Georgia Department of Natural Resources

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M E M O R A N D U M

TO: Council Members

FROM: Tim Cash
Assistant Branch Chief
Chattahoochee and Flint River Basins

SUBJECT: Joint Water Planning Council Meeting
February 1, 2010
Columbus, Georgia

DATE: February 24, 2010

On February 1, 2010, representatives of four Regional Water Planning Councils and the Metro North Georgia Water Planning District met in Columbus, Georgia to review the draft groundwater and surface water availability and draft surface water quality resource assessments developed by the Environmental Protection Division (EPD). The following is a summary of the meeting.

1) Introduction

Mr. Cash welcomed the attendees and introduced himself. Mr. Cash provided an overview of the meeting and the meeting agenda.

Mr. Hal Haddock, representative from the Lower Flint-Ochlockonee Council – Mr. Haddock introduced the other members of the Council in attendance. Mr. Haddock read the vision statement for the Lower Flint-Ochlockonee Council. The Lower Flint-Ochlockonee region is mainly agricultural and located in the southwest corner of the State. There is sufficient groundwater in the Floridan aquifer, so the region doesn't have the problems that other regions may have. One of the goals of the Council is to ensure access for existing and future water users in the region. The Council wants to grow the available agricultural water data. While all of the data desired is not yet available, the Council hopes to increase the data within the funding available. The Council is also focused on conservation education, which is a big and important task. The Council is concerned about the tri-state litigation; hopes the outcome is beneficial and something that all of the regions in the state can accept. The Lower Flint-Ochlockonee is happy to work with the other regions and has already met with the Upper Flint, Middle Chattahoochee, Middle Ocmulgee, and Metro Water District regions.

Mr. John Bennett, representative from the Coosa-North Georgia Water Planning Region – Mr. Bennett introduced the other members of the Coosa-North Georgia Region in attendance. There is some agriculture in the region, but it is not as dominant as other regions. There was some controversy on the agricultural forecasts developed by UGA, but these have been resolved with better information provided by members of the Council. Many of the counties in the Coosa-North Georgia Council border the Metro Water District with several large water users of the Coosa basin in the Metro Water District (Bartow, Cherokee). Many of the council members are concerned about these overlaps; therefore, the Metro Water District has been invited to give a presentation at the next Council meeting. The Council also shares a border with Tennessee. The TVA presentation at a recent Council meeting identified that there was plenty of surface water available; although the State is not inclined to share. Six counties in the region drain into the Tennessee River and there are three significant lakes (Blue Ridge, Chattooga, and Hiawassee). The TVA indicated there was as much as 250 MGD available from the Tennessee River, but again the state is not inclined to share. Mr. Bennett is ready to learn about the Chattahoochee basin after learning about the Coosa basin at the meeting last week.

Mr. Charles Lambert, Metro Water District – Mr. Lambert asked the members of the Metro Water District to introduce themselves. The Metro Water District borders six Water Planning Regions. The Metro Water District began integrated water resources planning in 2003 based on State law. In 2009, the region completed the second major planning process and adopted updates to the three integrated water resources plans. The Metro Water District faces several challenges including the tri-state water wars, drought, and flood. The region is revisiting the current water conservation program and planning projections to see if there are opportunities for additional water savings. The Metro Water District has a history of working with EPD, citizens and other regions. Mr. Lambert recommended that the other Councils look at the Metro Water District Plans online, as they have some information that might be helpful to their planning efforts.

Mr. Donald Chase, chair of the Upper Flint Council – Mr. Chase recognized the Council members in attendance. The Upper Flint is unique because the Council includes both metropolitan areas and rural areas. Mr. Chase commended the Council members for coming together to meet these challenges and reach consensus despite different viewpoints. The region is fortunate, as there is a lot of expertise on the Council. Mr. Chase read the Council's vision statement which provides insight into the Council and demonstrates the level of cooperation between Council members. This cooperation extends beyond the Council boundaries. The Upper Flint Council believes that all of the Councils need to work together to develop a satisfactory outcome.

