa Rica hired a groundwater expert and spent the last two years, and taxpayer money, drilling to find water and has come up dry every time. Villa Rica supports the proposed reservoir because they recognize the necessity of surface water storage due to the unavailability of groundwater in Carroll County.

Applicant also asserts that the population projections are not grossly exaggerated.

**Comment C: Downstream Effects** – The Little Tallapoosa River has been designated as a 303d stream in Georgia and there appears to be plans to place a 31 mile section of the river in Alabama under the same classification. With fecal bacteria contamination already a problem in the river, how could removing more water from the stream be permitted? The drought of 2006-2008 provided many lessons to be learned regarding stream flow and the resulting water quality problems. The Corps of Engineers should require the applicants to provide the necessary proof that such a project as proposed will cause no harm downstream during times of drought.

**Response:** Applicant contends that the proposed reservoir will have a *de minimis* impact on downstream water quality and quantity. In support of this assertion, Applicant modeled impacts to downstream flows in Indian Creek, the Little Tallapoosa River at the state line, Lake Martin, and Lake Wedowee.

**Comment D: Sense of Urgency** – This project should advance in phases, if at all. With the current litigation between Georgia/Corps of Engineers, Alabama, and Florida, this project should be placed on hold until a resolution is reached in the water wars litigation. Approvals for any additional water resources for this area of the state should be issued in phases with shorter term (10 year), realistic needs analysis required of the applicant.

**Response:** Applicant proposes to operate the reservoir in phases of 6 mgd, 12 mgd and 18 mgd based on the population growth and water demands. Neither Georgia, Florida, nor Alabama have put a moratorium on permitting new reservoirs pending a resolution of current litigation. Applicant contends that placing this project on hold is not warranted. The State of Georgia allows and encourages a 50-year planning horizon.

**Comment E:** The Lake Martin HOBOS recommend the Corps of Engineers conduct a public hearing on this matter, permitting live presentations of concerned citizens, groups, and governmental agencies with Corps decision makers in attendance. Approvals should not be issued without public hearings.

**Response:** Applicant contends that a public hearing is not warranted. The Corps issued a Joint Public Notice to over 4,000 recipients to solicit public comment on the proposed project. In addition, a notice was posted on the Corps' website. The Corps provided an extended 60 day period in which interested parties could provide comments.

Applicant conducted public meetings specifically to discuss its water supply options on August 8, 2008 and September 18, 2008. Applicant's consultants presented the water supply alternatives and a detailed analysis of each option. Public comments were heard at each meeting. Applicant published a full-page article in the local newspaper on August 17, 2008 detailing the reservoir alternatives being considered and welcoming comments and questions from the public.

Additionally, Applicant conducted a public information meeting on March 4, 2010. The meeting was advertised in the local paper and the date was coordinated with the Corps who notified the state and federal agencies. This meeting provided an opportunity for interested parties to hear a presentation about the project, ask questions, and express comments. The Applicant also provides open and easy access to information about the proposed reservoir through its monthly public meetings and website. Interested members of the public may submit questions directly to the Authority through the website or participate in the public meetings. The Corps and the Applicant have made substantial efforts to provide opportunities for the public to comment on this project. A public hearing would not provide any additional information that is not already available.

**30. Bush, Crowley, & Leverett, LLP, Charles Leverett, 3/10/2010**

**Comment A:** Since page 19673 of the April 10, 2008 Federal Register specifically calls for "the District Engineer...should give preference to the use of mitigation bank credits...", why is this project being allowed to use Permittee Responsible Mitigation?

**Response:** The April 10, 2008 Federal Register does not mandate the use of mitigation bank credits. See Comment #3, EPA, Response to Comment H-1.

**Comment B:** Is the subject project planning to own the property where the mitigation is being carried out or is it an easement or restrictive covenant? It is understood from current Savannah District regulations that the property must be owned by the applicant and should not use the other methods of control.

**Response:** Applicant plans to purchase the two proposed mitigation sites in fee simple, place a restrictive covenant on the properties, and then convey the fee simple title subject to a permanent mitigation easement back to the original property owner. The Savannah District regulations permit this procedure, and basic property law principles support the procedure as well.

**Comment C:** Will all mitigation be completed before the reservoir project construction begins? Absent this, the ACOE will not have security the Permittee Responsible Mitigation be completed. Mitigation banks must schedule releases of credits based on completed mitigation and this provides the ACOE security.

**Response:** Applicant will comply with the Section 404 permit conditions as they relate to timing of mitigation construction and reservoir construction. Typically, the mitigation is required to be complete prior to impoundment of the dam.

**Comment D:** Will the monitoring period proposed for the Permittee Responsible Mitigation be 7 or 10 years as it is for Mitigation Banks?

**Response:** Applicant proposes a 7 year monitoring period.

### **31. Environmental Insight Consulting, John Glasier, 3/13/2010**

Environmental Insight Consulting submits the following comments and recommendations regarding the subject permit application. Environmental Insight specializes in water resource assessments and management strategies to protect and restore the ecological and economic values of surface waters in watersheds. The firm coauthored the Alabama Tallapoosa River Basin Management Plan (March 2005) with CH2M Hill and the East Alabama Regional Development and Planning Commission.

#### **Summary Conclusions:**

- There is insufficient basis to conclude the proposed Indian Creek Reservoir Project is the least environmentally damaging practicable alternative: To provide sufficient water supply for Carroll County, Georgia in the Tallapoosa Basin for projected growth through the year 2060 including supply demand during drought conditions.
- Water quality and related ecosystem impacts downstream of proposed Little Tallapoosa River and Indian Creek diversion sites have not been adequately evaluated for CWA Sec. 401 permit certification.
- CWA Sec. 401 and 404 permit certifications should be withheld until ongoing federal litigation pertaining to the ACT Basin and water allocation negotiations between Alabama and Georgia are concluded.

**Response:** Applicant addresses the details of each of the above-listed concerns below:

**Comment A: Population Projections: Population estimates underpinning future demand forecasts are excessively inflated, are not sufficiently justified, and contradict State and County planning guidance.**

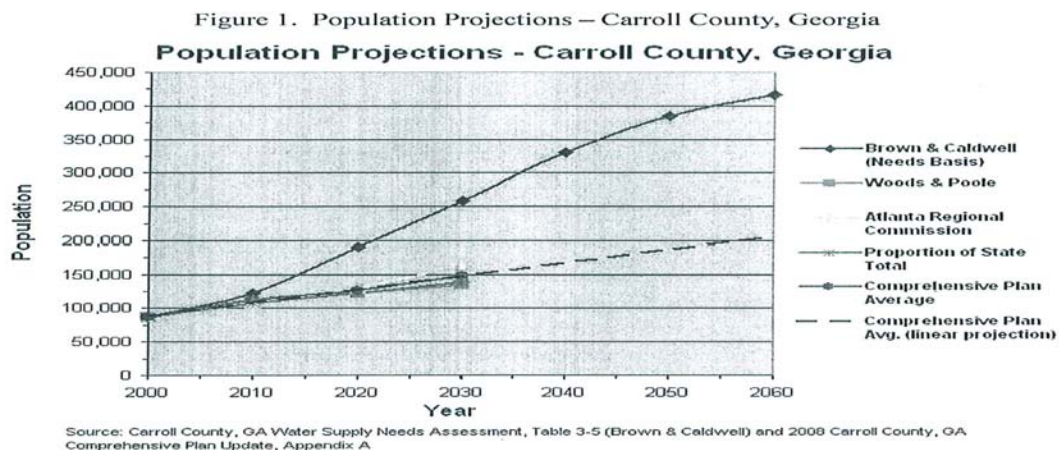
**Comment A-1:** The permit applicant's needs assessment prepared by the consulting firm Brown and Caldwell (BC) incorporates excessively high growth rates for Carroll County and its respective Tallapoosa and Chattahoochee River Basin areas for 50-year population projections –

with accelerated per annum growth of up to 5.5% during the 2010-2030 timeframe. These growth projections do not comply with the planning guidelines prescribed by Georgia State Water Supply and Water Conservation Management Plan (May 2009) and contradict both the Carroll County's 2008 Comprehensive Plan Update forecast and current projections by the Atlanta Regional Commission (ARC) that provide more reasonable growth forecasts.

**Response:** Applicant asserts that its needs assessment projects reasonable growth rates. Applicant acknowledges that its population projections differ from Carroll County's Comprehensive Plan and projections published by the Atlanta Regional Commission. However, Applicant stands behind its population projections. The current population in Carroll County already surpasses the growth projected by ARC and the Comprehensive Plan. Based on U.S. Census Bureau population estimates, the actual population in 2009 was 114,788 which exceeds the ARC projection for 2010 (107,172) and the Comprehensive Plan forecast for 2010 (114,551 persons).

