



Upper Flint Water Council Meeting 10 April 14, 2011 - Lake Blackshear Resort Agenda

Objectives:

- 1) Committee reports
- 2) Revisions to Plan
- 3) Approve of plan for submittal to EPD

- | | |
|-----------------|--|
| 8:30-9:00 a.m. | Registration |
| 9:00-9:20 | Welcome, Introductions, Chairman's Discussion - Donald Chase
<i>Adopt February meeting summary, review agenda</i> |
| 9:20-9:40 | Plan Process/Timeline - Kristin Rowles |
| 9:40-10:00 | Overview of Plan Revisions - Kristin Rowles |
| 10:00-10:30 | Water Quantity Committee Report and Recommendations - Cliff Arnett |
| 10:30-10:45 | Break |
| 10:45-11:15 | Water Quality Committee Report and Recommendations - Raines Jordan |
| 11:15-11:45 | Plan Review Committee Report and Recommendations - Donald Chase |
| 11:45-12:00 | Local Elected Official and Public Comments |
| 12:00-1:00 p.m. | Lunch |
| 1:00-2:00 | Final Discussion of Plan for Submittal to EPD |
| 2:00-2:30 | Adoption of Plan for Submittal to EPD |
| 2:30-2:45 | Wrap Up/ Council Meeting 10 Evaluation/Adjourn |
| 2:45-4:00 | Council Celebration |



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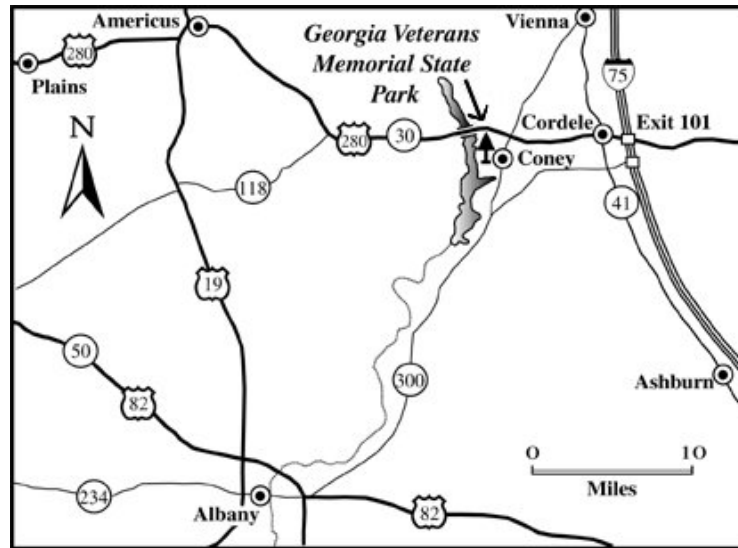
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- ✦ AREA ACTIVITIES GUIDE
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Georgia's State Water Plan

UPPER FLINT WATER COUNCIL

Donald Chase
577 Stagecoach Rd.
Oglethorpe, GA 31068

March 31, 2011

Senator George Hooks
431 State Capitol
Atlanta, GA 30334

Dear Senator Hooks:

As you know, I serve as the Chairman of the Upper Flint Water Planning Council, of which you are an *ex officio* member. The council members have worked hard for the past two years, and we are currently finalizing our regional water plan for submittal to the Georgia Environmental Protection Division by May 2nd.

The Council has accomplished what it set out to do, and in the process, we have developed expertise in a complex and technical field, and we have built working relationships that will be critical to resolving our state's water problems. The Council feels strongly that water resource management needs local input, and the regional planning process has provided for that input through the regional water councils. Our members are strongly invested in the process. We believe it is of utmost importance that the process be continued beyond the current planning cycle.

The Upper Flint Water Council urges the state legislature to ensure that the regional water planning process continues. The process will require funding to support continued planning, meetings, and technical support. We recognize the difficulty of allocating funds in the current budget climate, but we believe the councils are a wise investment in the state's future and will provide solutions that are urgently needed to address our water issues. Moreover, the cost of continuing the councils' work should be less than the initial three years, during which a large investment was made in development the resource assessment models used in the planning process.

Governor Deal has set aside over \$300 million to fund the development of new water storage capacity in the state. The Upper Flint Water Council believes there is a critical need for new storage capacity in the Flint River Basin to address flow concerns in the larger Apalachicola-Chattahoochee-Flint System. We

have discussed proposals to increase the capacity of existing reservoirs and develop new reservoirs in the region, and we believe that we have opportunities to develop new capacity to address current and future needs. Our plan addresses the need for new storage capacity in the Flint. The Council's future existence will be critical to ensuring sound implementation, which addresses both environmental and economic concerns, of storage and other management options in the region.

It has been a pleasure to work with the Upper Flint Water Council over the past two years. I believe that the Council's work supports a better future for Georgia. Our vision for the region is sustainable water resource management. While our plan lays the foundation for this, there is much work to be done. We hope that the Council will continue to play an important role in realizing our vision.

Sincerely,

Donald Chase, Chairman
Upper Flint Water Council



Georgia's
State Water Plan

UPPER FLINT WATER COUNCIL

Donald Chase
577 Stagecoach Rd.
Oglethorpe, GA 31068

March 31, 2011

Representative Lynmore James
214 State Capitol
Atlanta, GA 30334

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Flint River Basin to address flow concerns in the larger Apalachicola-Chattahoochee-Flint System. We have discussed proposals to increase the capacity of existing reservoirs and develop new reservoirs in the region, and we believe that we have opportunities to develop new capacity to address current and future needs. Our plan addresses the need for new storage capacity in the Flint. The Council's future existence will be critical to ensuring sound implementation, which addresses both environmental and economic concerns, of storage and other management options in the region.

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Sincerely,

Donald Chase, Chairman
Upper Flint Water Council



B&V Project 164139
B&V File C-1.3
February 12, 2011

To: Upper Flint Water Planning Council

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

cc: Tim Cash, Assistant Branch Chief, GA EPD

Subject: Meeting Summary: Council Meeting 9 on February 7, 2011

The council meeting was held on February 7, 2011, at the Weyerhaeuser Flint River Mill in Oglethorpe. The list of attendees is attached. In addition to these minutes, the presentations (slides) discussed in this meeting will be posted on the Upper Flint Council's web portal (<http://www.upperflint.org/>).