Matt Windham, chair of the Middle Chattahoochee Council – Mr. Windham recognized the Council members in attendance. The Council has developed the governance structure and now is ready to start planning based on the resource assessment information. Mr. Windham read the Council's vision statement. Mr. Windham expressed the importance of cooperation to the Middle Chattahoochee Council. Many of the counties within the Councils share a border with Alabama, so that is an important relationship. There are several Corps lakes in the region. The Middle Chattahoochee Council hopes that these reservoirs are operated to meet water needs in a manner that is fair and equitable to all parties. Mr. Windham and the Middle Chattahoochee

Council members look forward to working with the other Councils.

Mr. Cash expressed that it has been a pleasure to work with everyone over the past year. Hearing the well defined vision statements for the Councils this morning shows that a great deal has been accomplished over the past year.

Mr. Cash introduced Mrs. MacGregor, Branch Chief for the Watershed Protection Branch. Mrs. MacGregor provided some brief remarks to put the resource assessments into perspective. Mrs. MacGregor stated that the success of the State Water Plan will be attributed to the work of the 300 volunteers working on behalf of their Water Planning Regions. Mrs. MacGregor provided a greeting on behalf of Mr.Allen Barnes, the Director of EPD.

The Water Plan states that "effective management requires a sound scientific foundation" and the assessments must be statewide but are best conducted on hydrologic boundaries. The Chairs and Co-Chairs early in the process, requested that the results of these assessments be presented to several Councils meeting together. This request is the reason for this meeting today.

The state has used the best tools and has pulled in the best resources to develop these resource assessments. Data is not perfect, but it is the best. The models were calibrated based on existing water resources conditions. The material presented today is the draft baseline resource assessments which reflect conditions today. As you know your water resources, these assessments should reflect your knowledge of your region. The assessments are "draft" as EPD is requesting your comments and questions. The assessments will be revised based on the comments received from the Councils and public comment. The presentations include "modeling language", so council members are encouraged to ask for clarifications and ask questions as needed. The meeting today is focused on shared resources and communicating between Councils.

Mrs. MacGregor asked if there were any questions.

Q: If the Councils work together to develop a viable solution for the Chattahoochee basin, how will the Federal Government who is responsible for reservoir operations be engaged?
A: The Councils have a very important role. While the regional plans must respect existing state and federal regulations; recommendations made by the Councils can influence change. Councils are encouraged to consider all alternatives and recommend solutions based on the wisdom of the group. The Corps have visited several of the Councils and will be invited to participate in future discussions.

2) Draft Groundwater Resource Assessment

Mr. Cash introduced Dr. Jim Kennedy, the State Geologist, who works for EPD and reports to the Director. Dr. Kennedy is overseeing CDM (resource contractor) and other EPD staff working on the groundwater resource assessment.

Dr. Kennedy provided an overview of the groundwater resources for the region.

Q: In terms of the metrics presented, did EPD consider changes in surface water level or just changes in the groundwater level?
A: In the areas where groundwater and surface these are connected, EPD looked at both and the results considered changes to both recharge from surface water and groundwater levels.

Q: In the Dougherty Plain, how did you determine the 40% of baseflow number that was used in the metrics?
A: The 40% of baseflow number is a literature number from the Tennant method. The method states that a reduction of 40% of average annual flows or less would maintain outstanding aquatic ecosystem health. EPD used 40% of baseflow which is more protective than the literature value of 40% of average annual flows. The Tennant method has been used elsewhere in the United States and is a readily available and easily used metric.

Q: What is the definition of baseflow?
A: Baseflow is the amount of flow supported by groundwater discharge between rainfall events. Baseflow does not include stormwater runoff; it only considers water provided by groundwater discharge to the stream.

Q: Was the Clayton Aquifer modeled? Isn't it more sensitive to use than the other aquifers?
A: The Upper Floridan Aquifer within the Dougherty Plain was modeled. The Clayton Aquifer is below the Claiborne which is below the Upper Floridan Aquifer. EPD identified the sustainable yield for the Claiborne Aquifer but not for the Clayton Aquifer.

Q: Are there restrictions on the Clayton Aquifer?
A: Currently there is a moratorium on withdrawals from the Clayton Aquifer.
Comment: The presentation today focuses on the Dougherty Plain because of the high degree of interaction between surface water and groundwater. The results for the Claiborne Aquifer were presented at the meeting in Americus. The results and notes from the Americus meeting will be posted on the website.

Q: Did EPD quantify the specific groundwater surface water interactions?
A: EPD did not do detailed analysis as part of this study; however in the 2006 Lower Flint River Basin report, there is a greater level of detail available.