Moreover, the August 19, 2009 letter from Georgia EPD certifies the need for additional water supplies in Carroll County and the need for the Indian Creek reservoir.

**Comment A-2:** Figure 1 shows the difference between projections of BC and those used in the County's 2008 Comprehensive Plan Update, which includes the Atlanta Regional Commission's forecast. The BC estimate for the County for the year 2030 is 77% higher than the average of population estimates used in the Comprehensive Plan Update. A similar disparity exists for the County's Tallapoosa and Chattahoochee sub-basin totals.



**Response:** See Response to Comment A-1 above.

**Comment A-3:** For out-year projections when reliable population information is not available, the Georgia State Water Supply and Water Conservation Management Plan uses population forecasts that are linearly projected to out-year targets for planning purposes (as done with ARC's 2035-2050 projections). Following this guidance, the dash line show in Figure 1 shows the 2030 average of population projections used in the Carroll County Comprehensive Plan Update (2008) projected linearly to 2060. BC's methodology estimates a population twice that of the County's Comprehensive Plan average projection for that timeframe.

**Response:** Applicant maintains that an S-shaped curve is a better representation of growth that occurs in counties located within 50 miles of Atlanta. Applicant did not model its population projections based on a linear curve and believes that it is faulty to do so.

**Comment A-4:** [Note: At the March 4, 2010 public meeting hosted by the Carroll County Water Authority the Agent for the permit application, while responding to comments and questions from the audience, remarked as part of the public record, (paraphrased), ‘one would be naïve to use a linear projection for out-year population estimates.’ His remark is refuted by the State’s own water supply planning guidance for out-year projections as per the State Water Supply and Water Conservation Management Plan.]

**Response:** Applicant’s agent made the above-referenced comment based on his 20+ years experience in developing water supply for public entities and based on his observations of population trends in Georgia over the past 60 years. See Response to Comment A-3 above.

**Comment A-5:** For both the 2030 and 2060 County projections, the BC population estimates are essentially ‘outliers’ relative to all other estimates used by the County for future planning. Even near-term growth trends described in the assessment do not match the reality of recent growth experienced in the County. In fact, population projections in the 2004 and 2008 updates to the County’s comprehensive Plan show an expected decline from 114,551 to 112,19 for the year 2010, compared to BC’s expectation of a substantial population increase to 122,600 by 2010. Actual 2009 census tract data lists the County’s population at 111,300. Therefore, it seems more likely the eventual 2010 population growth will be closer to less than 1% of that predicted by the County’s Plan rather than the 9.3% year-over-year increase predicted in the needs assessment that will not occur. Apparently, ongoing and foreseen national and regional economic recession impacts are not sufficiently factored into the needs assessment growth forecasts for the decade ahead as well as for long-term prospects.

**Response:** Applicant asserts that the BC population estimates are reasonable. As stated previously, the current population in Carroll County already surpasses the growth projected by ARC and the Comprehensive Plan. The BC report was prepared in late 2008, before the full impact of the current recession was known. If as a result the BC projections are marginally high, the CCWA will have a greater margin of safety in securing adequate resources for its customers. Moreover, the reservoir project will be constructed in phases based on actual unmet demand.

**Comment A-6:** A review of past population and water supply studies done over a decade ago for the proposed West Georgia Regional Reservoir (WGRR) provides additional insight as to what the long-term trend is likely to be for Carroll County. Revised ARC population projections for the proposed WGRR project, estimated a 2030 population differing only 5% from ARC’s current projection for the same out year (2030). In contrast, BC’s 2030 estimate used in the needs assessment is nearly 50% higher.

**Response:** In 2002, Brown & Caldwell prepared the population projections and needs assessment for the West Georgia Regional Reservoir. The 2002 study estimated Carroll County’s 2050 population at 446,680 which is higher than the 2008 study’s estimate of 416,000 in year 2060. The 2002 study was reviewed and concurred with by the Coosa Valley Regional



Development Center and the Chattahoochee-Flint Regional Development Center.

**Comment A-7:** Even though similar factors influencing future development are considered for the WGRR and BC population projection methodologies (county comparisons to Atlanta Metro county growth trends, anticipated accelerated growth, Metro county build-out, I-20 corridor development and available developable land, etc.), strikingly different conclusions are reached regarding the prospective growth of Carroll County between those reflected in the Indian Creek project needs assessment and those of either the County's current Comprehensive Plan or the previously proposed West Georgia Regional Reservoir needs analysis.

**Response:** Applicant acknowledges that its population projections are higher than the Carroll County Comprehensive Plan and lower than the needs analysis completed for the West Georgia Regional Reservoir. Applicant maintains that its estimates are reasonable.

**Comment B: Water Supply Demand Calculations: The methodology used in calculating future water supply demand does not provide sufficient accuracy for a 50-year forecast to substantiate an 18 mgd unmet water supply demand for Carroll County; does not follow State and County water supply planning guidance; and underestimates forecasted water conservation and efficiency supply savings contrary to State planning guidance.**

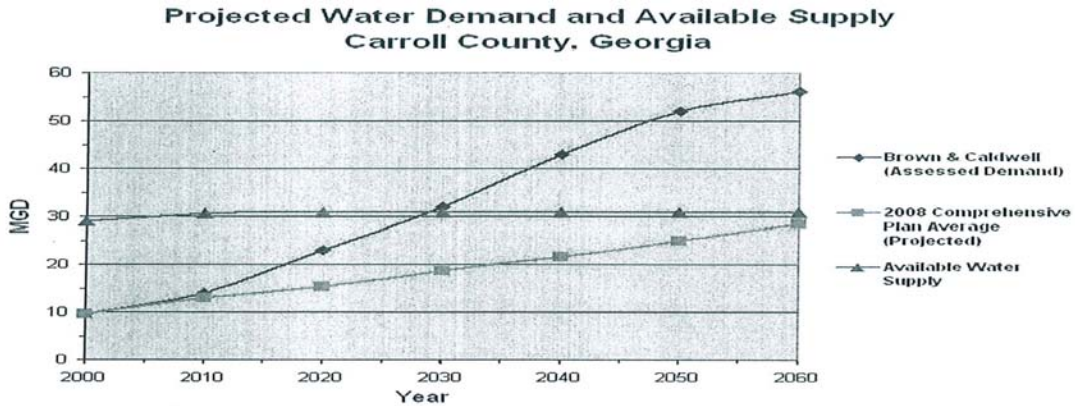
**Comment B-1:** The Brown and Caldwell (BC) projection is the only projection used for per capita water supply needs calculations and supporting conclusions offered in the needs assessment. This projection coupled with an estimated 135-gallon daily consumption rate predicts a countywide supply deficit of 25.5 mgd by 2060. The majority of the shortfall is expected in the County's Tallapoosa Basin (17.9) and the remaining deficit in the Chattahoochee Basin (7.6 mgd) portion of the County.

**Response:** Applicant asserts that the BC report also lists population projections from other sources and considered these in making its recommendations. Applicant concurs with the figures cited above.

**Comment B-2:** Figures 2 and 3, respectively, depict 50-year projections of available water supply (permitted and in development) compared to supply demand for Carroll County and its Tallapoosa Basin portion. Figure 2 illustrates the disparity between estimates of the County's overall future unmet demand. The demand estimate based on the County's Comprehensive Plan suggests that a countywide annual average water supply surplus would likely remain beyond 2060.

Figure 2. Projected Water Demand and Available Supply, Carroll County, Georgia



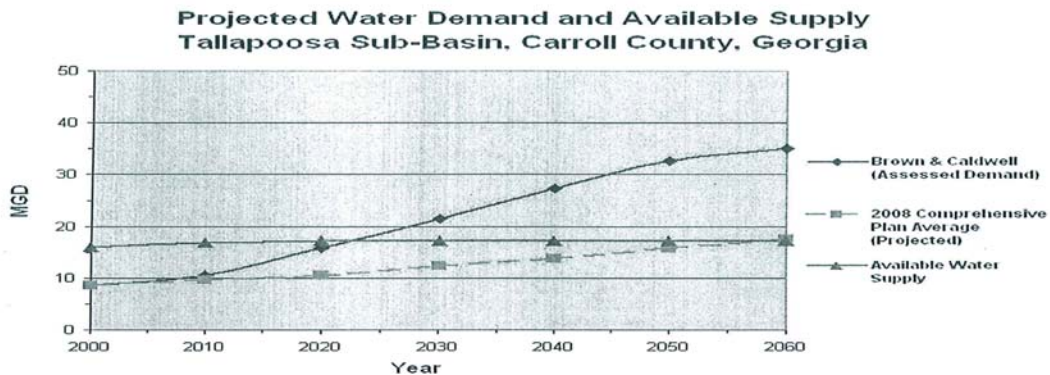


Source: Carroll County, GA Water Supply Needs Assessment, Figure 5-1 (Brown & Caldwell) and 2008 Carroll County, GA Comprehensive Plan Update, Appendix A

**Response:** Applicant contests the viability of the demand estimates in the Carroll County Comprehensive Plan and again asserts that the projections prepared by Brown & Caldwell are a reasonable reflection of historic growth patterns outward from Metro-Atlanta.