Welcome and Introductions

Chairman Chase opened the meeting and welcomed attendees. Council member Randall Starling welcomed the Council to the Weyerhaeuser facility and provided the invocation. Randall then introduced Weyerhaeuser staff and reviewed Weyerhaeuser safety policies. Chairman Donald Chase stated that a quorum was not currently present, but was expected later during the meeting. Chairman Chase then reviewed the following upcoming Council schedule:

March/April 2011	Council Meeting 10
May 2, 2011	Recommended Plan to Georgia EPD
May-July 2011	Public Notice of Draft Plan
August 2011	Final Production of Adopted WDCP
September 20, 2011	Georgia EPD Approves Upper Flint Regional Water Development and Conservation Plan

The council approved the meeting summary from the last council meeting and the agenda for today's meeting by consensus.

Chairman Chase said he believed the Council was moving in the right direction and thanked everyone for stepping up when needed to help the council develop its plan. He also thanked those who attended the ACF Councils Joint Meeting on January 27, 2011. Council Vice-chair Dick Morrow said he was impressed that quite a number of folks from the council were at the joint meeting. Council member Cliff Arnett said that some of the council's concerns related to the Middle Chattahoochee plan have been addressed. He

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noted that Dr. Aris Georgakakos' (GA Tech) model results showed that alternative reservoir management schemes could lead to a more balanced outcome. A follow-up meeting with representatives of the three councils and Dr. Georgakakos would be helpful.

Kristin Rowles noted that the council now had a quorum. The Council then conducted an election for chair and vice-chair. There were nominations with seconds for both Donald Chase and Dick Morrow to continue in their current positions as chair and vice-chair, respectively. Donald Chase indicated that he would accept this continued responsibility if elected, and Dick Morrow indicated his assent as well. ***Donald Chase and Dick Morrow were elected chair and vice-chair, respectively, for calendar year 2011 by unanimous vote via written ballots.***

Council member Brant Keller asked what happens to the Council after the plan is accepted by EPD. Tim Cash noted that there are on-going discussions within EPD about the future of the Councils. Dick Morrow said that the water planning effort needs to continue. Council member Raines Jordan said the legislature needs to commit to the process and maybe we need to make a statement as a Council. Council member Cliff Arnett said such a letter is an excellent idea, and both GMA and ACCG need to be contacted so that they know the council's position. Cliff Arnett volunteered to contact ACCG and Dick Morrow volunteered to contact GMA. ***Chairman Chase said he would draft a letter on behalf of the Council that would state that this Council feels that continuing the regional planning process is of critical importance.*** Council member Frank Keller commented that other councils might want to send similar letters. ***Carbon copies of the council's letter can be sent to the other councils, the Metro District, GMA, and ACCG.***

Overview of Plan Revisions

Kristin Rowles noted the current draft of the plan is dated January 21, 2011. She said it includes sections 1-6 and part of section 7. She said that this draft of the plan addressed comments from EPD on the October 15, 2010 draft and decisions made by the council about the plan at the last council meeting (November). Kristin said that this meeting is the second to the last council meeting before the plan is submitted to EPD on May 2, 2011.

Council member Cliff Arnett asked how the appendices would be included in the final plan. Kristin said the appendices will be provided as supplemental materials on the council's web site. She said references with internet links to supplemental materials have replaced references to appendices. Arnett asked how long the materials would be available through the web site. Tim Cash said he thought they would always be a part of the permanent public file, but did not know how long the materials would be kept on the web site itself.

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Council member Brant Keller expressed concern that printing the materials for the water quality modeling results was difficult.

Section 1

Kristin said new text was provided for Sections 1.1 and 1.2 by EPD. She also noted that there was a modification of goal #4 (page 1-3) based on the council decision about this goal at November council meeting.

Section 2

Kristin said there were only minor text edits to this section. She said that a new map of the planning region is currently being produced for Section 2.

Section 3

Kristin said that information about water resources shared with neighboring councils has been added. There were also clarifications in the model discussion and changes to the chart formatting. She noted that the Council will discuss Section 3.2.1 in the Water Quantity report today

Section 4

Kristin said that new material was added to Section 4.4 Thermoelectric Power Production Water Demand Forecasts, and this section would be further discussed today. There were also changes to some of the charts.

Council member Cliff Arnett said he was concerned about the presentation of the model nodes. He thought that the study nodes as well as the planning nodes should be explained or indicated on the map. ***Kristin said that these nodes could be added to the new map in section 2, and the footnote on page 3-3 would be modified to reflect this change.***

Section 5

Kristin noted that there were minor text and references edits. There were also new water quality maps.

Section 6

Kristin noted that Section 6.1 was edited for clarity and length. The discussion of uncertainties was modified to add additional information on how those issues are currently being addressed and where to get more information.

She said one of the uncertainties will be discussed in Water Quantity Committee report. In Section 6.2, the following changes were made in Table 6-1:

- New categories
- Numbering of management practices
- Prioritization of management practices

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- Changes to Management Practices based on council decisions and EPD comments: DM2, DM5, DM6, SF4, SF5, RM1, WQ2

Following Table 6-1, Kristin said there were modifications in Section 6-2 to further explain the storage modeling run and the Council's selection of management practices vis-à-vis identified gaps and the Council's vision and goals.

Section 7

Kristin said there were changes to Section 7.4: Recommendations to the State. It is now categorized into information needs and water policy recommendations. She said that several of the items listed were new to this draft; she had culled them from meeting summaries to try to ensure that all recommendations were included. This section will also be reviewed later today. Kristin would like the council's feedback on whether this section is complete.

Kristin also noted that the remaining parts of Section 7 and the whole of Section 8 would be revised after this meeting.