Q: Is agricultural water use mainly from the shallow aquifers?
A: This question was deferred to the Technical Open House, when appropriate information could be researched.

Q: How did EPD address return flows from septic tanks?
A: EPD considered these returns based on a water budget. EPD obtained information on the per capita indoor water use for the region, the population, and the average number of persons per household from county records. The water budget assumed a 10% consumptive loss and a 22% loss to evapotranspiration (ET); for a total loss of 32% of total indoor water use. The remainder of the water use was considered to be returned by septic tanks.

Q: Did the analysis of return flows consider both dry conditions and wet conditions?

A: Return flows were considered to be the same during both wet and dry conditions because indoor household use is essentially the same.

Q: Isn't ET different?
A: Yes. EPD developed an average ET number that considered the seasonal variation.

Q: How were the prioritized basins in the Piedmont and Blue Ridge selected?
A: EPD considered the various components needed for the water budget, as shown in the presentation. EPD selected basins that had the available data needed for a robust water budget.

Q: The return flows from septic systems are 67% of each gallon of water consumed; but how long does it take to return?
A: The lag time, or time it takes for return flows to reach the nearest water body, were not considered in this analysis. The Return Flow Guidance is currently under development and will consider lag time for future septic systems. This analysis did not include lag time.

Q: In terms of the interconnections between the Chattahoochee River and the Dougherty Plain Aquifer, is there a defined flow rate that the Chattahoochee River contributes to the Dougherty Plain aquifer because of pumping?
A: Not for this study, although the models could determine if needed. The modeling was stopped when any of the sustainable yield metrics were met. Other metrics were met prior to the 40% of baseflow metric for the lower Chattahoochee River sub-basin in the Dougherty Plain.

Q: Is agriculture considered 100% consumptive in the Dougherty Plain?
A: There is no good literature value for the consumptive use of agricultural use in Georgia as there has not been an irrigation return flow study in Georgia. Return flow studies have been done in other areas of the U.S. These studies do not represent the conditions in Georgia (irrigation method, geology, topography, hydrology) and therefore cannot credibly be used. For the purpose of the groundwater model, it assumed that agriculture use is completely consumptive. EPD knows that agricultural use is not 100% consumptive; however there is not a scientifically sound alternative number to use. Due to efficient and conservative agricultural use, return flows aren't expected to be high.

Q: In terms of the Dougherty Plain metrics, did the metrics change to reflect seasonal changes? Surface water use declines in the Chattahoochee basin during the dry season as everyone reduces use, but agriculture needs more water during periods of drought.
A: The 30-ft drawdown is not seasonably variable. Stream flow in the model reflected dry weather conditions.

Q: During dry periods, agricultural users could withdraw up to the permitted value, correct? There could be a gap if the withdrawals achieved permitted withdrawals.
A: The baseline models show current use and today this use is not at permit capacity. Future gaps will be a question that the Councils will address at CM#5 and future meetings.

Q: There are concerns that the 2-3% return rate that has been previously discussed for irrigation is not correct. Based on soil type, the returns could be as high as 50% and definitely much

higher than 2-3% returns.
A: This is the type of input that is needed from the Councils to refine the models.

Q: How are septic system returns estimated to be 67% but 0% for agriculture? Isn't percolation the same?
A: The answer to this question will require a very detailed discussion at a later time. EPD does not have a good return number for agriculture at this time. If the Councils would like additional study of agricultural returns, the study should be included in their Regional Water Plan.
Councils may also request that the model be used to test the sensitivity of the results to different returns. The model sensitivity analysis can determine the sensitivity of the results to changes in the agricultural returns. The Councils may consider this interim recommendation.

3) Draft Surface Water Availability Assessment

Mr. Cash introduced Mr. Caldwell to discuss the surface water availability results.

Q: Natural flow simulates unrestricted streamflows without the presence of dams, correct?
A: EPD removed the impact of dams, withdrawals, and discharges from the observed flows to create unimpaired flow. EPD did not try to remove the impact of land use changes that might have occurred over the study period (1939 – 2009).

Q: Did the models account for interbasin transfers?
A: Yes. In developing unimpaired flows any activity that would provide a discharge to the stream was removed, which would include interbasin transfers.