**Comment B-3:** Figure 3 depicts past and projected available water supply and demand for the Tallapoosa Basin portion of Carroll County. According to BC’s calculations, demand will exceed water supply in the County’s portion of the Tallapoosa Basin within 12 years (2022). In contrast, the County’s 2008 Comprehensive Plan projection average suggests that available supply in the watershed would not exceed demand until the year 2057, which would be 35 years after that predicted in the needs assessment.

Figure 3. Projected Water Demand and Available Supply, Tallapoosa Sub-Basin, Carroll County.



Source: Carroll County, GA Water Supply Needs Assessment, Table 5-2 (Brown & Caldwell) and 2008 Carroll County, GA Comprehensive Plan Update, Appendix A

**Response:** See Response to Comment B-2 above.

**Comment B-4:** The following statement in the needs assessment may help explain the disparity between supply demand projections (Section 4.2, Other Considerations):

“In addition to per capita water use, future water demand is affected by other factors such as water service area extensions and changes in commercial and industrial use.” (emphasis added)

**Comment B-4-A:** Would extending CCWA’s service area into Haralson and Paulding counties make up the difference between projections? According to the 2050 demand projections for these two counties (Tallapoosa Sub-Basin portions) used to justify the proposed West Georgia Regional Reservoir, the forecast for a 10mgd unmet demand for those counties would make up the difference between demand estimates. If water service were to be extended to meet the projected unmet demands in those counties, the BC projection would be ‘on target’ for the 2050-2060 timeframe. Could that be a coincidence or the intended target?

**Response:** Applicant’s projected unmet water demand for 2060 is based on the needs of the Tallapoosa Basin portion of unincorporated Carroll County. Applicant seeks to secure adequate water supplies for its current and future water customers. Expanding service into other counties was not considered in the unmet demand analysis. However, the CCWA does currently serve Cleburne County, Alabama, in addition to the cities of Villa Rica, Temple, and Mt. Zion, Georgia.

**Comment B-4-B:** As described in the application notice and announced at the March 4, 2010 public meeting in Carrollton, the intent of the project is to build in phases to meet growing water supply demands of prospective customers, not necessarily only those in Carroll County. But, one must keep in mind that the stated purpose for the Indian Creek reservoir project and scope of the needs assessment is to meet Carroll County needs – not those of surrounding counties within the Tallapoosa River Basin that could be served by the Carroll County Water Authority. The unmet need of those prospective customers outside of Carroll County should be addressed in a separate needs assessment and not be included as part of the County’s need.

**Response:** The needs assessment does not include prospective customers outside of Carroll County. The needs assessment only considers the current CCWA services areas within the Tallapoosa Basin portion of Carroll County.

**Comment C: Ongoing and Future Water Conservation Impacts on Water Demand: State water supply and conservation planning guidance for out-year estimates is not followed.**

**Comment C-1:** The State Water Plan and State Water Supply and Water Conservation Management Plan (May 2009) used by the Metropolitan North Georgia Water Planning District provides guidance for determining the impacts conservation and related water-use and re-use efficiencies will have on water-supply demand forecasts. The Plan shows that an 8% decrease in total demand for Metro North Georgia Water Planning District counties will likely be realized by 2050 due conservation measures. The per capita consumption rate planning estimates offered by Brown and Caldwell do not reflect comparable demand offsets. Using the Metro planning factor for Carroll County, 2060 daily per capita demand would be about 125 gallons instead of 135 gallons estimated for the County.

**Response:** Applicant included a Water Supply Needs Assessment report as a part of its Section 404 permit application (the “Report”). The Report predicts that the gcd will increase overtime as the community develops and more intensive landscape watering occurs. This prediction is based on the per capita water use rate trends of the counties in the Metropolitan North Georgia Water

Planning District.

The Report also explains how water conservation was accounted for in its gpcd calculations:

*Future per capita water consumption was projected in this study anticipating aggressive water conservation. With the recent droughts, Georgia residents and water utilities have become increasingly aware of the limits of their water supplies and the need for water conservation. It is thus assumed that water conservative practices, the installation of low flow fixtures, and seasonal outdoor watering restrictions when imposed will result in some reduction in water use. The CCWA [Carroll County Water Authority] has also implemented a water conservation rate structure and implemented other measures to reduce water use throughout their systems including extensive metering, plumbing ordinances and codes, public education programs, and systems to track nonrevenue water and minimize water loss (CCWA 2005). Additionally, it is expected that water conservation in Carroll County will be facilitated by EPD's ongoing water conservation programs to be implemented through the State-wide Water Plan. While 2060 water consumption in Carroll County could be as high as the 2001 MNGWPD average of 168 gcd, 135 gcd is considered to be a better estimate given the Authority's emphasis on water conservation and EPD requirements. Water Supply Needs Assessment, 4.1.2.*

Accordingly, water conservation efforts reduced the gpcd from 168 gcd to 135 gcd. An additional reduction of 8% is not warranted.

**Comment C-2:** On August 19, 2009 Georgia's Environmental Protection Division certified the need for the Indian Creek reservoir with the provision that the water stored in the proposed reservoir be used within and returned to the Tallapoosa Basin. However, EPD did not make a determination regarding the amount of withdrawal to be permitted. Given the disparity between the demand forecast specified in the needs assessment and evidence of a considerably lower future unmet demand for the Tallapoosa Basin portion of the Carroll County, it seems prudent for EPD to carefully reconsider the validity of future demand forecasts; and if additional supply storage is required at the proposed reservoir site, that the reservoir's yield be sized appropriately to meet the demand, and that necessary pump withdrawals from candidate surface water sources also be sized accordingly to meet the demand without degrading those sources per CWA Section. 401 and 404 permitting provisions.

**Response:** Applicant acknowledges that EPD certified the need for the Indian Creek reservoir. Applicant further acknowledges that it has been EPD's policy to size withdrawals to meet demand.

**Comment D: Water Quality Assessment: Impacts on water quality and associated riverine habitat and biota downstream from proposed water withdrawal sites on the Little Tallapoosa River and Indian Creek are not adequately assessed.**

**Comment D-1:** The Little Tallapoosa River segment in Georgia has a history of pollution at and downstream of the proposed withdrawal site due to fecal bacteria contamination from non-point sources. It was previously cited for this impairment on the Georgia 303d list. A TMDL was

implemented by Georgia's EPD in 2008. More recently, the Alabama draft 2010 303d listing designates a 31-mile segment of the Little Tallapoosa River extending down-river from the AL-GA Stateline similarly impaired due to non-point source fecal bacteria contamination.

**Response:** Applicant contends that the reservoir may improve downstream impairment with respect to fecal coliforms. In fact, reservoirs destroy fecal coliforms as a result of the hostile conditions (sunlight, algae, retention times) for fecal coliforms in reservoirs.

**Comment D-2:** The alternatives analysis fails to recognize the impaired downstream segment in Alabama. Moreover, the analysis does not consider potential changes to the River's flow regime and flow levels and related impacts on its capacity to assimilate potential pathogen and nutrient loading downstream of proposed diversions.

**Response:** Applicant considered downstream water quality impacts in its alternatives analysis. Applicant asserts that the Indian Creek reservoir will not further impair the downstream segment in Alabama. To some extent, the reservoir will act as a filter for water pumped from Indian Creek and the Little Tallapoosa River. Moreover, the *de minimis* impacts to downstream flow will not exacerbate the existing conditions of the stream.

**Comment D-3:** Analysis of the yield and flow model output reveals that down-river, in-stream flows on average will be lower, especially for drier years, and a higher frequency of flows at or near monthly 7Q10 – altering the natural flow regime and essentially flat-lining flows at those low levels. Alabama NPDES permit limits for downstream WWTPs are based on waste load calculations using annual 7Q10 flow values that are much higher than monthly 7Q10 values having lower discharge averages for the dry-season, summer-fall months.

**Response:** The diversion of water from streams, regardless of location, has the effect of reducing the amount of flow remaining in the stream. The flows will not be flat-lined. If downstream WWTP's have permits based on higher flow values, it may be that those higher 7Q10 values were derived in earlier years, and thus do not reflect the 2007-2008 drought, which is the new drought of record. See Response to Comment E-1-D below for further discussion.

