



Georgia's State Water Plan

Middle Chattahoochee Water Council Meeting 9 February 24, 2011 - Callaway Gardens Agenda

Objectives:

- 1) Committee efforts update
- 2) Water quantity and water quality management practices selection
- 3) Discuss WDCP development

8:30-9:00 a.m.	Registration
9:00-9:20	Welcome, Introductions, Chairman's Discussion - Matt Windom <i>MCH Council schedule of meetings and deliverables, joint meetings with UFL and LFO, council leadership elections</i>
9:20-11:00	Draft WDCP - Jeff Lukken / Jim Hawkins <i>Review update incorporating comments provided by EPD and Work Group Members</i>
11:00-11:15	Break
11:15-12:00	Energy Forecast Committee Report - Robert Watkins <i>Review committee work and proposed changes to the WDCP</i>
12:00-1:00 p.m.	Lunch
1:00-1:45	Water Quality Modeling Update - Steve Simpson
1:45-2:15	Review of Outstanding Issues/Plan to Finalize WDCP May 2 Submittal - Jim Hawkins
2:15-2:30	Break
2:30-2:45	Local Elected Official and Public Comments
2:45-3:00	Wrap Up/CM10 Preview/Council Meeting 9 Evaluation
3:00	Adjourn Full Council Meeting
3:00-4:00	Plan Review Committee Meeting

To: Middle Chattahoochee Water Planning Council

From: Jim Hawkins, Black & Veatch and Robert Osborne, Black & Veatch

cc: Tim Cash, Assistant Branch Chief, GA EPD

Subject: Meeting Summary: Council Meeting 8 on November 10, 2010

The council meeting was held on November 10, 2010, at the Columbus Convention and Trade Center. The list of attendees is attached. In addition to these minutes, all the presentations (slides) discussed in this meeting will be posted on the Middle Chattahoochee web portal (<http://www.middlechattahoochee.org/>).

Welcome and Introductions

Council Chair Matt Windom stated that a quorum was not present, but said that it may occur later during the meeting. Matt welcomed members and thanked everyone for attending. Council member Alan Bell provided the invocation. Next, Matt allowed members of the public to introduce themselves. The public sign-in sheet is included as an attachment.

Chair Windom discussed the Joint Meeting of the Regional Water Councils that was held at Macon State College on October 6, 2010. Matt said this meeting consisted of panel discussion and was well attended. He said the meeting was more productive than he thought it was going to be and it went well.

Next, Matt reviewed the following milestone schedule and emphasized that the Council had around 75 days to finalize the plan to EPD:

Completion Date

November 10, 2010
November, 2010

December, 2010
January, 2011
January 31, 2011
March, 2011
March, 2011

Milestone

Council Meeting 8
MCH Receives Water Quality
Modeling Results
Plan Review Committee Meeting
Council Meeting 9
Recommended Plan to GA EPD
Plan Review Committee Meeting
Council Meeting 10

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March-May, 2011
 June, 2011

Public Notice of Draft Plan
 Final Production of Adopted
 WDCP

June 30, 2011

GA EPD Approves MCH Regional
 WDCP

Chair Windom said the council officially made a request to extend the planning schedule by a year to Senator Ross Tolleson, Representative Lynn Smith, and Allen Barnes, Director of the Georgia Environmental Protection Division. However, Chair Windom said that the Council will continue with the original schedule and if the extension is granted then the milestone schedule will be reevaluated. Chair Windom said there was a recent newspaper article that indicated that GA EPD and Tim Cash, Assistant Branch Chief, GA EPD, were against this time extension. Chair Windom clarified for the record that Tim Cash and/or EPD did not take a stand for or against this time extension.

Chair Windom also said that they requested from the Office of Water Resources in Alabama water demand projections through 2050 for the Alabama portion of the Middle Chattahoochee region. They have not gotten a response yet.

Since the Council met, there was one comment from Georgia Forestry Commission. Chair Windom noted that this was included on last page in the pre-meeting packet.

Draft WDCP Review

Chair Windom recommended to the Council members that they take their time, read the plan, and get comfortable with the language in the plan. **He asked the Council to read through the document and get comments back to Jim Hawkins or Steve Simpson by December 10, 2010.** He said this will allow the team to incorporate these comments.

Council member Jeff Lukken also suggested that when a council member reviews the documents early that they should go ahead get the comments to Jim or Steve. Jeff thanked everyone for their hard work in producing the plan.

Jim Hawkins noted that they have kept track of the Council comments in the document using track changes since August. He said this can be made available to Council Members as needed. Jim said that they would take the comments in whatever form Council Members had made the edits.

Next, Jim said he wanted to focus the discussion on 10 to 15 items noted during EPD and Black & Veatch review of the DRAFT Plan. Jim said these items were some of the bigger issues currently not resolved. Council member Robert Watkins asked if they could also discuss other items/sections. Jim said yes.

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Chapter 1

Jim said while there was still some text to be added to this chapter, there was not anything to discuss right now.

Chapter 2.

Table 2.1 Dams in the Apalachicola-Chattahoochee-Flint Basin, page 2-4

Jim noted that they had revised this table to better differentiate authorized purposes.

Section 2.3.1 Corps of Engineers Reservoir Operations, pages 2-7 and 2-8

Jim noted this section was shortened by moving most of the Judge Magnuson information to an appendix document.

Page 2-8. 1989 Water Control Manual is inadequate.

Jim read the following paragraph to the Council and asked for their comments:

It should also be noted that the Middle Chattahoochee Water Council has made clear that the 1989 Water Control Plan and the current RIOP are both inadequate. In fact, the Council has stated that these operational practices contribute to many of the river and lake problems that cause social, economic, biological and supply and quality gaps along the Chattahoochee. It is the Council's expectation that the revised Master Control Manual and new IOP will put forth significant operational changes contemplated to address the gaps.

Chair Windom thought this language may be a bit too strong. Council member Jeff Lukken thought the language was not strong enough. Council member Steve Davis agreed with Jeff. Jeff said he wanted readers to know that the Council was “sending up the red flag” and they did not have enough information. Steve Davis commented that the Army Corps of Engineers did not have a whole view of the operation of the lakes and the Flint River basin. Council member Paul Chappell asked how old the Corps plan is. Jim said the plan was written in 1989 and there have been several revisions since that time.

Council member Robert Watkins asked Jim if the Council's concerns that the Corps updated plan reflect some the Council's concerns. Jim said they made an attempt at this and would be covered in Chapters 3 and 7.

Chapter 3

Page 3-2. Current [2009] Alabama demands are included in assessments.

The council discussed how the Alabama demands were incorporated and shown in the report. The council also examined Figure 5-1. Council member Paul Chappel asked who

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provided the Alabama data. Steve Simpson explained that it was provided by Alabama through the USGS.

Council member Robert Watkins noted that Plant Farley (Southern Company) for last year on average withdrew 92 mgd and consumed 12 mgd. He asked where did the 36.4 mgd come from in Table 3-1 on page 3-3. He said that this number seemed high. Steve Simpson said they may be a multi-year average, but he was not sure. Jim Hawkins noted this would be a good item for an energy workgroup to examine. Council member Robert Watkins said that since Plant Farley was a base-load plant he would like to make sure accurate numbers are reported.

Page 3-4, 100% percent consumptive demand assumption

Chair Windom said although he understands why data does not exist, he was still concerned about the fact that land application and on-site sewage management systems are considered 100 percent consumptive. Council member Steve Davis said this assumption is conservative and was made for times of water scarcity. Steve said the Council may want to recommend a study to develop more accurate consumptive numbers. Steve Simpson said Item 8 in Chapter 7, Funding for Additional Resource Assessments, while not specific, may be a good place to capture this recommendation.