Water Quantity Committee Report and Recommendations

Committee chair Cliff Arnett thanked committee members for attending the committee meeting on January 26, 2011. He said it has been an honor to work with such an outstanding group of people. A meeting summary of the last committee meeting is included as pages 24-28 of pre-meeting packet. During the committee meeting, members reviewed changes in the January 21st draft, discussed further plan revisions, and developed recommendations to Council for today's meeting.

He said the first recommendation was for the following new statement of the council's position on the model assumptions regarding withdrawals for reservoir filling in the upper part of the basin (see Section 3.2.1, page 3-4, paragraph 4):

The Council's position is that the modeling assumptions regarding withdrawals to fill upstream reservoirs do not reflect actual conditions, and as a result, the current assumptions result in an overestimation of flow shortfalls in the Flint River Basin. The Council recommends that future modeling to assess surface water flows in the Flint be preceded by an evaluation of actual withdrawals to fill reservoirs in the Upper Flint in order to support the development of improved assumptions about such withdrawals and more accurate modeling of surface water flows.

After some discussion the Council accepted by consensus this recommended language for insertion into the plan.

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The next recommendation concerned the 2nd bullet point on page 6-3 in Section 6.1. This item concerns the 2008 Biological Opinion on Woodruff Dam flow targets. The committee recommends the following changes:

- Change the 2nd sentence to read as follows: “The consultation will continue ongoing depth distribution data collection and analysis to determine the minimum flows needed in order to protect listed species.”
- Add a footnote referring to the statement of the Council’s position on this issue on page 7-12.

Council Vice-Chair Dick Morrow commented that these changes were suggested because of the committee’s concern that the previous language seemed to indicate that an increase of the target was needed. ***The Council accepted the committee’s recommendation by consensus.***

The next recommendation concerned Section 6.2 (page 6-10). The committee suggested adding the following statement:

Water conservation is a top priority management practice in this plan. The Upper Flint Water Council recognizes that water users have already invested in and implemented a substantial portfolio of conservation practices in the region. Their prior conservation efforts should be recognized and taken into account in the design of conservation programs and policies.

Council member Randall Starling said the committee wanted to credit users that have already implemented water conservation practices. Council member Brant Keller said this is a good point and that the City of Griffin has lost revenue through water conservation. Council member Lamar Perlis asked whether we should note particular industries. Starling said the committee had discussed this, but did not want to single out a particular industry. Brant noted that a similar statement is needed for the Water Quality section. Kristin said that we could come back to that in the Water Quality committee’s discussion.

The last sentence was modified as followed:

Their prior conservation efforts should be taken into account and given credit toward compliance in the design of conservation programs and policies.

The Council accepted the committee’s recommendation, as modified, by consensus.

The committee’s next recommendation concerned Section 7.4 (page 7-13). The committee recommended adding a Water Policy Recommendation to Section 7.4 as follows:

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Conservation policy and regulations should be designed to recognize and credit water users for conservation practices that they have already implemented and target consumptive over nonconsumptive uses as a priority for conservation. Additionally, conservation policy and regulations should be designed with an emphasis on cost-effectiveness as a key criterion.

Council member Randall Starling said he did not like the word “target” and suggested “give priority” as an alternative. It was also noted that existing conservation should not just be recognized but given credit. After some discussion, the recommendation was modified as followed:

Conservation policy and regulations should be designed to recognize and credit water users for conservation practices that they have already implemented. Conservation policies and regulation should give priority to consumptive over nonconsumptive uses as a priority for conservation. Additionally, conservation policy and regulations be designed with an emphasis on cost-effectiveness as a key criterion.

The modified language was approved by consensus.

The next recommendation involved adding the following New Management Practice on page 6-7.

DM8: Create an awards program to recognized agricultural irrigators for exemplary implementation of best management practices for water conservation.

- Program to be modeled after Georgia Forestry Commission awards program for BMP implementation.*

The council discussed this recommendation, and the discussion focused on whether to single out the Georgia Forestry Commission and the need to coordinate with existing Georgia Soil and Water Conservation Commission programs. It was suggested that the following bullet point be added:

- This program should be coordinated with existing Georgia Soil and Water Conservation Commission programs.*

The council approved this recommendation, with the addition noted above, by consensus.

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The next recommendation concerned DM5 on page 6-6. At the last meeting, the council approved the addition of the following statement to the 2nd bullet point in the description of this management practice to address an EPD comment:

The Council acknowledges the need to improve drought prediction tools to support earlier notification and supports GAEPD efforts to develop better predictive tools.

To make the statement of the management practice consistent, it was necessary to also modify the language of the management practice as well. The following was suggested:

***DM5:** Use irrigation suspension only through implementation of the Flint River Drought Protection Act, only by voluntary means, with notification to farmers ~~in January~~ as early as possible, and only as a last resort when other options are not available to address severe flow depletions.*

The Council discussed this change. It was noted that early notification to farmers was critical, and if notification was not possible, early indications of the possibility of a drought declaration and auction would be helpful. Tim Cash (EPD) explained the difficulty of EPD making a drought declaration earlier than March 1 without better predictive tools given that an irrigation suspension auction could cost the state \$20-30 million. It was noted that March 1 is the statutory deadline for a drought declaration under the Flint River Drought Protection Act.

It was suggested that “as early as possible” be replaced with “before March 1 with possible”. ***The Council approved this recommendation, with this modification, by consensus.***

Two changes were recommended for page 7-12:

Change the 1st bullet point to read:

Improve resource assessment modeling through increased use of ~~observed~~ actual water use and resource conditions data

Change the 3rd bullet point to read:

Increase the number of surface water availability model planning nodes, as evaluation points, in the Flint River Basin to support more detailed geographic understanding of water resource conditions.

The Council accepted these recommended changes for page 7-12 by consensus.

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Water Quality Committee Report and Recommendations

Council member and committee chair Raines Jordan thanked the committee members for their work and said the committee had reviewed changes in Jan. 21st draft, discussed further plan revisions, developed recommendations to Council for today's meeting, and reviewed new modeling results.