### **Comment E: Yield and Flow Analysis of the Indian Creek Reservoir Project: A Preliminary Analysis**

#### **Comment E-1: Phase 1 yield and flow prospects – Pump diversion only from Indian Creek:**

**Comment E-1-A:** A 6 mgd reservoir yield apparently cannot be sustained during severe to extreme drought conditions, as was the case during the multi-year droughts during this past decade. Storage depletion rates would be higher than those modeled for Phase 3 yield and flow effects; and pool elevations would be lower for longer periods of time – not only during droughts but also during yearly dry seasons. It appears reservoir safe yield could not be maintained without pump storage augmentation from another source (i.e. the Little Tallapoosa River).

**Response:** Applicant asserts that the Indian Creek reservoir can be sustained during severe to extreme drought conditions under Phase I of its operations without pump storage augmentation.

There should be adequate flow to meet the 6 mgd Phase I safe yield for a drought having an intensity similar to the 2007-08 drought. Please refer to Comment 12 Alabama, Response to Comment C-1 for more detail.

**Comment E-1-B:** The combined effect of storage losses owing to daily water supply yield, reservoir evaporation, and reservoir releases to meet in-stream flow requirements, would not be offset by creek inflow and the downstream pump diversions that replenish reservoir storage.

**Response:** Applicant disagrees with this statement. See Safe Yield Computations and In-stream Flow Considerations report under tab 8 of Applicant's Section 404 permit application.

**Comment E-1-C:** No 'return-flow' benefit is realized in Indian Creek for Phase 1 (given what can be discerned from the model output).

**Response:** No return flow is considered for Indian Creek, and for the planning basis studies, return flow has been considered for the Little Tallapoosa River diversion only for Phase III.

**Comment E-1-D:** The resulting Indian Creek flow regime below the intake would be 'flat-lined' at or below Monthly 7Q10 levels during droughts and dry season months, and flow levels would be consistently lower during the wet-season months.

**Response:** Applicant contends that Indian Creek flow will not be "flat-lined". During extreme drought conditions, natural flows will likely be below in-stream flow targets for extended periods of time. The graphs below depict Indian Creek flows just upstream of the Indian Creek confluence with the Little Tallapoosa River for the Year 2007 (severe drought year), Year 1953 (average flow year) and Year 1979 (wet year). Note that for the drought year (2007), there is little difference between pre-project and post-project flows. That is because natural flows are below the Monthly 7Q10 targets and no flow may be diverted. This graph depicts the *most extreme* diversion scenario from Indian Creek (Phase III with 18 mgd of water demand and diversions from Indian Creek always prioritized over Little Tallapoosa River diversions).

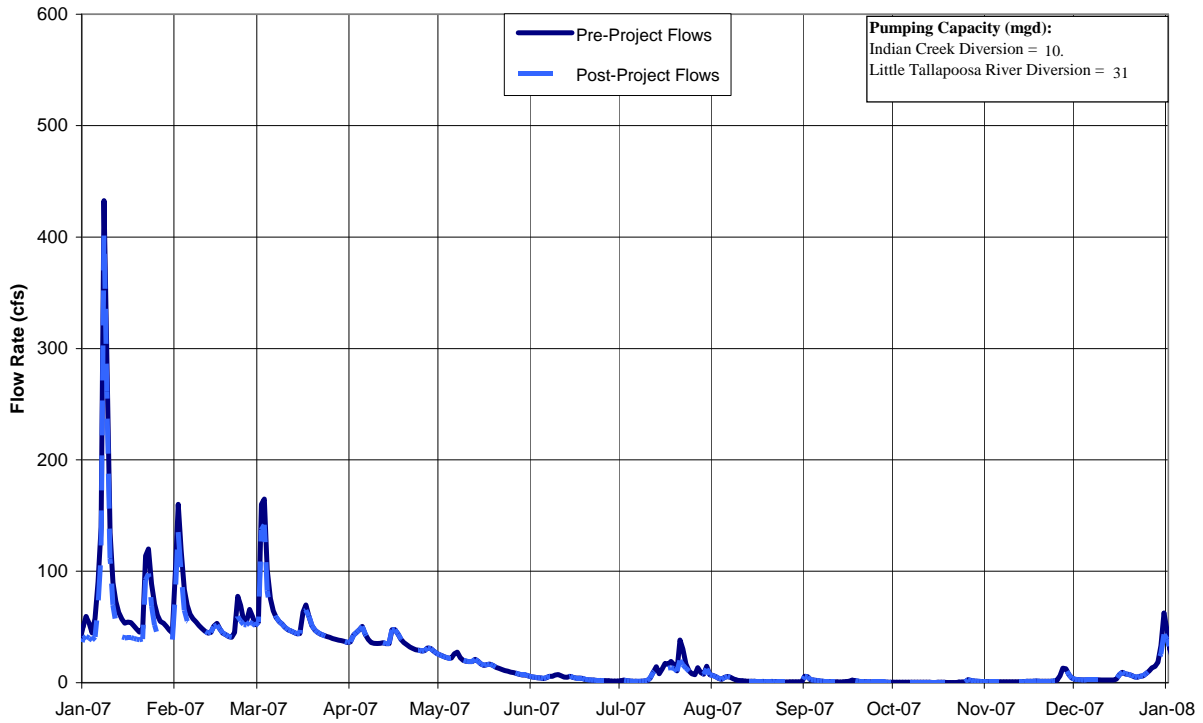
The second and third graphs illustrate an average flow year and a wet year, assuming the same 'most extreme diversion scenario'. Greater levels of diversion are required under average to wet years to provide the needed reservoir storage to accommodate water supply during a severe drought period. Note that while diversions reduce stream flow, even under this extreme scenario, the creek is not flat-lined and exhibits the full range of natural flow variation.

The diversion of water from streams, regardless of location, has the effect of reducing the amount of flow remaining in the stream.

Indian Creek  
Indian Ck confluence w/ Little Tallapoosa  
Drainage Area (sq. mi.) = 72.7

### Pre- and Post-Project Flow Assessment Phase Dry Year (2007)

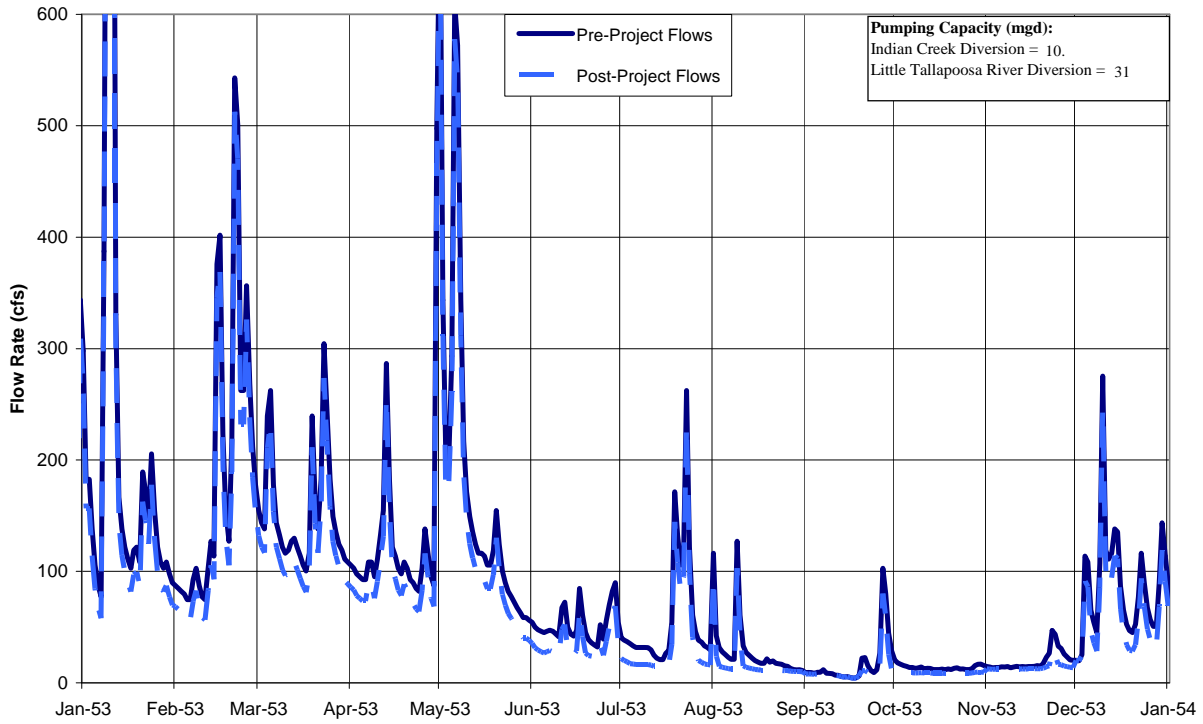
Indian Creek Reservoir @ Elev 1190  
MIF = M7Q10  
Yield (mgd) = 18.0