Tim Cash noted that he has heard similar discussions in three different councils. He read the following definition of consumptive use from the state water plan:

“Consumptive use” is the difference between the total amount of water withdrawn from a defined hydrologic system of surface water or groundwater and the total amount of the withdrawn water that is returned to that same hydrologic system over a specified period of time.

Tim emphasized the last part of the definition that water was returned to the same hydrologic system over a specified period of time. Tim noted that a daily time step was used in the model for the resource assessments. Jim Hawkins added that we will add a reference in the report for this section.

Also, Council member Steve Davis asked Jim if they can shade differently for consumptive use. Jim said they will investigate.

Pages 3-10 to 3-14. Consequences and impacts of RIOP have been added to the text.

While there was not enough time to read this section today, Jim Hawkins said he wanted to draw the Council’s attention to it. He said this section details the other gaps due to the inability of the current basin operating plan (RIOP) to meet instream uses and the impacts to those uses which have occurred. These impacts include: Economic and Recreational Impacts, Fish & Wildlife Conservation Impacts, Critical habitat Impacts, Reservoir

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Drought Operations Impacts, Hydropower Impacts, Water Quality Impacts, Flood Control Impacts, Reservoir Operations and River Flow Impacts.

Page 3-2 Water Withdrawal Use Categories

Steve Davis said while minimum instream is important, he thought that the four water withdrawal use categories (municipal, industrial, energy, and agriculture) were also important. Jim said this point was well taken.

Chapter 4

Page 4-1. How or whether to include forecasted future demands for Alabama municipal & industrial?

Jim explained how Alabama demands were incorporated into forecasting the future water resource needs. Basically, he said since Alabama would not provide forecasts to EPD and would only provide current day demands, only current demands were used for the future with no increase. Council member Steve Davis asked if there was a way one could mirror future demands on our side to Alabaman. Steve Simpson said there may be a way to do this on a node level. Chair Windom said he was comfortable with the report's language as long as the assumptions are clear. Council member Alan Bell asked if there were other ways to get this data from Alabama. Tim Cash said he was not aware of any. Council member Robert Watkins said he was aware of service that could get data and would pass it along to Jim Hawkins.

Chair Windom reminded the Council that he thought it was best for the Council to put the best numbers in the plan, however, he reminded the Council that there will be additional opportunities to revise this data in the next plan update.

Page 4-6. How or whether to include future demand for thermoelectric?

Jim Hawkins read the following paragraph from this section and asked for comments from the Council:

Based upon the litigious environment in the ACF Basin and gaps in the ability to meet existing instream uses, the Middle Chattahoochee Council sees little to no possibility for increased thermoelectric withdrawals in the Chattahoochee River. The uncertainties associated with the forthcoming update to the Army Corps of Engineers Water Control Manual for the ACF Basin and questions of legality regarding further allocation of a resource already not satisfying instream uses makes additional thermoelectric demand on the Chattahoochee River highly contentious. The Council does not endorse increased withdrawal forecasts on the Chattahoochee River and encourages EPD to disallow further permitting of the Chattahoochee River water for increased thermoelectric generation.

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Council member Robert Watkins said since there will be population growth in the region, we would handcuff economic growth with this language as written now. Council member Robie York reminded the council how competitive the environment is in attracting industries. He said in some cases we are competing against other councils and we would be remised to leave this paragraph stand without edits.

Council member Robert Watkins said rural counties can triple their tax base with a new power plant. He said Heard County is a good example. Council member Jeff Lukken asked how could we sanction another user if we have gaps now. Robert Watkins commented that the technology to preserve the water is just as important as the technology to clean the air.

There was some discussion about removing the last sentence from the paragraph, however, Chair Windom suggested this would be another item for the Energy workgroup to review and suggest appropriate wording.

Chapter 5

Page 5-1. Projected conditions in 2050 subject to current RIOP result in no improvement of impacts.

Jim explained that the plan specifically said the Council takes exception to the manner in which the Corps has operated the system under the RIOP and indentified impacts associated with RIOP.

Page 5-3 Council endorses Dr. Georgakakos's work.

Jim pointed out that the plan specifically endorses the conditions in the modeling work performed by Dr. Georgakakos for further development and encourages discussion between EPD, regional councils, the Army Corps of Engineers, U.S. Fish and Wildlife Service, and stakeholders in the tri-state area regarding the advantages of this approach and further refinement and analysis which could be required.

Page 5-3. Council seeks further analysis of aquifer yields

Jim pointed out that since the forecasted demand is higher than the low sustainable yield, but lower than the upper sustainable yield, the Council is seeking further analysis of the aquifer yield and potential gaps. Council member Jimmy Bradley noted that the Clayton aquifer is important and we may impact those users.

Page 5-4. Since water quality results will not be available until later this year, how does Council prefer to handle the review of this new text in the final draft to EPD (due in January)

Jim Hawkins offered that Steve Simpson could do a synopsis and then offer a conference call to interested council members.

Chapters 6, 7 and 8.

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Jim noted that the Council should refer to the highlighted EPD comments in the handout for these chapters and specifically pages 7-12 through 7-16 that detail the recommendation to the state.

Council member Robert Watkins commented hydropower lake helps hold down cost by providing a electric utility peaking capacity. He also said hydropower provides system reliability if another plant has an interruption in service which he said is extremely important.

Council member Jeff Lukken emphasized that all lakes need to “share in the pain” and asked Council member Robert Watkins if he had a problem with this. Council member Robert Watkins said he did have a problem with this.

Chair Windom said he was concern about who was going to tell a small lake owner that they needed to release water. Council member Robie York concurred and said this may be a dangerous type of precedent and may add more regulation on private land owners. Chair Windom said this may even provoke an owner to release additional water in time of drought greater than what is in an operating permit. Council member Robert Watkins noted that West Point lake was built primarily for flood control which also happens to make power while Georgia Power lakes were built to make power and also have other side benefits.

Council member Joe Griffith asked if it mattered where water was stored for energy production. Council member Robert Watkins said it did and it’s also important that it is available instantaneously. Chair Windom decided to park the discussion and let the energy workgroup discuss.

Chair Windom also said he was concerned with the management practice to discourage new or expanded land application system discharges. He did not want to put the region in any disadvantage. Council member Steve Davis suggested maybe more study is needed. He thought the Council could recommend better data and then the next update in five years look at where you can spend money on a management practice.

Energy Forecast Update

Mitch Horrie with CDM presented the energy sector water demand results. Steve Simpson told the Council that the Executive Summary of this forecast is in the pre-meeting packet.

Mitch explained that he would be discussing the forecast methodology, forecast results, and guidance to Councils. He said the energy sector ad hoc group was comprised of

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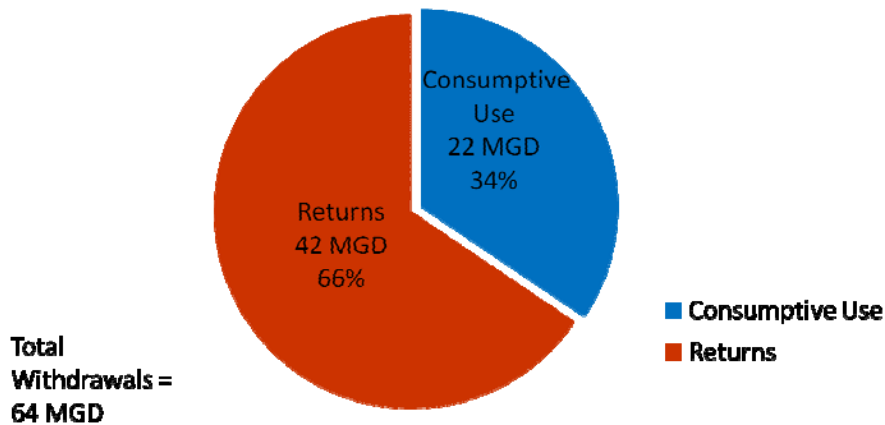
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representatives of the power industry (Georgia Power, MEAG Power, and Oglethorpe Power Corporation) and GEFA. The initial stages of the ad hoc group also included Dalton Utilities. The ad hoc group assisted with data collection, interpretation and technical review.