Raines explained the committee's first recommendation; it concerned management practice WQ4 on page 6-10. In its comments, EPD had asked for more specificity on what additional water quality monitoring was recommended. To address this comment, the committee recommends replacing the existing management practice description with the following:

- *Develop a better information base on water quality conditions to support improved resource assessment in the future.*
- *Increase sampling sites in the riverine portion of the basin, where data was limited in the water quality resource assessment for this plan.*
- *Target wet and dry conditions samples to support evaluation of nonpoint source impacts.*
- *Increase parameters sampled at each sampling location as needed to improve water quality database and future assessments.*

During discussion, it was suggested that the committee modify the 2rd bullet point to read as follows:

- *Include more wet weather samples to support evaluation of nonpoint source impacts.*

The council approved this recommended change, as modified, by consensus.

Council member Brant Keller questioned whether the evaluation of use attainment should be approached differently in the state. He said some streams may not be able to support swimming. Some uses may not be attainable, and use designations and attainment evaluation should be re-evaluated and made more precise. Kristin suggested referring this issue back to the committee for further discussion and possible development of a recommendation to the council.

The committee's next recommendation concerned the 5th bullet point on page 7-12 in Section 7.4. The committee suggested modifying the bullet point as follows:

- *Assess baseline implementation of water conservation and water quality Best Management Practices by agricultural producers. The lack of information on current levels of implementation limits the ability of conduct effective regional*

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water planning. The Georgia Forestry Commission currently conducts a field survey program to evaluate the extent of BMP implementation by forestry operations. The results of this survey demonstrate a high level of BMP implementation in the forestry sector. For agriculture, a similar evaluation would document baseline levels of implementation, track implementation progress, and support future targeting of BMP programs.

The council discussed whether to include the focus on the Georgia Forestry Commission's program. It was suggested that it be highlighted as an example of one among other programs with a similar purpose. ***The council referred this language back to the committee for further discussion and revision.***

Kristin reminded the council that Brant Keller had suggested that language be added to the plan to recognize and credit existing water quality Best Management Practices. To address this request, she suggested language for Section 6.2 similar to that developed for water conservation practices (discussed above), as follows:

Water quality is another priority for the Council. The Council recognizes that a large investment has been made in the region in Best Management Practices that have been implemented by municipalities, agriculture, and forestry to protect and improve water quality. These prior efforts should be taken in to account and given credit toward compliance in the design of water quality programs and policies.

Council members asked that "industry" be added to the list of sectors having implemented Best Management Practice. ***By consensus, the Council adopted this language for insertion into Section 6.2, with the addition of "industry" as noted.***

It was noted that Steve Simpson would report on the new water quality modeling results after lunch.

Plan Review Committee Report and Recommendations

The Plan Review Committee met on February 2nd. The committee discussed the January 21st draft and developed recommendation to the council for today's meeting. Kristin Rowles presented the committee's recommendations for the council.

In Table 6-1, Kristin explained that she had taken a first try at noting the priorities of the management practices in the January 21st draft. The priorities were rated as high, medium, and low and noted in the table by color coding (with a key in the table heading). Kristin said that in discussion with the committee, it was decided to change the priorities to high and normal priority (2 categories instead of 3). Kristin said that the assignment of priorities in the January 21st draft represented best guesses on her part and that she

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needed to collect input from the council to ensure that the assignments reflected their input. She distributed a hand-out on which members could mark their top three priority management practices. These worksheets would be used to discuss the assignment of priorities in the Plan Review Committee. She said that the committee had discussed that priorities should be based on the importance of a management practice to attaining the council's vision and goals and to addressing identified gaps. The prioritization worksheet was distributed and was collected after lunch.

Next, the committee's recommendation concerning the 1st bullet point under Water Policy Recommendations on page 7-13 in Section 7.4 was discussed. The committee suggested the following modified language:

- *The Council recommends that the General Assembly provide funding for continued planning by the regional water councils, as described in Section 14 of the Statewide Water Plan, in order to ensure continued progress toward state and regional water plan vision and goals. The Council also recommends that the General Assembly provide funding to support monitoring of plan implementation, data collection to support future planning, and continued refinement of water resource assessments used in the development of the regional water plans.*

The committee thought the addition of the reference to the Statewide Water Plan was important to note the previous approval of the regional water planning process as a continuing effort by the General Assembly and the Georgia Water Council. In discussion, it was suggested that the 2nd sentence be modified to read:

The Council also recommends that the General Assembly provide funding to support monitoring of plan implementation, data collection to support future planning by the regional water councils, and continued refinement of water resource assessments used in the development of the regional water plans.

The Council approved the committee's recommendation, with the additional modification to the second sentence noted above, by consensus.

The committee's next recommendation concerned the 3rd bullet point under Water Policy Recommendations on page 7-13 in Section 7.4. The committee suggested these modifications in order to recognize the recently adopted DNR rules on interbasin transfers and to clarify the council's position on interbasin transfers as applying to existing as well as future interbasin transfers. The following modified language was recommended by the committee:

- *The Council urges the Georgia General Assembly and other state policymakers not to preclude interbasin transfer as an option for future*

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water management in the region, as needed and following thorough scientific evaluation. Interbasin transfers of water exist in many places in Georgia at this time. The Council recognizes that interbasin transfers (existing and future) can play an important role in water resource management. Interbasin transfers of water can provide supply or flows to a receiving basin where water is needed. Rules recently adopted by the Georgia Board of Natural Resources in January 2011 will help to ensure that future permits for interbasin transfers are thoroughly evaluated.