Q: It appears that EPD is authorizing Federal reservoirs for flow augmentation outside of the uses authorized by Congress. Minimum instream flow for unimpaired flow is 7Q10 but in a regulated system, 7Q10 is set by the valve on the dam. Why isn't EPD looking at historic low flows for regulated systems?
A: DNR interim instream flow requirements were not used in regulated systems with large conservation pools (Federal dams).

Q: It seems like the focus is on the reservoir and not the stream between the reservoirs.
A: Particularly during dry periods the flow downstream of a reservoir is dictated largely by the releases from reservoirs and not by natural 7Q10.

Q: It appears as if EPD is assuming that these reservoirs are operating appropriately.
A: EPD is not passing value judgment on water use in these baseline assessments. The baseline assessments provide the results for how the reservoirs are currently being operated as reflected in the reservoir operation plans EPD used in modeling current conditions.
Comment: It appears the models assume that the Corps is operating the reservoirs perfectly. Many river users think that the Corps is not properly operating these reservoirs. The Councils should not continue to plan for an undesirable condition.

Q: There has been a huge land use change in the last 70 years. Could EPD analyze the land use change in just the past 30 years to develop a representative impact?

A: EPD did not have access to credible land use information/data for the entire period of record that could be used to model the impact. EPD could investigate determining the impacts of land use based on an abbreviated time period. This is an area where council input is important. EPD did not look at the impact of land use on unimpaired flows.

Q: Do the models consider actual or permitted withdrawals?
A: EPD modeled the actual withdrawals.
Comment: EPD will compile information on permit limits and distribute to the Councils at CM#5.

Q: Are returns considered?
A: Yes. Consumptive use or the blue curve on the figures (modeled stream flow) does consider the withdrawals and the returns.

Q: Results presented include 2007, it is important to recognize that 2007 was a very dry year.
A: The results for 2007 are shown as representative of dry conditions, however the overall gap analysis considered the entire 70 year record.

Q: How was maximum shortfall determined?
A: The maximum shortfall is the difference between the red curve and blue curve on the presentation charts. The shortfall is the maximum daily difference for the 70 year period of record. The shortfall represents an actual single day and not an average.

Q: If EPD is using a different set of tools to analyze minimum instream flow (regulated and non-regulated systems), it will be difficult for the Councils to compare the results.
A: EPD can develop the 7Q10 for unimpaired flows at any of the planning nodes, if that is requested by the Council.

Q: How low did the reservoir level at Lake Lanier get in 2007?
A: The lowest elevation was 1050.79.

Q: Wouldn't the power generators argue that they could not use the water they wanted for power generation over the past several years?
A: EPD can model different power generation scenarios as part of the future resource assessments if requested by the Councils.

Q: Lake Lanier met the needs of the system. There is an obligation to look at all authorized purposes before stating that there is water available.
A: That is not considered in the results presented here. The model results reflect operation of Lanier as identified in the Modified Interim Operation Plan.

Q: Composite storage hides what is happening at the reservoirs. George and West Point are drained in total of conservation storage before Lanier is tapped. There is no balance in the operation, especially for those in the Middle Chattahoochee.
A: The composite storage is based on the existing flow data and may in fact mask the operational characteristics of particular reservoirs. The composite storage quantity was only intended to

shed light on the total combined amount of conservation reservoir storage remaining in the federal reservoirs along the Chattahoochee River when all targeted off-stream and in-stream 'demands' are met.

4) Draft Surface Water Quality Assessment

Mr. Cash introduced Mrs. Booth to present the surface water availability assessments.

Q: Did you look at impermeable surface?
A: Yes. We used land use information that includes impervious surface. The watershed model in specific considers this information. The watershed model for the Chattahoochee basin is under development and will be available in fall 2010.

Q: Can Councils request model results for different scenarios at different impervious levels?
A: Yes. These model results will show with increased imperviousness there is an increase in flashiness and decrease in the baseflow for affected streams.

Q: What is the status of the Chattahoochee watershed models?
A: The watershed models are currently under development. The watershed models will be developed for the entire basin. Lake models are being developed as well.

Comment: Gwinnett County is paying USGS to collect data below Buford dam for EPD. Results should include both temperature and DO.
Response: EPD will check to see if that information is available for use in the models.

Q: How do these models coordinate with Alabama and activities in their part of the basin?
A: EPD has worked very closely with Alabama in collecting their water quality data and has offered to share the tools developed with them.