Mitch explained the forecast methodology. He said the base year water withdrawals and consumption were for 2005 and the power generation needs forecast was developed using statistical analysis based on the historical rates of energy use. He noted that data was collected for all NAICS 22 facilities in Georgia as well as planned facilities that have applied for an EPD air quality permit.

Mitch said that when he talks about water consumption that this refers to water that is consumed during the power production process and not returned to the stream. This is mostly as a result of evaporation during the cooling process. He said they found that statewide, 93% of the water withdrawn for the production of thermoelectric power was returned to the source.

Mitch presented the following graphic which shows the energy consumptive use in the Middle Chattahoochee.



Mitch said a regression analysis of statewide power generation and population from 1990-2008 created the statewide power needs scenarios. There were two power generation scenarios and 2 water demand forecast scenarios, making for 3 total water demand forecasts.

The baseline power needs scenario uses the mean parameters from the regression analysis, while the alternative power needs scenario uses the upper limits of the

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parameters while still within the 95% confidence interval. This is a high scenario to be conservative in the water demand planning perspective.

The 2017 water demand scenario presents what would happen if we did not add any new facilities beyond what is existing, permitted or planned. Under the 2017 Capacity Scenario, existing and planned facilities produce 100% of statewide power needs until their capacity factors reach maximum sustainable levels.

Mitch noted each power generation combination has a maximum sustainable capacity factor. The energy ad hoc group assisted in developing these factors. The maximum sustainable capacity factor is not the “optimized” or most efficient level of power generation. It is the highest level of output that can be sustained over a period of time.

After describing more about the results, Mitch presented the following conclusions:

- Statewide energy sector withdrawals are forecasted to increase at about 0.20 – 0.25% annually from 2010 to 2050.
- Statewide energy sector consumption is forecasted to increase at about 1.80 – 1.85% annually from 2010 to 2050.
- Trends indicate more capacity development for water consumption intensive power generation (those with cooling towers)
- Little to no capacity development for water withdrawal intensive power generation processes (those with once-through cooling).
- Power generation from renewable energy, primarily biomass, will increase over the planning horizon.
- The additional capacity scenario presents the forecast most useful to Councils in making regional water resources planning decisions.

Mitch then offered the following guidance:

- Location of any assumed additional capacity beyond 2017 is unknown.
- Councils can incorporate forecasted withdrawals and consumption directly attributable to existing and planned facilities into their regional plans.
- For demands associated with assumed additional capacity beyond 2017, Councils may wish to address the issue more qualitatively by trying to understand the water resources implications should some percentage of future additional power generating capacity locate within their regions.

Mitch then asked the Council if they had any questions.

Chair Windom asked if anyone gave them information past ten years. Mitch said no.

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Jeff Lukken asked if recirculating type cooling is the best. Mitch said while this type of cooling has lower withdrawal rates, it has higher consumption rates due to evaporative losses.

A council member asked if there were any other power plants that don't need a EPD permit? Mitch said there could be if they don't meet the 100,000 gallons per day reporting threshold.

Chair Windom asked if the Council needed to assume we should not have more electrical generation in the Middle Chattahoochee. He then asked if Georgia Power had plans beyond 2017? George Martin with the Georgia Power Company said there were no "firm" plans beyond 2017.

Council member Paul Chappell asked if there was a way to proportion the future energy production based on the percentage of growth for each Council. Chair Windom liked this idea, but said that each Council would need to do it.

Chair Windom next asked Council members who were interested to volunteer to serve on the energy workgroup. The following Council members volunteered:

- Robert Watkins
- Paul Chappell
- Steve Davis
- Jimmy Knight
- Jeff Lukken

Chair Windom asked Council member Robert Watkins to chair this workgroup.

Local Elected Officials and Public Comments

Next, the Council provided time for local elected officials and the general public an opportunity to address the council. There were no elected officials or members of the general public.

Next, Patti Lanford, DNR-WRD, asked to speak to the Council. She said she has been visiting other councils and one recommendation they may want to include is that the interim streamflow may need to be reviewed or studied.

Wrap-Up and What to Expect Next Meeting

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Chair Windom reminded the Council that he would like comments about the draft plan from Council members by December 10.

Council member Robert Watkins asked if any talking points had been developed. Jim Hawkins said no, but that they could develop ten PowerPoint slides to serve as talking point as council members reach out to the public.

Jim Hawkins said they would post an edited copy of chapter 6-8 online and make sure it was obvious from the homepage of the Council's website.

Steve Simpson reminded the Council that the 319(h) grant opportunities discussed at the last meeting still existed if the Middle Chattahoochee council wants to take advantage of this. He asked Council members to send any ideas to him.

The Council discussed the location of the next meeting. It was decided to have the next meeting on January 12, 2011, at Callaway Gardens. Chair Windom said if there was any scheduling difficulty with Callaway Gardens, Lagrange would be the backup location.

Council Meeting 8 Evaluation

At the conclusion of the council meeting, the members completed an evaluation form on the meeting and the meeting was adjourned.

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Attachment 1:

**Middle Chattahoochee Water Planning Council
Council Meeting Attendance – November 10, 2010**

Council Members

Alan Bell
Jimmy Bradley
Paul Chappell
Steve Davis
Larry Dillard
Thomas Ellis
Joe Griffith
Bill Heath

Harry Lange
Jeff Lukken
Jimmy Thompson
Robert Watkins
Don Watson
Matt Windom
Jim Woods
Robie York

Council Members Not In Attendance

Larry Clark
Phillip Eidson
Gardiner Garrard
Bill Gregory
Gerald Greene
Jimmy Knight
Joe Maltese

Aaron McWhorter
Gordon Moss
Ken Penuel
Denney Rogers
Walter Rosso
Randy Simpkins
Brad Yates

Planning Consultants

Jim Hawkins, B&V
Steve Simpson, B&V

Robert Osborne, B&V
Kristin Rowles, GWPPC

Georgia EPD

Tim Cash, Assistant Branch Chief
Bill Morris

Georgia State Agencies

John Loughridge, Georgia Soil and
Water Conservation Service
Patti Lanford, GA DNR – WRD
Fisheries
Joe Krewer, GA Department of
Community Affairs

Meeting Summary

Instream Flows Ad Hoc Meeting

December 7, 2010

Macon, GA

Introduction

Becky Champion, Assistant Branch Chief with EPD working with the Coosa-North Georgia Water Planning Council, provided a welcome to the group. At the last Coosa-North Georgia Council meeting, there was a request for more details on the science regarding instream flows related to the resource assessments. This ad hoc meeting was convened as members of several councils asked for similar information.

Gail Cowie with EPD provided an introduction and reminded everyone that the meeting is a work session for Council Members. The meeting is intended to support the writing of the Regional Water Plans by the Councils, provide an opportunity for Councils to gain better understanding of the resource assessments, and ask more detailed questions of experts regarding instream flows. There will be an opportunity before lunch and at the end of the day for comments from the public.