The council members discussed interbasin transfers and the recently adopted DNR rules that apply to interbasin transfers. Council members also noted that at least one bill seeking to limit or ban interbasin transfers had been introduced this legislative session. It was noted that there are no guarantees that policy would not change on this issue in the future. Interbasin transfers have frequently been a topic of legislative bills in recent years. Chairman Chase said that interbasin transfers should not be opposed when they make sense. Members thought the new DNR rules would provide for more thorough evaluation of interbasin transfer requests in the future. ***Kristin said she would see if a summary of the new rules is available that could be sent to the council. The council adopted the recommended modification, as proposed, by consensus.***

Next, the committee's recommendation concerned the last bullet point under Water Policy Recommendations in Section 7.4 was discussed. The committee suggested the following modified language to emphasize that the recommendation related to resolution of the ACF tri-state water litigation:

- *The Council supports timely settlement of the interstate water litigation in the ACF. The Council recommends that the General Assembly and other state policymakers should consider the development of an interstate compact for the ACF Basin. If any regional management institutions are created in the Basin, they would need the capacity to operate as a part of that compact. The Council recognizes the examples of the Great Lakes Basin Compact, several of the Texas river basin compacts (i.e. Sabine River Compact Commission) and other successful stakeholder led water councils managing large river basins that cross geopolitical boundaries such as the Fraser River Basin Council (British Columbia, Canada). Collective legislative action involving Georgia, Alabama, and Florida would be needed to develop such a compact.*

The Council discussed the recommendation. Kristin said that she had imported this recommendation and the one above with slight modifications from the Middle Chattahoochee plan, after discussion of this issue at the last council meeting. The Council had asked Kristin to use the Middle Chattahoochee recommendations on this topic for develop draft lanaguage for their plan. She asked the council whether the part of

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the recommendation regarding an inter-state compact met their interests. It was suggested that if an compact were developed, the regional councils would need to be parties to that compact and not just having “the capacity to operate as a part of that compact.” While some liked the specific examples of other inter-state compacts, others did not want to specifically endorse those compacts. ***It was decided to refer this recommendation back to the Plan Review Committee for further discussion and the development of a recommendation for the council.***

Next, the committee presented for consideration three joint recommendations from the joint council meeting on January 27, 2011:

- *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.*
- *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.*
- *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.*

The Council members asked that the word “options” be deleted after “following” from the 1st recommendation. Some expressed concern that these recommendations would be viewed as more important than the council’s other recommendations, but it was noted that these are important. Several suggestions were made regarding how these recommendations are presented. It was suggested that the overlap of these recommendations with the Council’s own recommendations be described and that it be noted that the Council’s recommendations supersede these recommendations. It was also suggested that the presentation of the recommendation be revised so that the names of all three councils are not repeated at the beginning of each recommendation. ***Kristin will develop introductory language to the recommendations based on these suggestions. By consensus, the council approved these three joint recommendations, with the modification noted above regarding the word “options”.***

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The committee's last recommendation concerned management practice SF5 on page 6-10. The committee recommended adding the following statement to the management practice description:

- *A full range of storage options should be evaluated, including (but not limited to) increasing the capacity of existing reservoirs and creating new off-stem reservoirs.*

Dick Morrow explained that the committee did not want to create a perception that the council was only advocating for a mainstem reservoir, and therefore added the examples of increasing the capacity of existing reservoirs and building new off-stem reservoirs. The Council discussed this recommendation extensively. Some were very concerned that the council was not taking on the issue directly enough. They felt all options should be considered, including a mainstem reservoir, and they did not believe that this modification reflected that view. Council members noted that this was a difficult decision, but that the council should not shy away from it because it was difficult. ***It was agreed that in place of the above recommended language, the following will be added: "A full range of storage and reservoir options should be evaluated." The council adopted this change by consensus.***

Lunch

Over lunch, the council had a presentation on Weyerhaeuser operations and environmental programs from Vice President Bob Williams.

Water Quality Modeling Update

Steve Simpson provided an update concerning the water quality modeling. Steve reminded the council that the surface water quality modeling is about modeling the assimilative capacity of the waterbodies. The assimilative capacity is the ability of the waterbodies to receive pollution without violating water quality standards.

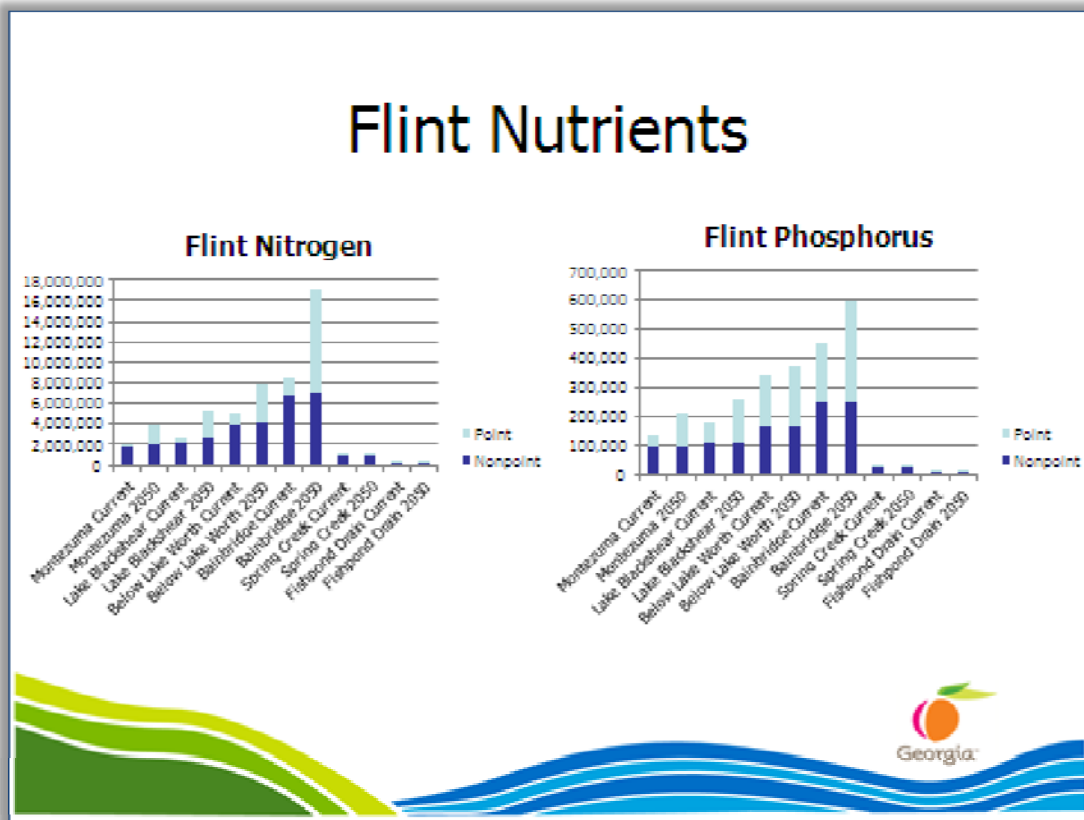
Steve explained that the dissolved oxygen (DO) models are run at "critical conditions" (low flow, high temperature) with permitted discharges. He noted that the watershed models account for both wastewater discharges and storm water runoff from various land uses. Lake models look at the impacts of nutrients. Steve said that models in general identify "unacceptable impacts" as not meeting state standards for dissolved oxygen, nutrients, chlorophyll a, etc. Steve explained modeling deliverables included the following:

- Lake Modeling
 - Lanier
 - West Point
 - Walter F. George
 - Seminole
 - Blackshear
- Watershed
 - Lanier
 - Chattahoochee
 - Flint
- Dissolved Oxygen
 - Chattahoochee
 - Flint
 - Tallapoosa
 - Ochlockonee
- Hydrodynamic
 - Middle Chattahoochee
 - Lower Chattahoochee
 - Flint

Steve said the results from the modeling can be a bit overwhelming. There are many calculated numeric results at over 40 summation points in the Flint basin. Steve said for this presentation, a few key locations will be highlighted, including:

- Montezuma
- Lake Blackshear
- Below Lake Worth
- Bainbridge
- Spring Creek
- Fish Pond Drain

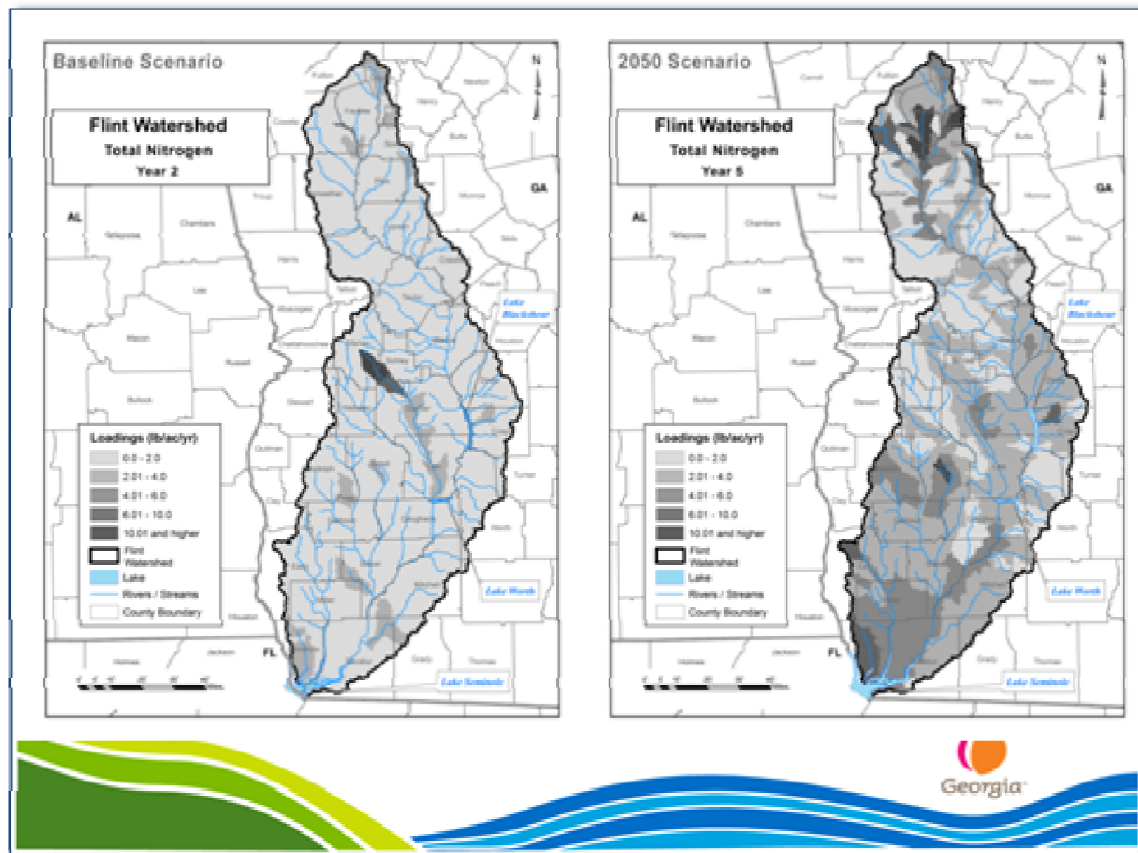
Steve discussed the following graphs which show the contributions from point and non-point sources in pounds per year. Nitrogen and phosphorus trends are somewhat similar.



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Next, Steve showed selected nutrient modeling results on maps of the basin. For the Flint watershed, Steve said that, in general, nonpoint sources currently contribute more nutrients than point sources. Future increases in nutrient loads will come from nonpoint contributions from changing land uses and significant increases in point source contributions.



Steve then summarized Lake Blackshear modeling results. He said that no nutrient standards were yet established for the lake. Phosphorus loading into lake is primarily from nonpoint sources. Lake Seminole results are similar. Seminole also has not nutrient standards yet established. Phosphorus loading to Lake Seminole is primarily from nonpoint sources. Future phosphorus increases in Seminole will be primarily point source related.