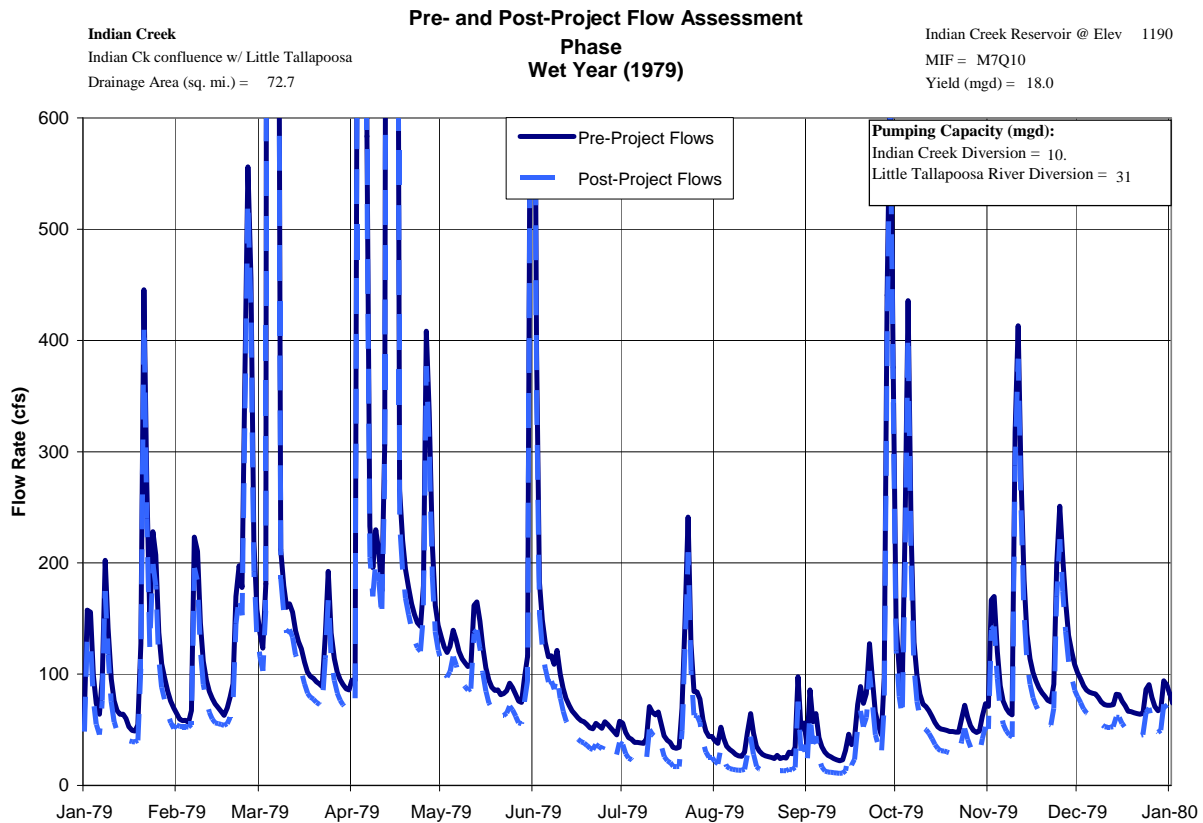
Indian Creek  
Indian Ck confluence w/ Little Tallapoosa  
Drainage Area (sq. mi.) = 72.7

### Pre- and Post-Project Flow Assessment Phase Avg Year (1953)

Indian Creek Reservoir @ Elev 1190  
MIF = M7Q10  
Yield (mgd) = 18.0







**Comment E-1-E:** Since the need for Phase 2 and 3 implementation could be delayed or foregone, the possibility of lower than projected future demand should be analyzed to better understand the capital as well as the environmental cost-benefit risks associated with completing only Phase 1 of the Indian Creek project.

**Response:** Applicant contends that the 2060 unmet water supply needs for the Tallapoosa Basin portion of Carroll County will be 18mgd. However, the costs associated with not constructing Phase 2 and 3 would be minimal. Phase 1 includes the construction of the complete 643-acre reservoir. If Phases 2 and 3 are not needed, the pump lines to the Little Tallapoosa River and Indian Creek at Indian Branch would not be constructed. The capital and environmental costs of Phase 2 and 3 would be avoided altogether.

**Comment E-2: Phase 3 yield and flow prospects – Pump diversions from Indian Creek and Little Tallapoosa River:**

**Comment E-2-A:** The analysis by Schnabel states (page 4): “The model also considers a 10 mgd permitted withdrawal by the City of Carrollton, as well as a 10 mgd water return flow from the entire Little Tallapoosa River upstream of the proposed diversion locations.” Accountability cannot be discerned as to: (1) the sources of the daily 10 mgd water ‘return flow’ contribution added to the modeled river flow at the Little Tallapoosa intake site, and (2) the model decision

rules to adjust for intervening losses due to diversions, infiltration and evapotranspiration between the sources of the added return flow that are up-river in the watershed (WWTP discharges, septic systems, etc.) and the down-river withdrawal intake.

**Response:** The return flow of 10 mgd in the year 2060 is simply an estimate for water modeling purposes. It is only factored into the yield modeling for Phase III of the project. A direct return ratio of 55% was assumed as a conservative estimate. Actually, the returned wastewater will most likely be greater than 55%. The exact location of the return in the year 2060 is unknown.

With a projected 10 mgd return flow for a river having an average discharge of 223 mgd, changes in stream infiltration and evapotranspiration instigated by the return flow would be trivial. As with any model that projects future conditions based upon historical data, the model's primary value is in indicating general trends and behaviors. Adding inconsequential elements and conditions would make the model more complex, but not meaningfully more accurate. Known diversions have been included in the model.

**Comment E-2-B:** The model appears to assume and specify the 10 mgd return flow as a year-round constant, which would not be realistic for seasonal flows and especially for prolonged drought periods such as during the droughts of the past decade.

**Response:** Applicant asserts that its estimate of 10 mgd is conservative even considering seasonal flows and prolonged drought periods.

**Comment E-2-C:** No differentiation is made between the contributions of wastewater treatment effluent or supposed septic tank ground water additions to the water-return component of the model. The aggregate contribution remains a constant 10 mgd for modeling purposes.

**Response:** Applicant concurs with this statement. See Response to Comment E-2-A above.

**Comment E-2-D:** For Indian Creek, the modeled Pre- and Post-Project Flow output indicates that the Creek's flow rates at the Alabama-Georgia Stateline (and at its downstream confluence with the Little Tallapoosa River back in Georgia) would decline during average-year, wet-year, and dry-year/drought conditions; and all reservoir water supply yield for consumptive use would be realized in Georgia with no apparent return flow contribution to the Creek's in-stream flow below the reservoir (in addition to reservoir releases).

**Response:** For the purposes of the model, it was reasonably assumed that the predominant source of return flows would be from the central and eastern portions of the Little Tallapoosa Basin in Carroll County (nearest the Atlanta Metro area), and that these demand centers would release return flows to the Little Tallapoosa River upstream of the river intake. While some level of return flow could have been included to reflect Bowdon discharges into Indian Creek, it was decided that level of detail was not necessary to reasonably and beneficially characterize the project.

**Comment E-2-E:** For the Little Tallapoosa River, the modeled Pre- and Post-Project Flow outputs indicate Stateline river monthly flows for average years will decline and the magnitude

of peak flows will also be less than lower flows in the summer-fall period for wet years.

**Response:** While the magnitude of impacts is small, it is generally understood that consumptive use of water results in reductions in its availability.

**Comment E-2-F:** The modeled Pre-and Post-Project Flow outputs related to drought conditions show flows considerably higher during summer and drier fall months primarily as a result of the assumed daily 10 mgd flow-return augmentation to the River's base flow. As suggested above, a constant daily 10 mgd water-return augmentation to the Little Tallapoosa River's flow at the proposed intake is difficult to justify given typical surface and ground water conditions during the driest months of hydrological droughts.

**Response:** See Response to Comment E-2-A above.

**Comment E-2-G:** Recent flow data incorporated into the spreadsheet model illustrating yield potential from the 2007-2008 drought show that higher pumping capacities were necessary at the proposed withdrawal sites to restore reservoir yield. Withdrawal capacities were raised to 31 mgd (48 cfs) and 10.5 (16 cfs) for the Little Tallapoosa and Indian Creek, sites respectively. This suggests the downstream AL-GA interstate flow could be reduced further by up to 17% from what modeled with the proposed 25.5 mgd and 10 mgd pump-withdrawal capacities.

**Response:** Applicant did update its spreadsheet model to incorporate additional data that reflected the most recent drought.