Background: Instream Flow Provisions in Georgia and Other States

Nap Caldwell with EPD provided a presentation regarding current instream flow criteria in Georgia.¹ This presentation summarized where we have been and what we are doing, not where we are going.

In the early 1970s, the passage of the Clean Water Act and the Georgia Water Quality Control Act created a platform for permitting. There were a number of wastewater treatment plants being constructed to control organic pollution into the receiving streams. These plants were designed and operated based on assumptions regarding certain minimum instream flows, with permitting decisions made to protect water quality. Withdrawal permits at the time relied on annual 7Q10 as the requirement.

In 1977, the goal of minimum instream flow requirements was to protect the WWTP discharges and not necessarily protect aquatic habitat. From 1977 to 2001, the following alternatives were used: lesser of annual 7Q10 or inflow; lesser of non-depletable flow or inflow (to protect downstream withdrawals from actions upstream); or other metrics defined by the Director.

In 1982, DNR's Wildlife Resources Division (WRD) began looking at the annual 7Q10 instream flow policy requirement. Drawing from 1997 recommendations, the DNR Board adopted an interim instream flow policy that was used in 2001 and beyond. Three alternatives are used in permits:

- (1) Lesser of monthly 7Q10 or inflow;
- (2) Flow based on site-specific instream flow studies; or
- (3) Mean annual flow (MAF) options. For applicants proposing direct stream withdrawals with no reservoir, the lesser of 30% MAF or inflow. For applicants proposing withdrawals from a reservoir, the lesser of 30% MAF (for July-November), 60% MAF (for January-April), 40% MAF (for May, June, or December) or inflow.

¹ Presentations and handouts from the meeting are available on the Statewide Water Planning website (www.georgiawaterplanning.org).

Q: Are the instream flows you're describing the same as the unimpaired flows used in the Surface Water Availability model?

A: Nap responded that the unimpaired flow data were not available when the interim instream flow policy was developed. Permitting decisions are based on observed flows. The resource assessments use a series of monthly 7Q10 based on unimpaired flows.

Q: Is the 7Q10 in the resource assessments based on gage data?

A: Nap responded that the unimpaired flow is calculated based on adjusting the gage flows to remove the human impacts on these flows over a number of years.

Q: Please confirm that the actual gage data were not used.

A: Nap confirmed that the gage data does not have the benefit of the operations performed by EPD to develop the unimpaired flows.

Gail Cowie distributed a handout summarizing instream flow policies in neighboring states.

- Florida – complex system mainly related to their 5 District structure. The goal is to prevent harm to water resources. Establishes the functions of the water resource and the instream flows are designed to protect that functionality. They use a pattern of flows over a year (hydrograph). The instream flows are used for planning and permitting.
- Alabama – regulate wastewater discharges based on annual 7Q10. No water withdrawal permitting or other instream flow provisions.
- Tennessee – recently added instream flow considerations to state water quality standards to meet the fish & wildlife habitat criteria and support recreational uses.
- South Carolina – new water withdrawal permitting requirements that requires looking at minimum instream flows and also accounts for downstream users needs. Requirements look at seasonal instream flow needs.
- North Carolina – address through state water policy acts that requires site specific studies for withdrawals of a certain size. Minimum releases from dams also varies based on physiographic province, stream size, and condition of aquatic habitat. A 2008 Act requires hydrologic modeling to evaluate ecological flows for all river basins across the state that will be used of regional water planning.

In summary, each State considers instream flows differently. The differences between States are related to how they manage resources and when their instream flow policies were adopted. Seasonal variation is a trend as well as approaches that respond to the different uses or characteristics of water resources versus one set standard.

Q: Who performs the instream flow studies in North Carolina?

A: Gail Cowie responded that the NC state regulatory agency does (NC Department of Environment and Natural Resources).

Identifying Resource Values and Instream Flows to Support Them

Gail Cowie introduced Mary Freeman who is with US Geologic Survey and who is on the Scientific Engineering and Advisory Panel (SEAP), because she is nationally recognized for her understanding of instream flows in Georgia.

Mary began her presentation by describing flow-dependent values and flow variations. Flow-dependent values may include: water supply, waste assimilation, power production, navigation, recreation, fisheries, and biodiversity. Low flow protections support uses like navigation, water supply, and waste assimilation. Recreation, fisheries, biodiversity and other natural resource values, however, are generally maintained by variability in flows. It is the alteration of natural patterns of flow that impact fish and other organisms, not necessarily the flow level. Flow variability includes seasonal variation, high and low-flow occurrence (floods and droughts), and variations from year to year.

Flow regimes are naturally variable. A continuum of flows, from high to low, are important from an ecological perspective. High flows are important for sediment transport and shaping the channel, maintaining the floodplain. High flow pulses are important for connecting upstream and downstream areas, allowing for migration and connection the floodplain to the stream. Habitat formation occurs during high flows but the animals migrate during the moderate flows. Low flows are important for fish reproduction and growth, plant growth and seed germination.

Variation of wet to dry years is also important. In wet years, there is high reproduction by some migratory fish but these may not be good years for juvenile survival. Dry years provide good juvenile survival for some fishes because of long stable periods of low flow in the stream margins. Dry years are good for migratory fishes, fish-eating birds, establishment of flood-sensitive plant seedlings, algae & sediment build-up, but not as good for canoeing.

Mary provided an overview of the surface water availability resource assessments as they relate to instream flow needs. There are 39 different planning nodes that have daily time-step data. The resource assessments are based on unimpaired flows, which are observed flows with most human impacts removed. The Interim instream flow policy of monthly 7Q10 or unimpaired flow was applied at the unregulated nodes and the requirements for flow from dams were applied at the regulated nodes.

Mary Freeman commented that the resource assessments provide a good hydrologic basis to look at how resource values may be affected by current or future water use. In the resource assessments, if the instream flow falls below the 7Q10 or unimpaired flow, then there is a gap. The assumption is that the need for instream flow protection is during the low flow extremes. Mary feels the resource assessments provide the Councils with a lot of good information. There are some planning nodes where, under current or future water demand scenarios, drought conditions are seen more frequently in the model results than under natural conditions.

The resource assessments, however, don't currently assess flows during non-drought conditions. Looking at any node with a gap, especially if there is a big gap, there is water consumption somewhere in the basin that causes the more frequent or more severe drought conditions than natural. Conversely, however, just because there is only a small or no gap doesn't mean that conditions aren't coming very close to the threshold. Understanding how much flow is really altered requires looking at flows during non-drought periods as well.

Q: Is that an answer to the data needs question, that Councils need to understand the flows during non-drought conditions to assess flow alterations?

A: Mary Freeman responded that the information currently available looks at low flow conditions and not at the higher flows, so Councils could request information for higher flow regimes. Councils may also recommend information be developed for the next round of planning.

Q: Current permits already grant a certain level of water withdrawals. I think my Council should proceed cautiously with identifying management practices if the impacts to streams are uncertain. The management practices could negatively affect businesses and therefore should be carefully considered. How do the Councils proceed if the information is not available?

A: Gail Cowie reminded the Council members that EPD Director Barnes has described this round of regional planning as a discovery process. One of the important elements of the regional planning process is the assessment by the Council of what is known and unknown. The Council can identify the resources that are most important to the Council and then recommend that EPD study how the current/planned activities will affect flow for future rounds of planning.

Comment: The constraints of each Council and within each Council will be unique.

Q: During drought years, it is clear that upstream actions could affect downstream flows, but conversely actions downstream could affect upstream water availability as well, right?

A: Mary Freeman agreed.

Q: Do Councils really have an opportunity to develop regional standards as the instream flow policy is statewide?