Steve summarized the proposed Florida nutrient standards and presented some potential Council considerations, including:

- Dissolved Oxygen
 - Increased flow will require increased treatment
- Lake and Watershed Modeling

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- Modeling indicates types of management practices that might be most effective in reducing nutrients
- Relative contribution of point & nonpoint sources of nutrients
- Variability in results from year to year
- Comparison with existing water quality standards
- Future Considerations
 - Expanded data collection
 - Modeling tool improvements for future updates
 - Florida nutrient standards potential impacts

Council member Brant Keller expressed concern about the Florida phosphorus standard. Council member Cliff Arnett said the Council needs a target; the modeling results do not identify any clear issues for the next ten years. He said the council may need to define short term objectives versus long-term objectives. Steve Simpson commented that there is still uncertainty regarding what the Florida nutrient standards will be after the current litigation. There is also still uncertainty regarding how U.S. Army Corps of Engineers will manage ACF lakes in the future. Council member Brant Keller said it would be hard to identify a nutrient target. He said that the Council does not have enough information to do recommend anything dramatic without clearly knowing what the target is.

Council member Cliff Arnett commented that use attainment could not be assessed based on these results. Council member Brant Keller said that nonpoint sources will be important in the future. Council member Raines Jordan said that more water quality monitoring is recommended by the council and it should be a priority. Cliff Arnett said that the results do not indicate a problem, but only show a change in condition. In closing, Steve Simpson said that the results and the council's recommendations related to the results would be discussed at the next water quality committee meeting.

Energy Forecasts Follow-up Discussion

Kristin reminded the council that they had a presentation at the last council meeting on energy section water demand forecasts. She noted that the region currently does not have any thermoelectric electricity production, but it does have hydroelectric production at Lake Blackshear. She reviewed the statewide forecasts for energy demands and related water demands.

For the region, she provided the following summary statistics:

UPPER FLINT REGIONAL ENERGY DEMAND		
	<u>2010</u>	<u>2050</u>

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OPB Population_UFL	245,827	401,059
Calculated Population Based Energy Demand_UFL (GWh)	4370	6,723
Installed Generating Capacity in the Upper Flint Region (GWh)	114	114
Note: Installed generating capacity for the Upper Flint Region includes Lake Blackshear Dam operated by the Crisp County Power Commission. Estimate represents an over-inflated value of actual achievable annual energy production (= 13 MW x 365 x 24 / 1,000 = 114 GWh)		

Kristin reminded the council that for the statewide energy demand forecasts, the location of additional capacity (beyond 2020) was not specified because it was unknown. It was estimated that this additional capacity would require consumptive water use of 170-189 mgd. She asked if the council would like to address the unallocated capacity in its plan. Members noted concern with additional water consumption in the region given the downstream gap and noted that power generation capacity would best be suited to areas that do not have surface water availability concerns. Dick Morrow said that a transition to electric car use could greatly increase the demand for electricity production in the state. *The council referred the development of wording regarding the council's position for the energy section (Section 4.4) to the Water Quantity committee. The committee will ask council member Mike Donnelly to participate in the discussion.*

Shared Resources Discussion

Kristin said that there was a need for discussion of nodes shared with the Suwannee-Satilla Council in the small area of overlap with the Suwannee Basin. Information to support this discussion is being developed, and it will be discussed at the next council meeting.

Review of Outstanding issues/Plan to Finalize WDCP May 2nd Submittal

Kristin asked the council if there were outstanding issues that would require discussion prior to finalization of the plan for May 2.

Vice-Chair Dick Morrow described a new engineering study by Griffin to dredge and raise one of the city's existing reservoirs. He said they would be pursuing state funds from GEFA for this project. He asked the Council if they would be willing to support this project. Chairman Chase said that while he supports the effort, he thought it may be in the Council's best interest to get the plan worked out and submitted before we endorse a specific project.

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Kristin reviewed a list of outstanding issues identified at today's meeting, and she identified which committees would address each issue:

Water Quality Committee: New modeling results, Use Attainment Discussion (for Section 7.4 recommendations), Georgia Forestry Commission wording (Section 7.4)

Water Quantity Committee: Shared resources discussion with Suwannee-Satilla, wording for energy section (Section 4.4)

Plan Review Committee: Wording for interstate issues recommendation (Section 7.4), management practices prioritization, review of sections 7 & 8

Kristin noted that the Division of Wildlife Resources was expected to turn in comments related to Section 3 of the plan. She would share these comments with the appropriate committee for consideration and discussion.

Kristin asked the council whether they had any issues to add to the above list. They did not.

Kristin discussed with the council the schedule from today to May 2, when the plan is due to EPD for release to public comment. One more council meeting will be held before May 2, and Kristin suggested that the council meeting be held in mid-April. After that meeting, final revisions can be made to the plan. The council can be given an opportunity to review final revisions by e-mail, and the Plan Review Committee can address any last-minute issues during that time.

Given that schedule for a council meeting, Kristin sketched out the following schedule for committee meetings:

Week of February 28th: Distribution of new draft plan; Water Quality Committee meeting

Week of March 14th: Plan Review, Water Quantity, and Water Quality Committee meetings

Week of March 28th: Committee meetings as needed

Week of April 11th/18th: Council meeting

Week of April 25th: Plan Review Committee meeting (if needed)

May 2, 2011: Submittal of Plan to EPD

After May 2, 2011, Kristin said that there will be a public comment period to review the draft regional plans from all of the councils. Tim Cash said that the length of the comment period was not yet known, but it would likely be 30-60 days. He said that EPD was working on an online tool that will be used to collect the public comments.

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Kristin asked the Council if they would like to have the changes marked in the next draft. They said that they would like only the changes made after today to be marked.

Local Elected Officials and Public Comments

There were no local elected officials or members of the public that signed up to address the council.

Wrap-Up

The Council selected the week of April 11th or April 19th to have Council Meeting 10. Lake Blackshear was suggested as a location. Kristin said she would send a scheduling survey to select the council meeting date, and she will look into the meeting location. Council members expressed an interest in holding a celebration at the next council meeting if possible.

A meeting evaluation was distributed, and the council meeting was adjourned.