Note that within Conclusion #2 of the Safe Yield Computations and In-stream Flow Considerations under Tab 8 of the Section 404 permit application, it states "Consideration should be given to provision of additional diversion capacities, given that drought conditions could persist longer, or be more severe, than are currently projected." As presented in Comment 21, Response to Comment E-3, now that additional data is available, the model was updated and the diversion capacities revised as necessary to reflect more recent flows.

However, the total amount of water planned for this water supply project has not changed. What did change was the extent of the severe drought conditions against which the project needed to be modeled. While the addition of more recent flow data to round out the drought analysis has led to an adjustment in pumping capacities, this does not translate to a further reduction to average interstate flows. Higher pumping capacities will during some periods further reduce streamflow, while in other circumstances, the higher pumping capacities would increase streamflow by allowing less frequent and shorter duration pumping.

**Comment E-2-H:** For all proposed project phases, the operational concept for the management of pump withdrawal priorities between the Indian Creek and the Little Tallapoosa would likely be conditioned on inter-state-in-stream flow requirements derived from ongoing interstate water allocation litigation and negotiations between Alabama and Georgia. Those requirements could result in in-stream flow regimes significantly different for dry-season months and droughts than modeled for the pending application. Thus, simulation of consequential in-stream impacts from those negotiations should be done before any CWA Sec. 401 or 404 permit decision is made.

**Response:** Applicant contends that the operational concept for the management of pump withdrawal priorities will not be conditioned on inter-state in-stream flow requirements. Applicant further asserts that it is not required to model its project based on the endless possible outcomes of the litigation and negotiations between Alabama and Georgia. Such a requirement would be unduly burdensome and would not generate any meaningful information. Therefore, Applicant has proposed a project that will be designed and operated to meet the State of Georgia's existing instream flow requirements. Applicant believes these are the same as, or more stringent than, the State of Alabama's instream flow requirements.

**Comment F: Recommendations.**

**Comment F-1:** That the population and water supply demand projections for the needs assessment be recalculated using methodology consistent with that being used in Carroll County's Comprehensive Plan, be predicated on ARC's updated county projections, and done according to the guidance specified State Water Supply and Water Conservation Management Plan. Updated projection results should be re-certified by Georgia EPD. Moreover, if additional water supply demands outside of Carroll County are to be met by any proposed alternative, those needs should be explicitly addressed in the needs assessment and not be implied in demand calculations that pertain to Carroll County.

**Response:** Applicant asserts that its population projections are reasonable and that the need for the Indian Creek reservoir has been certified by EPD. Applicant's proposal does not account for water supply demands outside of Carroll County.

**Comment F-2:** That an Environmental Assessment and Environmental Impact Statement be done pursuant to NEPA requirements to determine the water quality and related eco-system impacts downstream of proposed Little Tallapoosa River and Indian Creek diversion sites prior to CWA 404 and 401 permit certification. Assessments should be done for the impacts and related cost benefits for each phase of the project.

**Response:** The Applicant asserts that an Environmental Impact Statement is not required in this instance as the project will not significantly affect the quality of the human environment. An Environmental Assessment will provide the information necessary for the Corps to take a "hard look" at the direct, indirect and cumulative impacts of the project. Moreover, the current submittal contains the level of detail on alternatives, environmental impacts and mitigation required for the National Environmental Policy Act (NEPA) analysis. The alternatives analysis thoroughly considers the no action alternative, water conservation, recycle and reuse of wastewater, groundwater, purchase of water from an existing source, and an upland constructed flow augmentation reservoir in addition to surface water supply alternatives. Applicant has worked to address the concerns of the resource agencies and will continue to attempt to resolve all legitimate agency concerns through the 404 process. An EIS will not result in a more meaningful analysis of the project impacts; the main effect will be to delay the project further, at great expense to the Applicant.

**Comment F-3:** That CWA Sec. 404 and 401 permit certifications be withheld for the proposed Indian Creek Reservoir project, or modifications thereof, pending resolution of ongoing federal

litigation pertaining to the ACT Basin and water allocation negotiations between Alabama and Georgia, which will likely require reassessment of supply alternatives and in-stream flow limitations.

**Response:** Applicant contends that its permits should not be withheld pending resolution of the ongoing federal litigation and/or negotiations between Alabama and Georgia. Neither Alabama, Georgia nor the federal court have put a moratorium on permitting new reservoirs while negotiations regarding water allocation continue.

**32. Bryan Hager, 2/10/2010**

I am writing to express opposition to granting a permit to the Carroll County Water Authority (CCWA) for the proposed Indian Creek reservoir.

**Comment A: Need:** The CCWA uses exaggerated population estimates in their needs analysis. The CCWA estimates are inconsistent with the population estimates that guide the Carroll County comprehensive plan and the Atlanta Regional Commission regional transportation and air Quality Plan. The letter referenced in the permit application from the Georgia Department of Natural Resources concurring with the unmet need can at best be considered advisory. The letter from Georgia NDR does not meet Clean Water Act standards for public input or review and therefore does not absolve the USCOE from responsibility to review the need for the proposed project. The use of more realistic population forecasts would dramatically reduce forecast for future unmet water demand.

**Response:** Applicant contends that its population projects are not exaggerated and represent a realistic and reasonable forecast.

The August 19, 2009 letter from Georgia DNR certifies the need for additional water supplies in Carroll County and the need for the Indian Creek reservoir.

**Comment B-1: Groundwater:** The CCWA never gave serious consideration to the use of groundwater to meet future water needs. In fact the CCWA made the decision to build a reservoir before conducting a review of groundwater resources and then hired people to manage the permit application process who have a vested interest in permitting and building a reservoir. Groundwater is a well developed resource in Carroll county and should receive unbiased assessment of its potential before any decision is made to build a reservoir which would necessitate much greater impact to the environment. Before the US COE can grant a permit for a water reservoir it must determine that there are no other reasonable alternatives that would have less of an impact on the environment. You cannot make this determination based on the inadequate and biased information provide by the CCWA on groundwater resources.

**Response:** Applicant gave serious consideration to the use of groundwater to meet future needs. However, groundwater resources in Carroll County are not capable of meeting those needs. Applicant commissioned Dr. William McLemore, the former state geologist, to conduct a review of existing groundwater studies in the region and he determined that groundwater resources in Carroll County are diffuse and inter-connected to the surface water regime. Dr. McLemore

concluded that large, high-yielding wells in Carroll County are unlikely and that groundwater is not a viable means of meeting Carroll County's long-term needs.

In addition to Dr. McLemore's report, Applicant conducted a thorough analysis of the potential impacts of using groundwater. Applicant considered the quality and quantity of groundwater available in addition to impacts to the natural environment, the human environment, wellhead protection measures and the cost of using groundwater. Applicant's full analysis is included on pages 6 through 10 of the Alternatives Analysis included in the Section 404 permit application.

Additionally, Larry Wood, the city manager for the City of Villa Rica, stated at the March 4, 2010 public meeting that Villa Rica hired a groundwater expert and spent the last two years, and taxpayer money, drilling to find water and has come up dry every time. Villa Rica supports the proposed reservoir because they recognize the necessity of surface water storage due to the unavailability of groundwater in Carroll County.

Applicant's consultants were hired to do an analysis of water sources capable of supplying Carroll County's unmet needs through 2060. Based on their review of all of the water supply alternatives, it was determined that a reservoir was the only alternative that could provide the needed water. The Applicant, using different consultants, came to the same determination when it permitted the Snake Creek Reservoir.

**Comment A-2: Need:** Population forecasts and water use rates by business and households are the two primary factors used to generate forecast water demand. Population growth rates are determined by a combination of national and regional demographic and economic trends and local policy decisions. The Carroll County Board of Commissioners updated the county comprehensive development plan (County Plan) in 2006. The County Plan considered past population growth trends, regional forecasts and local policy considerations to forecast population growth into the future. The County Plan forecasts population change through 2030. The forecast population for 2030 is 148,421, an increase of 44,035 over the base year of 2005 a growth rate of 1,761 per year.. This growth rate is faster than the average growth rate of the past 45 years which was 1,016 per year. The County Plan does not forecast to 2060. At the higher growth rate used in the County Plan the 2060 population would be 201,263. This number is significantly lower than the number used by the CCWA to justify the permit application.

**Response:** Applicant agrees that the population estimates in the Carroll County Comprehensive Plan are lower than the population projections prepared by Brown & Caldwell.

**Comment A-3: Need:** The CCWA uses examples of other counties in metro Atlanta whose population grew very fast to justify the higher population forecasts in the permit application. The population of some counties did grow very fast from 1960-2000. These counties adopted policies to promote rapid growth, including blanket rezoning of the county for residential development, and aggressively funding expansion of road, water and sewer infrastructure. In contrast the Carroll County Plan adopts policies to limit growth, by steering development to the existing cities and does not propose major expansions to county infrastructure. Without a major change in the attitude of the elected officials of Carroll County it is unlikely the county



government will implement programs to promote and accommodate the rapid increase in population forecast by the CCWA.