A: Gail Cowie responded that, while there is state-level regulation of instream flows, the task ahead of the Council is to look at their region. Councils can establish regional goals and identify priority water resources for further study.

Q: Will the State defer to the Regional Water Plan?

A: Gail Cowie responded that the Regional Water Plans, once adopted, will guide EPD permitting. Plans may also include recommendations to the State.

Comment: The natural evolution from other states seemed to start with state-level policies and then progressed to regional policies as more data became available. If water is already allocated to the minimum level, then there may not be an opportunity to adjust demands to a level that is more suitable for the specific conditions. How can Councils change conditions if the permits are already written? The environmental perspective is that provisions for additional instream flows need to be made now or the resource will be over-allocated so that there is no room for protection.

Comment: This discussion is not directly related to permitting or regulatory issues. Councils might be more comfortable moving forward if it was clear that the flow regimes are for informational purposes only.

A: Mary Freeman appreciated the comments. The focus is not on changing State-wide regulations and policies. The Councils need to know how to protect the resources most important to the water planning region. Protecting these resources includes considering the effects of flows and the needed mix of high and low flows. Some changes in flow regime may be acceptable. It is very difficult to make predictions about flows under future conditions.

Mary Freeman continued her presentation and showed a graph from a paper published last year by Brian Richter, a member of the SEAP who works world-wide on water allocation processes. The hydrograph shows annual flow variations. Conceptually, there are sustainability boundaries. For a given resource and functionality, it is possible to alter flows without harming the resource's functionality. Adding too much or depleting too much water, however, may yield an unacceptable result. The concept is very helpful in demonstrating the complexity.

At a specific node, the degree of change from unimpaired flows could be calculated, either as seasonal or monthly or for “typical” high and low flow scenarios. The percentage of change from unimpaired flows can be evaluated and resulting changes in ecological conditions can then be hypothesized. From an ecological perspective, there will not be a one-size-fits-all solution because the solution depends on what functionality is being protected and the specific conditions of the stream.

Q: In rivers dredged for navigation, like the Chattahoochee River, shouldn't the Councils look at the navigation needs, needs of specific fish, and the human needs and then evaluate management practices based on these conditions?

A: Mary Freeman agreed that water planning should not be done for one resource in isolation without looking at other resource needs.

Comment: The City of Griffin has a current challenge related to pigtoe mussels. A hurricane “flushed” the mussels downstream. There are unusual occurrences, like hurricanes, that affect natural resources. It is tough to plan for these unusual occurrences.

A: Mary responded that planning for the long-term viability of species is an important but different issue. Typically, those plans look at the range of conditions for species across the landscape.

Comment: The challenge is to identify data needs for the future. It seems that unimpaired flows are a tool for looking at the future along with real data.

Comment: It is an interesting consideration, natural conditions changing outside of the Councils' control.

A: Mary Freeman responded that the concept of adaptive management has become more popular because it allows for responses to unforeseen conditions.

A: Gail Cowie added that the State Water Plan calls for the review and revision of the Regional Water Plans every 5 years. The revisions could include changes in forecasts, resource assessments, or other changes. One of the present tasks for the Councils is to identify benchmarks that will be used during the 5-year update to assess whether progress toward the goals has been made.

Q: Can we get a briefing from the DNR staff in attendance on stream conditions based on the ongoing stream surveys? I'm interested in the general condition of the streams based on impaired or unimpaired populations. The current conditions are important for estimating the need for restoration.

A: Patti Lanford with WRD will give a presentation following lunch on this topic.

Q: Are there studies of species regeneration after drought? Water pollution may be a bigger issue than low instream flow.

A: Mary Freeman responded that the stream will change and species will be lost if there are only all wet years or all drought years. There have been some specific studies regarding re-colonization of species over time following drought. It is important to remember that droughts are natural occurrences.

Q: Is it possible to separate the man-made influences and the natural variations?

A: Mary Freeman discussed a study that assessed fish communities just below water withdrawal locations as well as just below urban (impervious) areas. Mary has done a study which showed a decline in fish community condition as the size of water withdrawals increased relative to the size of the stream. Fewer stream-dependent species were found and instream flows were lowest where the permitted withdrawals were highest. Mary said the results suggest a hypothesis: As withdrawal capacity out of the

stream increases, flow variability decreases. The biggest losses have been seen downstream of reservoirs because of the lack of variation in flow.

Q: Did your study considered the seasonality of withdrawals? One of Griffin's withdrawal points is only used during the rainy season so it would not aggravate low flow conditions.

A: Mary responded that this was not part of the study. She added that there wasn't gage data available for the 28 sites studied. The study did look at the withdrawal records and noted the large variation. There was a lot of scatter and site-to-site variability. The study did compare the size of the permitted withdrawal related to the size of the stream.

Comment: There are specific concerns for the Towaliaga River related to meeting TMDLs and low instream flows. Upstream reservoirs and proposed withdrawals will aggravate the current low flow conditions during drought.

Q: Was there a comparison of the downstream and upstream fish assemblages in the study Mary discussed?

A: Mary Freeman responded that was not part of the study.

Comment: Instream flows affect all downstream users and not just natural resource considerations. All human, industrial, and natural users downstream benefit from greater flows in the River.

Mary concluded by noting that there are potentially many stream reaches with values that are not reflected in the resource assessments. One example may be the Wildlife Resource Division's priority waters. The resource assessment nodes are not at locations that evaluate flow changes in these reaches. A potential for the future would be to add additional assessment nodes to assess specific values that depend on instream flows.

Information Needs

Gail Cowie provided additional information related to questions from the morning session. First, there was a question about whether or not EPD was open to the concept of different instream flow policies in different parts of the State. Gail commented that yes, the interim instream flow policy currently provides flexibility for site-specific studies. EPD's Regional Planning Guidance also gives Council's the flexibility to look at flow regimes that are higher than monthly 7Q10.

EPD received comments on the draft current resource assessments requesting comparison of assessment results using monthly 7Q10 with those using the 30% mean annual flow option, also provided by the interim flow policy. Based on these requests, EPD is completing this analysis and it will be sent to the Council members and stakeholders either late this week or early next week.

Gail also added that during the morning discussion there were several comments regarding instream flow for regulated nodes with facilities operated by the Corps of Engineers. These regulated nodes have very different management considerations. It is important to distinguish between regulated and non-regulated nodes.

Q: Are there any real world examples where the 30% mean annual flow is lower than the 7Q10 flow?

A: Mary Freeman responded that it depends on whether you look at monthly or annual 7Q10. In the winter months, the monthly 7Q10 is typically higher than 30% mean annual flow. Nap added that

except during the high flow months, it was unlikely that there would be a circumstance where the annual 7Q10 would be higher than the 30% MAF.

Comment: Based on the discussion in the morning, it appears that the level of water (depth) may be more important than flow.

A: Mary Freeman – Flow is really important for some aquatic life. To support fish passage, typically the criteria are based on the height of water in the shallowest portion of the stream. The function being evaluated will dictate whether the level or flow is more important, but both are important. Woody Hicks added that flow and stage/level are also tied to one another and the relationship between these two parameters changes over time. The Florida instream flow protocol considers both flow and level. Woody recommended that any future instream flow policy recommendations consider both flow and level as both are important to protecting stream health.

Comment: The majority of the existing water withdrawal permits are based on annual 7Q10 minimum instream flows. Only a handful of new permits have been issued under the existing interim policy. The Councils should consider addressing the grandfathered withdrawals that are permitted using the annual 7Q10.

Gail Cowie introduced Patti Lanford to give an overview of the state's fish monitoring program.