Q: Are the lake standards the same even though the Chattahoochee River is in Georgia and Walter F. George and West Point are in both states?
A: I believe the standards are the same for Walter F. George, but not for West Point. EPD is going to re-evaluate the standards at West Point, which currently has the highest chlorophyll standards in the state. EPD believes that a lower chlorophyll standard will be proposed in the latter part of this fall.

Q: What portions of the Chattahoochee basin are likely to exceed assimilative capacity?
A: Water quality from the Alabama Department of Environmental Management (ADEM) indicates that below Walter F. George there may be DO problems. These measurements are being considered along with Georgia's data.

Q: The nuclear power plants have thermal discharge that may affect dissolved oxygen.
A: I am not sure if EPD's models consider these loads. If so, there is less available assimilative capacity.

Q: How far upstream does the new Florida standard travel?
A: Georgia must meet the nutrient standards at the state line (Lake Seminole). There also is a chlorophyll a standard for the Lake that must be met. Georgia permits cannot cause or contribute to water quality violations in Florida. The tools that we are developing will help EPD determine what is appropriate.

Q: Who developed the Florida standards? Why is EPA setting these standards?
A: EPA. Two environmental groups sued Florida for failure to quickly establish numeric nutrient standards. EPA developed the standards based on this lawsuit.
Comment: The state standards in other states are impacting our use in Georgia. Councils need to understand the impacts of these standards on our use of the resource.

Comment: When water slows down in the lakes that is when algae grows. As long as water is moving and streams are shaded; we don't have algae problems in the streams.

Q: Will nutrient standards also impact Lakes Lanier, West Point and Walter F. George?
A: These lakes all have nutrient and chlorophyll standards. Nonpoint source reductions are likely to be needed for these lakes because WWTPs that discharge into these lakes have a very high level of treatment for their discharges already.

Q: Aren't they looking at a 0.6 mg/L discharges?
A: In Florida, the proposed standards are more restrictive than that.

Q: Isn't it true that the 303(d) list includes metals and other parameters that are not included in the baseline assessments?
A: Yes. Very few streams are listed for heavy metals. Most of these listings are due to urban areas. These models look at DO and nutrients.

Q: Will the new Florida rules affect the 303(d) list?
A: Streams will be added to the Georgia 303(d) list because of a violation for a specific Georgia standard for a specific parameter of concern.

Q: Does EPD know what the thermal and DO load from nuclear Plant Farley or Plant Bowen?
A: EPD does not know today, but can determine the answer for that question.

Q: Were discharges in Alabama considered?
A: Yes. All withdrawals and discharges were provided by Alabama and used in the models.

Q: When does the standard apply, just when flow reaches Apalachicola Bay?
A: With regards to nutrients, the standard applies when flow crosses the state line in Lake Seminole. A TMDL has already been issued for hydrilla for Lake Seminole.

Q: What about water quality conditions in the Flint basin?
A: The requirements will also be driven by the proposed Florida nutrient standards. Depending on the time of year, the Flint River may drop below 7Q10, which creates low DO conditions because the water is not moving. This low flow occurs in some normal rainfall years. The Flint

results were presented at a different meeting, but in general the results for DO showed no major problems.

Q: Are the water quality problems on the Flint more prevalent?
A: Spring Creek has problems when it dries up during low flow conditions. The presentations will be available on the EPD website so that Councils will have access to all of the presentations.

Q: Can the nutrient results be looked at as a combined system; so if one river has more of a nutrient impact and another has less the end result balances?
A: EPD would need to look at each river's data. In the Ochlockonee basin there are areas where the proposed Florida standards may not be achievable. There is a 60-day public comment period and Councils should look at the proposed rules.

Q: Looking at the DO results, it looks like conditions are in better shape now than in the past. Will the lake studies likely show an issue?
A: EPD has never seen an issue with DO in the lakes. The data that Alabama has provided may indicate otherwise, but generally EPD does not see DO challenges in the Lakes.

5) Water Resources Discussion Forum

Q: When will the nutrient results be available for the Chattahoochee basin?
A: The Coosa basin results are complete. The Chattahoochee and Flint basins are currently being calibrated. Some of the Chattahoochee lake models will not be completed by this fall. EPD will bring this information forward as soon as it is completed, as EPD realizes it is tough to plan when data is not available.