**Response:** Applicant looked at other counties in metro Atlanta to determine growth patterns based on proximity to the city of Atlanta. Regardless of policies toward growth, historical data shows that population growth spreads from within the City of Atlanta outward. Applicant cannot comment on the “attitude of elected officials” in Carroll County.

**Comment A-4: Need:** One of the major tools the fast growing counties used to promote growth was the expansion of highways to provide easy commuting and attract industry. The budget problems at the Georgia Department of Transportation have been well documented in the press. Hundreds of projects have been cut out of the plan over the past two years as the Georgia (DOT) tries to balance its books. It is highly unlikely Carroll county would receive the large subsidies from the state for local highway expansions that fast growing counties received in the past.

**Response:** Applicant cannot comment on DOT’s policies or procedures regarding funding. However, Carroll County does contain a major interstate, I-20, which contributes to current and future population growth.

**Comment A-5: Need:** Finally, the Atlanta Regional Commission(ARC) is charged under the federal Clean Air Act and federal transportation planning rules to forecast population for the Atlanta region. These population forecasts are a key element of the State Implementation Plan(SIP) for improvement of air quality. The ARC goes through a triennial review of its planning procedures to make sure they meet best standards so the SIP can be as accurate as possible. As such, they have the most rigorous and historically accurate population projections in Georgia. The ARC forecasts included in Envision 6 were completed before Carroll County finalized its County Plan and therefore could not incorporate the managed growth policies adopted by the County and are therefore higher than the local government wants to accommodate. However, even these forecasts show less population growth in Carroll County than the CCWA. The ARC forecasts a 2030 population of 163,979 for Carroll County, an increase of 76,711 over 2000. A similar rate of growth for 2030 to 2060 would bring the total to 241,690. Promotion of policies to expand population in Carroll County faster than in the ARC forecasts would impact air quality and transportation plans for the Atlanta Region and require changes to the federal mandated State Implementation Plan.

**Response:** Applicant agrees that the ARC is a well-respected planning entity. However, Applicant stands behind its population projections. The current population in Carroll County already surpasses the growth projected by ARC and the Comprehensive Plan. Based on U.S. Census Bureau population estimates, the actual population in 2009 was 114,788 which already exceeds the ARC projection for 2010 (107,172) and the Comprehensive Plan forecast for 2010 (114,551 persons). Applicant is not proposing a policy of generating growth, but a plan for securing adequate water supplies for Carroll County’s current and future citizens.

**Comment A-6: Need:** In summary the US COE cannot reasonably use the population estimates provided by the CCWA when they are at such great variance with the Carroll County Plan and federal Clean Air Act required State Implementation Plan forecasts.

I have attached a copy of the population element of the County Comprehensive Plan and the letter I sent to the CCWA about the errors in their population forecasts. The ARC forecasts are available from their website at <http://www.atlantaregional.com/info-center/arc-region> Under Archival data (E6 forecasts done in 2006) here (in Excel): (population) (employment)

**Response:** Applicant contends that its population estimates are reasonable and likely, more accurate than other forecasts produced for Carroll County. See Response to Comment A-5 above.

**Comment B-2: Groundwater:** Tommy Craig, the agent for the CCWA, and the consultants he uses all make money by getting permits for and building reservoirs. This creates a strong incentive for bias in the information they provide. I have attached a letter I wrote to the CCWA documenting some of the false statements made by Mr. Craig at a public hearing on the permit application. Allowing Craig, et al, to provide the analysis of ground water resources in Carroll County undermines the validity of the review process.

**Response:** Tommy Craig and his consultants have spent the last 20+ years helping communities develop water supply projects. They are professionals who are well respected in their fields. The attacks on their character are not warranted.

**Comment B-3: Groundwater:** I have attached a list of the high production wells being used in Carroll County that was compiled at the request of Carroll County Commission Chairman Bill Chappell. This list shows a combined production for these wells of 8.1 MGD. All of these wells are producing drinking water quality water. This list is proof of the availability of groundwater. A comprehensive effort by CCWA to site, install and connect wells to the water system would provide similar volumes of water as the proposed reservoir, at lower cost and with greater reliability than reservoirs subject to droughts.

**Response:** Carroll County Commission Chairman Bill Chappell is in full support of the Indian Creek reservoir. See Comment 14. The fact that there is currently 8.1 mgd of groundwater available does not mean that there is an additional 18 mgd available to meet future needs. The storage capacity of underground aquifers is not measurable and cannot be monitored. Wells are particularly unreliable during droughts where, as in Carroll County, they are tied to the surface water flows. A list of wells does not solve Carroll County's long-term water needs. See Response to Comment B-1 above.

**Comment B-4: Groundwater:** The US COE cannot allow biased information, such as that provided by the agent for CCWA, to influence its decision making process. Before any decision on a reservoir permit is made the US COE must demand an analysis of groundwater potential prepared by a party that is experienced at installing groundwater systems and does not have a vested interest in constructing reservoirs.

**Response:** As stated above, Applicant commissioned Dr. William McLemore to review the potential groundwater sources in Carroll County. He determined that based on numerous studies conducted in the county over the past 20 years; there are not adequate groundwater resources to

meet Carroll County's long-term needs. The claims of "biased information" are unfounded. See Responses to Comments B-1 and B-3 above.

**33. Kirby Hamil, 3/23/2010**

**Comment A:** The 2010 Census is currently occurring and the population of Carroll County is over 100,000, this means according to Federal law it must come under the jurisdiction of the Atlanta Regional Commission after the Census is made official. This means ARC will be the overall planning agent for Carroll County and be doing new population projections for the whole ARC area. This will mean new population projections for Carroll County. They will also be determining the overall water policy for the whole Area.

**Response:** Applicant is not required to wait for 2010 census data to move forward with this project. Applicant commissioned Brown & Caldwell to conduct an independent population estimate and water supply need assessment which is included in its Section 404 permit application. Applicant has expended substantial resources assessing its water supply alternatives based on its population projections. If Applicant had to continually revise its Section 404 permit application to reflect new studies, the permitting process would be unduly delayed at Applicant's expense.

**Comment B:** The current lawsuit by Alabama and Florida against the Corp of Engineers over Atlanta's withdrawal from the Chattahoochee Basin is currently under further litigation after the judge ruled that Georgia had three years to come to agreement with the other two states or the Courts would make the decision. This is a cloud, which hangs over Carroll County water supply. How this will come out no one knows.

**Response:** The pending litigation is not a cloud over Carroll County's water supply. The pending lawsuit referenced is regarding withdrawals from Lake Lanier and impacts withdrawals from the Chattahoochee River Basin. The proposed Indian Creek reservoir is located in the Tallapoosa River Basin.

**Comment C:** The state of Alabama has a suit against the Corps of Engineers about the amount of water Cobb County is allowed to withdraw from Altoona Reservoir. This suit will not be settled until the Court knows the result of the Chattahoochee Suit. This is in the same overall basin as the Indian Creek Reservoir. Will this have an effect on the Corps of Engineers decision on this permit?

**Response:** Applicant cannot answer for the Corps, however, Applicant contends that a decision regarding Lake Allatoona withdrawals should not impact its decision to permit the Indian Creek reservoir. The lawsuit is based on water use rights in a lake owned by the Corps. The Indian Creek reservoir will be owned and operated by the Applicant.

**Comment D:** The permit if issued will last for five years as I understand it. If the permit is issued there is no way the Carroll County Water Authority can begin construction in five years. The current water use is about 5 mgd and there is no way there can see bonds based on this amount of water sales to buy the property and start construction on the project in five years.

**Response:** Applicant intends to pursue the construction of the dam as soon as financially feasible after obtaining the permit. If Applicant is unable to construct the reservoir within 5 years, it will request an extension of the permit. The Corps has the discretion to grant extensions and has a long history of granting them on reservoir projects when needed.

**Comment E:** The current changes that will be going on after the census in the planning for the whole area will make considerable changes in the conditions set forth in the current study. Will the Corp be able to give a permit with all the future changes that are going to occur in the next few years.

**Response:** The Corps issues permits based on the best information currently available. Applicant contends that delaying this permit in anticipation of new data from the census would prove detrimental to its ability to meet future water supply needs.

**34. Phyllis Wright Martin, 3/9/2010**

**Comment A:** I was at the meeting in Carrollton, GA., March 4, 2010. My property is part of the proposed Reservoir. I have a family cemetery on my Property.

My Great Grandmother Wright was a midwife and was friends with the Creek Indians, who lived adjacent to my property. They were moved out when the Trail of tears happened. I feel there is artifacts and an Indian Buriel Ground in this area.