Patti Lanford explained that she is a fish biologist with the Fisheries Section of the Wildlife Resources Division (WRD) of DNR. She assesses the fish assemblages in wadeable streams in Georgia. The quantity and type of fish species are used by the state in the TMDL process. To date, they have assessed almost 1,000 streams. The streams are assessed using the Index of Biological Integrity (IBI). The streams that rate poor or very poor are considered impaired. Assuming the stream water quality follows a normal distribution, then approximately 65% of the fish community scores would rank fair or better and about 35% of the scores would be poor or very poor. The actual monitoring results have a higher percentage of poor and very poor sites compared to the theoretical normal distribution.

The fish sampling results are available by ecoregion. Streams in the Appalachian Mountain, Blue Ridge, and Ridge and Valley Provinces tend to score higher, while the Piedmont and South Georgia Provinces tend to have more impaired streams. The differences in ranking are probably associated with the levels of development.

Q: Is the definition of an impaired stream in the Blue Ridge Province was the same as for the Coastal Province?

A: Patti Lanford responded that the criteria are dependent on the ecoregion, river basin, and other site-specific criteria.

Q: Is a dam considered an impairment?

A: Patti Lanford responded that although dams may impact fish communities and/or water quality, a dam itself is not considered an impairment.

Q: Do the fish assessments compare the IBI scores for urban and rural areas?

A: Patti Lanford responded that the IBI scores consider whether fish are pollutant tolerant (hardy) or not. If all of the fish identified in a stream are tolerant to pollution, then the stream is likely impaired. The impairment may be from urban areas. The ranking depends on both the type and number of fish.

Q: Do you also look at macroinvertebrates, as they are also good indicators of habitat quality?

A: Patti Lanford responded that macroinvertebrate monitoring is performed by another group within DNR. The fish assessments have been done longer than macroinvertebrate monitoring, so the fish data are much more extensive.

Q: Do these results just look at streams with fish impairment and not streams with other types of impairment?

A: Patti Lanford responded that the metrics incorporate some additional factors, such as water quality, into the ranking.

Comment: The Adopt-A-Stream program assesses macroinvertebrates because their health is linked to water quality.

Q: Why isn't the goal for streams 100% unimpaired?

A: Patti Lanford responded that this reflects the assumption of a normal distribution.

Q: How can Councils get a list of the fish assessment results?

A: Patti Lanford responded that Councils should request the list through the Assistant Branch Chief working with their Council.

Q: The Councils have maps that show the streams impaired for dissolved oxygen and nutrients. Is there a map for streams considered impaired based on fish assemblages?

A: Gail Cowie responded that the Councils should have a list of all impaired streams, but it would be easy to show those streams just impaired for fish.

Q: There are federal requirements that streams meet their designated use. Are there Council obligations to meet these requirements and how will the Regional Water Plans be assessed by the federal government?

A: Gail Cowie responded that the state has programs to address the federal requirements. Each Council should have received a list of the impaired streams. The Councils can look at adding provisions in their Regional Water Plans to address and restore these streams. There will not be federal oversight of the Regional Water Plans.

Mary Freeman commented that the Councils may choose to identify the stream reaches that they care to protect (due to state protected species, federally protected species, recreational uses, etc.). If there are values the Council wants to protect, the resource assessment models can show how much the flow shifts from unimpaired flows in addition to showing how often they drop below minimum instream flow. However, detailed information on, for example, the change between high spring flows and the number of spring bass in a specific river may not exist. Aquatic systems are complicated and the Councils may never have that level of detail. If the Council identifies the values to protect, the models can be used to get a rough idea of the probability of change in those values.

Options for Council Consideration

Gail Cowie stated that the intent of the final portion of the agenda was for Council members to discuss language that might be considered for inclusion in the Regional Water Plans.

Comment: Determining the future flows needed to protect aquatic species is uncertain. There is a struggle between reactive and proactive planning. Despite good planning, there is still a need to react to the natural flow variability.

A: Gail Cowie commented that planning for rivers with impoundments it is a very different problem. For streams without impoundments, being less reactive may help protect the values important to those who use those streams. Councils can consider their priorities for the most important streams to assess in greater detail.

Q: Can we expect more reservoirs to be built that depend on off-stream flows?

A: Gail Cowie responded that building reservoirs on smaller streams that are augmented by pumping bigger streams is one of the management practices under consideration by different Councils.

Comment: Reservoirs permitted in upstream communities will affect the downstream communities and downstream communities may also affect upstream communities.

A: Gail Cowie responded that the permitting process considers the impacts on other users. This may be a thought process to include in the Regional Water Plan. For example, Councils may want to direct any off-stream storage away from priority areas.

Q: How about the amount of water that Florida wants out of Lake Seminole? If high and low flows are good, would that not also be the case for flows out of Lake Seminole?

A: Alice Lawrence with the US Fish and Wildlife Service in the Athens, GA office responded that the 5,000 cfs flow is the historic flow based on low-flow gage data from 1928 to 1950s when Woodruff was built. The flow requirement is also tied to the coal-fired plant downstream.

Gail Cowie asked the Council members if there are data needs to improve the next round of Regional Water Planning.

Comment: There is a concern that water resources in the Lower Flint-Ochlockonee Council are already over-permitted. The water users in the region are working hard to reduce their water demands but that may not be enough.

A: Gail Cowie responded that there are alternatives being considered to address the periods where the low flows are lower or longer than they would have been otherwise. Practices include groundwater augmentation and adjusting the current mix of water sources, among others. The guidance from EPD Director Barnes is to identify practices to move toward closing the gap. Practices may include recommendations to the State on things that should be changed.

Comment: The resource assessment models should be based on permitted and not peak withdrawals. The assumptions behind the resource assessment cause some concern; gaps will be more manageable with some changes in assumptions. Not including Alabama's withdrawals from the Chattahoochee River in the energy data is also a concern. The nutrient data from Florida is also not included, which makes it hard to set regional standards or deal with instream nutrients. Councils will have difficulty writing the Regional Water Plan given the concerns with the resource assessments.

Q: Who will revise the Regional Water Plans in 5 years?

A: Gail Cowie responded that the State Water Plan specifies that the Councils will review the Regional Water Plans every 5 years. The individuals serving on the Councils may change, as these positions are appointed, but EPD and the Councils have roles in review and revision.

Q: Why didn't EPD place a moratorium on permitting actions until the Councils completed their Regional Water Plans? Withdrawals for Plant Washington and the City of Forsyth are moving forward concurrent with the Regional Water Plans.

A: Gail Cowie explained that the Regional Water Plans will be based on the best available data and the State Water Plan explicitly states that water management decisions should continue to be made based on the best information available at the time. As data and information are improved, through regional planning and after, that information can then be used for decision making.

Q: How will the information presented today be shared with the rest of the Councils and Council members who are not in attendance?

A: Gail Cowie responded that the meeting summary and the presentations would be posted on the EPD website.

There were no more questions or comments and the meeting was adjourned.



CONFERENCE MEMORANDUM

GA EPD
MCH Regional WDCP
Energy Sector Water Use Forecast

B&V Project 164139
B&V File C-1.4
December 6, 2010

Meeting held on December 2, 2010, at 10:00 a.m., by teleconference.