Q: Will the Chattahoochee and Flint watershed models be available in time to craft a response to Florida?
A: Part of EPD's comment will be requesting a time extension so that the tools are available for determining a viable standard. EPD's data does not support the standard that Florida is proposing.

Q: The Middle Chattahoochee Council challenges the surface water availability results. There are currently gaps at West Point Lake and Walter F. George Lake. EPD is only looking at the riverine portions between the lakes and is missing the gap at the lakes. The Corps manages the system based on other flow interests. The Chattahoochee basin contains storage but residents living on these lakes take exception to releases from these lakes to meet the flow regime. Some of the recent legal challenges question the validity of that assumption. It is not accurate to state there are no gaps.
A: The baseline assessment model run considers storage above the bottom of the conservation pool as available for meeting downstream needs, whether instream or off-stream. It may be an uncomfortable leap to say that if storage is available for these purposes when there is much contention regarding the proper use of the waters of the conservation pool, it can conceivably be released to meet in-stream flows. Whether the conservation pool storage should be used for such purposes is not a matter the baseline assessment attempted to address. A more accurate

statement may be that releases – from the conservation pool - have indeed been made, even if this is not desirable by the region.
Unless addressed in the US Army Corps of Engineers modified interim operation plan, the current assessment does not set aside any of the conservation storage for recreational uses at the respective federal reservoirs.
Comment: There has been an assumption that as long as the water elevation in Lake Lanier is above 1035, conditions are acceptable. This is not true because there is insufficient water available during drought conditions.
Response: The baseline resource assessments only consider whether there is residual water in the conservation pool after downstream flow targets and water needs are met. The baseline assessment does not attempt to determine whether 'sufficient water' exist for purposes outside of those identified in the modified interim operation plan.

Q: Thank you for EPDs efforts in developing these tools. While the focus of the baseline assessments is on current operations, it will be important to consider the potential operational changes to the Chattahoochee basin. It will be tough for the regions that use the Chattahoochee to plan based on historical operations when future operations are likely to be different.
A: EPD is asking the Councils to recommend conditions that should be run in the model. While EPD does not operate the dams, scenarios regarding their operation can be modeled by EPD. The Councils will likely be told how these operations will be managed in the future. We all recognize that there is another parallel process to the State Water Plan and we expect to be told what the value decisions are as that parallel process continues forward. EPD in the baseline resource assessment models cannot get ahead of the parallel process, but the Councils may provide future operational scenarios that EPD can model.

Comment: The Corps in the past has decided how they will regulate the Chattahoochee system. EPD's models should embrace the authorized purposes for the system and then address environmental and human needs at the nodes; versus following the Corps historical operations. All segments of the Chattahoochee River should be treated equally and one node should not be preferred over other nodes. We need to identify the gaps so they can be discussed and solutions identified.
Response: EPD is able to provide additional information that is needed to facilitate these discussions.
Comment: Please change the slide to eliminate the "no apparent gaps" bullet. There is a shortfall out of the Flint basin that is being addressed through additional releases from the Chattahoochee basin. The flow needs of specific users and the environment are not being met in parts of the Chattahoochee basin.

Q: An example of a gap is July 2008 in Columbus. While 2009 was one of the wettest years of record, Columbus saw the lowest flows of record in July 2008. Columbus appears to be a gap and needs to be discussed and resolved. Why are the results only shown for the reservoirs and not for the Chattahoochee River?
A: The downstream flow targets used in the baseline assessment are established as those for which the Corps – via the modified interim operation plan – is operating the reservoirs to meet.

Q: There are no Corps targets for Columbus.

A: In semi-regulated stretches, the model does NOT set up a minimum stream flow target against which it determines success. The downstream flow targets used in the baseline assessment are established as those for which the Corps – via the modified interim operation plan – is operating the reservoirs to meet.
Comment: One Council member thought that the flows were so low in Columbus last summer because of the heavy rain in southwest Georgia, the Corps did not release as much from Lake Lanier to meet flow requirements at Apalachicola. The Corps altered operations to allow Lake Lanier to fill, which impacted Columbus.
Response: It is normal to see changes in conditions due to the "man in the dam". The Chattahoochee System operated by the Corps and to some extent GA Power. EPD does not have control over these operations.