Our family got the property in 1812, and has been passed down thru the generations. I was hoping to pass the property down to my children.

I would appreciate you looking into this better.

**Response:** Mrs. Martin owns approximately 92 acres in the southwest corner of the proposed reservoir site. Applicant contends that there is not an Indian burial ground or cemetery on Mrs. Martin's property. Applicant commissioned R.S. Webb & Associates to conduct a Phase I Cultural Resource Survey of the reservoir pool and buffer areas, including Mrs. Martin's property. The Phase I Survey included a literature review of background information on the area, and an archeological field survey which included surface and subsurface testing. The survey found no evidence of an Indian burial ground or cemetery on Mrs. Martin's property. The survey did identify a prehistoric artifact scatter that included 41 prehistoric artifacts evidencing that lithic reduction/tool maintenance and cooking/containment activities occurred at the site during the Woodland or Mississippian periods. Phase II testing will be conducted on this site to further determine its eligibility for the National Register of Historic Places.

**35. West Georgia Technical College, Skip Sullivan, 4/5/10**

**Comment A:** I want to inform you of my support for the Indian Creek Reservoir, U.S. Army Corps of Engineers Project No. 200900042. This project will be an asset to the citizens of Carroll County in several ways.

First, the proposed reservoir will provide Carroll County with reliable water supply for the next fifty years. Over time, the water supply demand will inevitably increase because even the best conservation efforts cannot possibly keep pace with the county's projected population growth rate. The only way to assure adequate and dependable supply is to increase that supply through the construction of a new reservoir.

Secondly, the Indian Creek Reservoir is an environmentally sound choice because the wetland and stream impacts have been minimized, and the dam will be located at the site of an existing NRCS dam. Also the reservoir will have a minimal effect on the Little Tallapoosa River at the Georgia-Alabama border even during the worst drought conditions.

I urge you to approve the Indian Creek Reservoir project.

**Response:** Applicant concurs with this comment.

**36. University of West Georgia, Beherus N. Sethna, 4/8/10**

**Comment A:** I am writing you in support of the Carroll County Water Authority's proposed Indian Creek Reservoir (ACOE Project No. 20090042). I understand that this project is currently under review with the Army Corps of Engineers, and it is my hope that the Authority's permit application meets your approval.

According to the U.S. Census Bureau, Carroll County is one of the fastest growing areas in the county. My personal belief is that our community will continue to grow because people are drawn by the quality of life that is offered here in Carroll County. If approved and constructed, the Indian Creek Reservoir will be capable of meeting the community's water supply requirements well into the future.

While I believe in the need to assure an adequate water supply for future generations and severe drought conditions, environmental repercussions cannot be discounted. In this case, the minimal effect that this reservoir will have on Indian Creek and the Little Tallapoosa River is justified in the light of the critical need for reliable, long-term water supplies in our community.

I sincerely hope the Corps will look favorably upon the Indian Creek Reservoir permit application.

**Response:** Applicant concurs with this comment.

**37. Development Authority of Carroll County, Tim Warren, 3/29/2010**

**Comment A:** The Carroll County Water Authority has filed a permit application with your office for the proposed Indian Creek Reservoir in Carroll County. The Water Authority has provided periodic updates of the project to the Development Authority of Carroll County, and I am writing to let you know that the Development Authority strongly supports the approval and construction of this project.

I am very concerned that inadequate future water supplies could result in stifled economic growth. Recent projections show that Carroll County is going to continue to grow thereby increasing the demand for business services and opportunities for industrial growth. Without adequate water supply, these services and opportunities may be denied. Water is the cornerstone of a community, and we must do all we can to enhance its availability.

It is critical that Carroll County has a water source that we can depend upon. I am convinced that the Indian Creek Reservoir will provide that level of security. I urge the Corps to approve the Indian Creek Reservoir.

**Response:** Applicant concurs with this comment.

**38. United States Environmental Protection Agency, A. Stanley Meiburg, 4/7/2010.**

The Environmental Protection Agency (EPA) Region 4, has reviewed the JPN, the December 31, 2008 application, a revised mitigation plan dated January 30, 2009, and additional information provided by the applicant dated August 20, 2009, and January 15, 2010. On February 25, 2010, EPA representatives participated in a field visit to the proposed reservoir site and the two mitigation sites.

In a letter dated March 15, 2010, EPA provided detailed comments on the proposed project and compensatory mitigation plan. We found that the project does not comply with the Section 404(b)(1) Guidelines or the April 10, 2008, Mitigation Rule and may impact aquatic resources of national importance (ARNI). We also noted that the project did not go through the interagency review process our agencies developed in April 2004. Thus, we recommended the permit, as proposed, be denied. Also, based on the complexities of the project and the scope of the direct, indirect, and cumulative impacts, we recommend the preparation of an environmental impact statement (EIS) for this project. There have been no changes proposed to the project or permit since our previous letter. Thus, we now find that the project will impact ARNI and therefore, our recommendation is to deny the permit for the project.

As noted above, our March 15, 2010, letter provided detailed comments which we will not repeat here. However, in summary, EPA continues to find that the current project purpose, to supply 18 MGD by 2060, may not be supported by realistic population growth projections or the implementation of water efficiency measures and other alternative water sources. The alternatives analysis is inadequate and the applicant appears to not have selected the least damaging practicable alternative. There is no full description of the direct, indirect and cumulative impacts of the preferred alternative, and there is inadequate evidence of minimization of the impacts of the preferred alternative. For these reasons, the permit for the project, as currently proposed, does not comply with the Section 404(b)(1) Guidelines, and the proposed project will have substantial and unacceptable adverse impacts on ARNI. Thus, we maintain our recommendation that the permit be denied. This letter follows the field level procedures outlined in the August 1992 Memorandum of Agreement between the EPA and the Department of Army, Part IV, paragraph 3(b), regarding Section 404(q) of the Clean Water Act.



EPA also continues to find that the proposed mitigation plan is not in compliance with the requirements of the Mitigation Rule and it may not adequately compensate for the project's impacts. Due to the complexity of the project, the amount of information involved, the need for independent information and assessment and river basin issues, we continue to recommend that your office consider preparation of an EIS on the specific project and related regional water supply issues, particularly since the project did not go through the interagency process. EPA considers that a broader area wide EIS that looks at the water supply needs of the basin is warranted.

**Response:** Applicant addressed all of the EPA's specific concerns detailed in Comment 2. See Response to Comment 2.

Applicant asserts that this letter does not follow the field level procedures outlined August 1992 Memorandum of Agreement between the EPA and the Department of Army, Part IV, paragraph 3(b), regarding Section 404(q) of the Clean Water Act. It fails to provide the specific details required regarding why there are substantial and unacceptable impacts to aquatic resources of national importance, and why the permit should be modified, conditioned or denied to protect the aquatic resources of national importance. There is no explanation as to how the agency determination was made or a description of the specific aquatic resources impacted. It appears the determination may rely on the accusation that the population projections, an area outside EPA's authority and expertise, are "unrealistic".

Moreover, the elevation of this permit is not warranted. The above-referenced MOA states "the elevation of individual permit cases should be limited to those cases where the net loss (i.e., after considering mitigation) from the project (i.e. within the scope of impacts being evaluated by the Corps), will result in unacceptable impacts to aquatic resources of national importance." The proposed mitigation for this permit produces a net gain rather than a net loss to aquatic resources. Applicant proposes to complete site-specific mitigation on two properties that would likely be individually permitable as mitigation banks. These two sites generate mitigation credits in excess of the impacts resulting from the reservoir.

EPA has also failed to prove the necessity of initiating action under Part IV, Paragraph 3(b) of the MOA. Part IV, Paragraph 2 of the MOA states that "because delays associated with the process described within this Part IV can be costly to the regulated public, every effort will be taken to ensure that the process under paragraph 3(b) of this Part will be initiated *only when absolutely necessary*" (emphasis added). Stating that the letter follows the proper procedure does not equate to actual compliance.

**39. Carroll County Chamber of Commerce, Daniel Jackson, 4/5/2010.**

**Comment A:** The Carroll County Water Authority has filed a permit application with your office for the proposed Indian Creek Reservoir in Carroll County. I am writing to let you know that the Carroll County Chamber of Commerce and the local business community strongly support construction of this project.

I am very concerned that inadequate future water supplies could result in stifled economic

growth. Recent projections show that Carroll County is going to continue to grow thereby increasing the demand for business services and opportunities for industrial growth. These services and opportunities may be denied without an adequate and reliable water supply. Water is the cornerstone of our community – of any community – and we must do all we can to enhance its availability.

It is critical that Carroll County has a water source that we can depend upon, regardless of politics and court decisions. Fortunately, the Indian Creek Reservoir will provide that level of security.

I hope the Corps will give its approval to the reservoir.

**Response:** Applicant concurs with this comment.