Recorded by: S.L. Simpson

Attending: Paul Chappelle
Steve Davis
Harry Lange
Jeff Lukken
Robert Watkins
GA EPD
Nap Caldwell, Tim Cash, Bill Morris
Black & Veatch
Jim Hawkins, Steve Simpson
Georgia Power
Tanya Blalock, George Martin

Meeting Objective: *The purpose of the meeting was to discuss the recently provided energy forecasts and how these would be considered in the MCH Water Development and Conservation Plan, and also to discuss changes in the WDCP language regarding power generation and use of private reservoirs.*

ACTION ITEMS

- [Jim Hawkins] Draft updated WDCP language to address the concerns and considerations discussed by council members, and distribute.
- [Committee Members] Review updated language and discuss via teleconference early January.
- [Robert Watkins] Report on the Committee's work at MCH CM9.

Robert Watkins introduced the meeting and referred the committee members to a list of options that Robert distributed prior to the conference call. Robert advised that this list was a draft to stimulate discussion, and that the list of pros and cons were not comprehensive. The options were:

1. Prohibit additional water withdrawals for power generation
2. Permit only what is needed for Middle Chattahoochee region
3. Promote power plant location in the region

There was discussion that Georgia Power performs integrated resource planning periodically, and that the forecasts included projects through the 2017 timeframe. The

MCH Regional WDCP
Energy Sector Water Use Forecast

December 6, 2010

group also discussed the fact that the WDCP is an iterative process and that the next phase of planning will enable a refinement of assumptions; however, this Council still needs to decide how to proceed for the development of this initial WDCP. Paul Chappelle suggested that using the population increase as a basis for projecting future water demands for energy would be a good planning level assumption. Jeff Lukken advised that the MCH is likely a net exporter of electricity, so the region doesn't need more power generation capacity within the region, particularly given the constraints on water supply availability and the current identified needs for water. Harry Lange commented that power generated in Georgia should stay in Georgia.

Following significant discussion, the consensus was for the committee to eliminate the absolute language recommending against new power (page 4-6), but to add information that captures the amount of energy already produced in the region (including hydroelectric), pointing out that the region already is a net power exporter, and recommending best practices in water conservation for power generation.

The group also discussed the use of private reservoirs for flow augmentation (page 7-14). Jeff Lukken advised that some stakeholders in the basin want all reservoirs to "share the pain" during drought conditions. George Martin advised that Georgia Power is currently evaluating reservoir operations during drought as part of the FERC relicensing process, and pointed out that during the 2007-2008 drought, Georgia Power lost approximately 50% of energy production due to water availability conditions.

Committee members were unable to resolve this difference of opinion and agreed to bring this issue to the full council for resolution.

Updating the WDCP language was discussed. The committee consensus was to have Black & Veatch draft updated language, provide that to the committee for review, and to schedule a follow up teleconference call the first week in January prior to the next council meeting January 12.

Cc: Attendees

CONFERENCE MEMORANDUM

GA EPD
MCH Regional WDCP
Plan Review Committee

B&V Project 164139
B&V File C-1.4
December 15, 2010

Meeting held on December 15, 2010, at 10:00 a.m., by teleconference.

Recorded by: S.L. Simpson

Attending: Steve Davis
Harry Lange
Jimmy Knight
Gordon Moss
Matt Windom
GA EPD
Bill Morris
Black & Veatch
Mike Friedlander, Jim Hawkins, Rob Osborne, Steve Simpson

Meeting Objective: *The purpose of the meeting was to discuss the recently provided comments and how these would be considered in the MCH Water Development and Conservation Plan.*

ACTION ITEMS

- [Jim Hawkins] Draft updated WDCP language to address the concerns and considerations discussed by council members, and distribute.
- [Committee] Report on the Committee's work at MCH CM9.

Jim Hawkins introduced the meeting and referred the committee members to the two sets of comments on the plan that had been received and that were distributed to the committee members on Tuesday. The group started with the comments received from the Carroll County Water Authority.

The group discussed the land application system comments. Steve Davis advised that Land Application Systems are consumptive uses, and the goal of the council should be to reduce consumptive uses. Matt Windom advised that while modeled as 100% consumptive, this is an assumption and research was needed to more fully evaluate the percentage. This consumptive use assumption applies to agriculture, septic, and land application systems. The language currently in the plan was discussed. Because of the prior discussions of these issues, the WDCP currently is worded to discourage new or expanded large (> 1 mgd) facilities. Matt advised that he is concerned about existing systems that have invested for future growth by purchasing land. The consensus of the group was to add a management practice to develop better information on consumptive use, and to reword the item to "Encourage direct/point source discharges in the region".

MCH Regional WDCP
Plan Review Committee

December 15, 2010

The group discussed buffers. Gordon Moss advised that buffers needed to be different for different land uses (ie forestry, agricultural, and development), and that a specific recommendation for a state agency to document BMPs and address complaints (similar to that done by the Forestry Commission for forest land) be added. The plan language currently supports the increased implementation of BMPs and increased documentation. Matt Windom commented that the buffer width increase should be voluntary and Steve Davis added that buffer increases should be supported with tax burden relief or other financial incentives.

The group discussed use of induced flood storage; Steve Davis advised that communities downstream of reservoirs were concerned about flooding. Steve Simpson reminded the group of the comments from the City of Westpoint about flooding. The consensus of the group was to recommend that the USACOE perform a comprehensive updated flood study to reevaluate appropriate flood storage and protection.

The group discussed the WDCP language regarding reducing use of river assimilative capacity. There was general disagreement with the existing language. Rather than rewording, the consensus of the group was to delete this management practice.

Steve Davis advised that there is a need to add a management practice to specifically require permittees with water withdrawal permits to quantify consumptive use. This will provide a better information base for the next round of planning and will emphasize the need to reduce consumptive water uses.

The group discussed in general the proposed changes regarding energy water use as directed in the energy forecast committee conference call, and discussed the fact that use of private reservoirs will need to be discussed at the next council meeting as the committee was unable to reach a consensus recommendation.

Steve Simpson advised that the UFL and LFO have expressed concerns with certain aspects of the Middle Chattahoochee plan, and that Matt Windom had reached out to Donald Chase, Chair of the UFL to schedule a meeting during the last two weeks of January. Council members should expect to see an email query regarding their availability to participate in the next few days. Steve also advised that the public notice for Council Meeting 9 will be released soon.

An updated WDCP draft will be distributed prior to the next council meeting on January 12 for discussion at the meeting.

Cc: Attendees



B&V Project 164139
B&V File C-1.3
January 28, 2011

To: Lower Flint-Ochlockonee Water Planning Council, Upper Flint Water Planning Council, Middle Chattahoochee Water Planning Council

From: Kristin Rowles, GWPPC, Steve Simpson, Black & Veatch

cc: Tim Cash, Assistant Branch Chief, GAEPD

Subject: Meeting Summary: ACF Councils Leadership Meeting, January 27, 2011

A joint meeting of members of the Lower Flint-Ochlockonee, Upper Flint, and Middle Chattahoochee Water Councils was held at the Columbus Water Works Service Center on January 27, 2011 at 1:30pm. The following council members were present:

Lower Flint-Ochlockonee

Steve Bailey
John Bridges
Jimmy Champion
Hal Haddock
John Heath
Chuck Lingle
Jimmy Webb

Upper Flint

Cliff Arnett
Hays Arnold
Gene Brunson
Jack Holbrook
Raines Jordan
Frank Keller
Brant Keller
Buddy Leger
Dick Morrow
Lamar Perlis
Joel Wood

Middle Chattahoochee

Jimmy Bradley
Steve Davis
Harry Lange
Aaron McWhorter
Gordon Moss
Jimmy Thompson
Robert Watkins
Don Watson
Jim Woods

Also present were:

Black & Veatch: Mike Friedlander, Jim Hawkins, Steve Simpson
Georgia Water Planning & Policy Center: Kristin Rowles, Mark Masters
GAEPD: Tim Cash, Bill Morris
GA Power: George Martin

At the beginning of the meeting, Cliff Arnett welcomed everyone to the Columbus Water Works. John Bridges provided an invocation. Steve Simpson thanked the council members for attending and asked attendees to introduce themselves.