Q: Under the Clean Water Act, does EPD have the authority to set a minimum instream flow target at Columbus for assimilative capacity?
A: The State Attorney General would have to answer that question. There is nothing in the current standards. EPD changed the 7Q10 target in Columbus based on the results of a site-specific study, but that was not related to assimilative capacity.

Q: How does EPD "set" a 7Q10? Isn't 7Q10 a function of natural flows?
A: EPD established a higher 7Q10 based on the request of Columbus. There is not a violation of discharge permit water quality standards if the stream is below the established 7Q10 flow.

Q: There is confusion about the low flows in the model. Is it historic low flow, 7Q10, natural flows or some other number? There is concern about planning if the numbers aren't consistent.
A: For surface water availability assessment in unregulated river systems, unimpaired flow or natural flow 7Q10 was used. It is possible to look at observed flow for the period of record and develop a 7Q10. The natural flow 7Q10 will be different than observed flows because the natural flow 7Q10 does not include the impacts from land use changes. The 7Q10 based on observed flows will likely be lower than the natural 7Q10 as a result of the land use changes captured in the observed flows.

For regulated or semi-regulated river systems, the baseline assessment used downstream flow targets for which the federal reservoirs were being operated, rather than 7Q10s, to determine if unacceptablewater quanity incursions were occurring. We found no unacceptable water quantity incursions because in all instances there remained positive storage in each of the conservation pools as the downstream flow targets and water needs were met.

Comment: EPD is forcing the Corps to deplete reservoir storage because low flows are observed 7Q10 flows. The more we "stick a straw in the River" downstream, the more we deplete flows upstream.

Q: Do the model results indicate that the region should drill more groundwater wells to replace surface water supplies to meet the requirements at Apalachicola? Why aren't the Councils focusing on our groundwater availability to meet some of our unmet needs?
A: This is a question for the Councils to answer. EPD has identified what is available and where the gaps are located (water is unavailable). The model results are still subject to Council input

and public input. The State Water Plan process is focused on looking at available water to meet gaps where they exist. The Councils are responsible for answering the questions regarding priorities and making recommendations to EPD.

Comment: Do we want to continue to use additional water from the Chattahoochee River to account for low flows in the Flint that are depleted because of groundwater withdrawals? Groundwater and surface water is an integrated system. Withdrawing groundwater does not create new water; it depletes baseflow from the Flint River. The balancing act is important; withdrawing water from the Flint River means supplementing with water from the Chattahoochee River to meet flows at Apalachicola.

Comment: There is a lot of uncertainty until Congress acts on the tri-state litigation. Councils need to consider contingencies if the resolution is not favorable to Georgia.
Response: Councils need to plan based on the information that we have. There is a lot of uncertainty, but we cannot stall the plans until all of the information needed is available; or the plans will never get written.

Q: What is the process for Councils providing new data or suggestions to EPD?
A: EPD is planning some detailed technical discussions to allow additional experts to attend and ask more detailed questions of the Resource Assessment Managers. EPD will be publishing the draft synopses in mid-February and then the full reports for a 45-day public comment period. EPD is developing a web based tool for comment collection.

Q: Lower Flint has a shortage of surface water and an abundance of groundwater. Is there sufficient groundwater such that existing and future water needs can rely on groundwater instead of surface water to meet needs? This might be a solution for the region, to permit new groundwater wells and fund conversion of existing surface water withdrawals to groundwater wells.
A: Yes. There is a gap between use and availability in the lower Flint River for surface water. Currently there is more groundwater available depending on the aquifer and where wells are placed. Some areas are over capacity on the number of wells and their impact on surface water availability. Depending on location of wells and the formation there may be some groundwater available and there may be opportunities to reduce that gap.
A: There are different sustainable yields in each basin. This is a good opportunity for Councils to provide input. The groundwater and surface water availability models can be analyzed together, if the Councils provide the locations for surface water withdrawals to be replaced with groundwater wells.
Comment: If farmers currently have sufficient surface water withdrawal permits, they will need compensation to replace the existing source with groundwater wells. It is expensive to drill wells and farmers cannot afford the expense without assistance.

Q: At the next Council meeting, can the Councils recommend specific sensitivity analysis to gain a better understanding of the models?
A: If the Councils provide EPD with targets, then EPD will model the requested scenarios.

6) Public Comment

There were no public comments.

7) Council Breakouts to discuss CM#5

The Councils met with Planning Contractors to discuss plans for CM#5.