Brief Updates on Council Activities

Next, each of the three councils had a representative provide an overview of the council's recent efforts.

Dick Morrow (Vice Chairman) from the Upper Flint Council said that the council is working on its January 21st draft of its water plan. Committees are meeting this week and next week, and a council meeting will follow on February 7th. The council's main issues are flow shortfalls in the Flint, concerns about the modeling, the need for storage in the Flint, and water quality. The council feels that using better information is critical for future resource assessments. The Council is working together with neighboring councils and welcomes today's opportunity to meet together.

John Heath from the Lower Flint-Ochlockonee Council said that the council is working on its January 21st draft of the plan. Its committees are meeting over the next two weeks, and the council will meet on February 10th. The council's main issues are flow shortfalls in the Flint, Endangered Species Act concerns, and information needs. The council desires to balance natural systems and water users. The council is working with its neighboring councils; in addition to today's meeting, the council is also starting to coordinate with the Suwannee-Satilla Council. The council's Technical Ad Hoc Committee met in December to develop agreed upon estimates for agricultural water conservation practices. The council has included several recommendations to the General Assembly in its recommendations to the State, including the need for funding future council planning, recognizing the need for interbasin transfers in specific instances, and considering water management districts.

Harry Lange from the Middle Chattahoochee Council said that the council's committees had continued to work on the plan since its last council meeting; in fact, the energy forecast and Plan Review Committees had met this morning to continue work on the draft plan. He believes that some of the council's recent changes to the draft plan will address some of the other council's concerns.

Recent Changes in the Middle Chattahoochee Plan

Jim Hawkins provided an overview of the current draft of the Middle Chattahoochee Plan. In summary:

- Although the surface water availability resource assessment showed no gaps in the Chattahoochee, the Council believes that other surface water availability "gaps" exist, and the plan discusses these other gaps.
- The Council reviewed modeling work by Dr. Aris Georgakakos (GA Tech) to compare to the resource assessment results. The Council believes that Dr. Georgakakos' modeling analysis, using the different inputs and constraints than used by GAEPD, provides for reservoir management in a manner that meets needs across the Chattahoochee basin in a more balanced way.

- The Council's discussion of gaps (Section 3) and recommendations to the state (Section 7) are the places in the document where the above two emphases can be seen in the draft plan.

Questions/Concerns

Next, Kristin Rowles and Jim Hawkins presented a potential list of discussion topics and asked for additions. The group agreed on the following list:

1. Need for Storage
2. Flow contributions of Flint and Chattahoochee at Woodruff Dam/5000 cfs flow target
3. Interconnectivity of Water Systems – IBT language in Middle Chattahoochee plan
4. Competing Water Uses
5. Dr. Georgakakos' modeling work
6. Model assumptions – Upper Flint Basin reservoirs
7. Endangered Species Act concerns
8. Water Quality

A summary of the discussion for each item is provided below:

1. Need for Storage: All three councils are in agreement about the need for increased storage in the ACF, through new storage or better utilization of existing storage. It was noted that the Bainbridge gap cannot be closed without storage. Without storage, closing the Bainbridge gap would require ceasing all consumptive use in dry periods. Use of former mill pond sites was suggested as a possibility. See meeting outcomes section below.
2. Flow Contributions at Woodruff Dam/5000 cfs Flow Target: To meet the 5000 cfs flow target at Woodruff, additional storage will be needed in the system. The Middle Chattahoochee tried to stop short of saying that the Flint needs to contribute more to the 5000cfs, and there are many points the modeled time period when the Flint does contribute more than the Chattahoochee at Woodruff. Each council needs to do its part, but it is not necessary to put a number on each basin's flow contribution. Kristin and Jim will review how the flow contribution is discussed.

The group also discussed the basis for the 5000 cfs flow target and what role the needs of Plant Scholz (below Woodruff Dam) played in setting the target. George Martin said that the target was set by USFWS for species needs. Upper Flint members asked for more information on how it was set and the actual water needs of Plant Scholz.

3. Interconnectivity of Water Systems – The language regarding interbasin transfers that initially concerned Upper Flint council members was eliminated by the Middle Chattahoochee Council in the updated draft of the Middle Chattahoochee plan.
4. Competing Water Uses – Several members of the Upper Flint and Lower Flint-Ochlockonee Councils have expressed concern about the emphasis on recreation needs in the Middle Chattahoochee plan.
5. Dr. Georgakakos' modeling work: It was noted that the Georgakakos model run analyzed by the Middle Chattahoochee Council did not change model conditions on the Flint. More explanation of the Georgakakos modeling is desired by the Upper Flint and Lower Flint-Ochlockonee Councils. See meeting outcomes section below.
6. Model Assumptions: Members of the Upper Flint and Lower Flint-Ochlockonee Councils explained how the model assumptions about withdrawals for upstream reservoirs are not based on actual conditions and overestimate the gap at Bainbridge. If all consumptive use is stopped in the Bainbridge node, a gap still exists as a result of these assumptions. In general, the group discussed their interest in using more actual data in the resource assessment models in the future. See meeting outcomes section below.
7. Endangered Species Act concerns – The group did not discuss these in detail, but Endangered Species Act concerns remain an important issue for the Lower Flint-Ochlockonee Council, and members of that council noted that the ESA could overshadow the outcomes of the planning effort and other water management activities and limit future access to water in the region.
8. Water Quality – All noted that the information is now becoming available, and there is work to be done to address the water quality sections of the plans.

In general, the discussion emphasized concerns about reliance on assumptions, estimation, and modeling, and the need for better/more data to support modeling refinements for future plan updates. There was some discussion of the contributions of the regions to the gap and to Woodruff Dam, but the need for the councils to work together and be unified and coordinated was emphasized. It was also noted that the continuation of the councils beyond this planning cycle would be important to attaining the councils' vision and goals.

Meeting Outcomes

The group agreed to the following:

ACF Councils Joint Meeting
Meeting Date: January 27, 2011

B&V Project 164139
January 28, 2011

- 1) Form a study group with representatives of each of the three councils, as well as the Metropolitan North Georgia Water Planning District, to review the Georgakakos' modeling work in more detail.
- 2) Propose coordinated recommendation on areas of agreement among the councils for each council to consider for adoption into their plans.
 - a. For storage: *The Upper Flint, Lower Flint-Ochlockonee, and Middle Chattahoochee Councils recognize the critical need for more storage in the Apalachicola-Chattahoochee-Flint (ACF) System and recommend that a plan for additional storage be developed and implemented and that it consider the following options: better utilization of existing storage in the Chattahoochee, new storage in the Flint, and enhancement of existing storage capacity.*
 - b. For modeling: *The Upper Flint, Lower Flint-Ochlockonee, and Middle Chattahoochee Councils urge GAEPD and those involved in the resource assessment modeling to improve upon existing models for future regional water planning by making greater use of actual and current data on water use and conditions and by developing assumptions that more closely approximate actual conditions.*
 - c. For the 5000 cfs flow target at Woodruff Dam: *The Upper Flint, Lower Flint-Ochlockonee, and Middle Chattahoochee Councils request that state and federal agencies reevaluate the scientific justification for the minimum flow requirements at Woodruff Dam that are intended to maintain healthy aquatic ecosystems.*
- 3) George Martin (GA Power) will provide additional information on the flow needs of Plant Scholz.

Kristin and Jim thanked the group for their time. The meeting was adjourned.