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Attachment 1:
Upper Flint Water Planning Council
Council Meeting Attendance – February 7, 2011

Council Members

Clifford Arnett
Hays Arnold
Michael Bowens
Gene Brunson
Donald Chase
Raines Jordan
Frank Keller
Brant Keller

Buddy Leger
Dick Morrow
Lamar Perlis
Gary Powell
Jim Reid
Charles Rucks
Bill Sawyer
Randall Starling

Council Members Not In Attendance

Greg Barineau
Mike Beres
Tommy Burnsed
William Culpepper
Mike Donnelly
Beth English

Harold Fallin
Eddie Freeman
Jack Holbrook
George Hooks
Terrell Hudson
Lynmore James

Planning Contractors

Robert Osborne, B&V
Kristin Rowles, GWPPC

Steve Simpson, B&V
Mark Masters, GWPPC

Georgia EPD

Tim Cash, Assistant Branch Chief
Bill Morris

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UPPER FLINT WATER COUNCIL

Meeting #9, February 7, 2011

Name	Organization
Stephen Simpson	Black & Veatch
Robert Osborne	Black & Veatch
Kristin Rowles	GWPP
Bill Sawyer	Pike County -
Buddy Lagan	CRISP COUNTY
LARRY PERLIS	GA. COMM. COMMERCE
GARY POWELL	MARION COUNTY
Cliff Arnett	Columbus Water Works
Douglas Chase	Madison County
Alvin John	
Jimmy Evans	GADWR
Nancy Jones	Meriwether County
Joel Wood	Rail/State Consultant
Charles Rucks	Farm Bureau
MICHAEL BOWEN	Water Council
Bruce Kenna	GMPRII
Dick Mann	GRII
Lance Benfrow	BVRC
Mark Masters	GWJPC
Doug Wilson	"
Steve PROUD	THOMASTON
FRANK KELLER	Meriwether Co
Geese Gruber	Taylor Co
Patie Paisley	Cit Oversey
Ken Murphree	GFIR

Upper Flint- Water Planning Region



To: Upper Flint Water Planning Council

From: Kristin Rowles, GWPPC

cc: Tim Cash, Assistant Branch Chief, GAEPD

Subject: Meeting Summary: Upper Flint Water Quantity Committee Conference Call
March 23, 2011

This committee meeting was by conference call on March 23, at 2:00pm. The following council members participated: Cliff Arnett, Dick Morrow, Lamar Perlis, Buddy Leger, Mike Donnelly, and Willard Brunson. Also present were Kristin Rowles and Mark Masters (GWPPC) and Bill Morris (GAEPD).

The meeting agenda and materials are attached to this summary.

Wording for Energy Section (Section 4.4)

The meeting began with a discussion of the Energy Sector water demand forecasts. Kristin reminded the committee that at the last council meeting the council had referred the issue of whether and how to address future thermoelectric power production in the region to this committee. The water demand forecasts for thermoelectric power production include unallocated production capacity at the statewide level. This unallocated amount will require 313-346 MGD of water use (170-189 MGD of consumptive water use). At the council meeting, some council members wanted to add a statement to Section 4.4 about not taking on future production capacity in this region due to flow shortfalls. Others did not wish to make such a statement.

Cliff Arnett said that he did not want to specifically address future possible electrical generation capacity in the region. He suggested that the plan should say that any decision to locate any type of industry in the region that requires substantial amounts of water should include an evaluation of available water supply. Other committee members agreed that this would be a preferred approach. Mike Donnelly said that Georgia Power always considers available water supply in its siting decisions.

Dick Morrow suggested adding a sentence at the end of Section 4.4 to state that permitting for any new power plant or other water-using industry should include an evaluation to determine if an adequate and sustainable water supply is available. The

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committee members agreed. Cliff Arnett asked Kristin to draft language to reflect Morrow's suggestion and share it with the committee.

Shared Resources – Suwannee-Satilla

Kristin referred to sections of the plan where references are made to water resources shared with the Suwannee-Satilla Council. Kristin explained that the planning contractor from the Suwannee-Satilla Council had coordinated with Kristin and the Black & Veatch team to address a flow shortfall at the Alapaha node in the Suwannee. The Upper Flint Council has indicated that its management practices are intended to be implemented across the whole region including parts of the region in the Suwannee Basin, and therefore, the Council does include actions in its plan to address the Alapaha shortfall as well as the shortfall in the Flint. Kristin said that she wanted to draw the committee's attention to these parts of the plan so that they could see how coordination between the two councils is noted. The Suwannee-Satilla plan includes references to the Upper Flint plan. It was noted that the overlap with the Suwannee Basin occurs in a small part of Crisp and Dooly Counties. The committee members voiced their approval for this approach on coordination with the Suwannee-Satilla Council on the Alapaha node.

New Groundwater Results

Kristin referred the committee to the recalibrated groundwater sustainable yield results for the Claiborne and Cretaceous aquifers. When the models were updated with more recent use information, they were recalibrated, and the resulting sustainable yields increased. Kristin referred to tables 3-1 and 5-1, which include these new results. The committee had several questions about the explanation of the results on page 3-7. They asked for Kristin to clarify this explanation to better address the meaning of the results for the Claiborne and Floridan aquifers. Kristin will draft modifications to this section to clarify the explanations and to answer committee members' questions. She will share the suggested modifications with the committee members.

General Review of March Review Draft/Discussion of Outstanding Issues

Kristin reminded the committee of the schedule to finish the plan for the May 2nd submittal to EPD. She asked if the committee had other issues to address before the April 14th Council meeting:

- Lamar Perlis asked about the discussion regarding the implications of closing the gap on page 6-10. He had concerns about how this was presented and felt the language sounded drastic. Other members addressed the need for this explanation. Cliff Arnett suggested deleting "without a better understanding of the implication of the gaps" in the sentence that begins "Such drastic action...". He suggested that this would make clear that the

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council was not advocating for such action. The committee members agreed with this suggestion.

- Dick Morrow said that he felt he needed more time to review the final sections of the document. He suggested returning to discussion of Sections 6, 7, and 8 at the next committee conference call (to be held before the April 14th Council meeting). Other members agreed.
- Lamar Perlis expressed concern that the recommendation for a reservoir was not stated strongly enough in the plan. The committee discussed this concern. They noted the need for study. They also noted that in the new draft, management practice SF5 is marked as a “high priority practice”. Cliff Arnett suggested making SF5 the first management practice in its section (i.e., make it SF1). Kristin said that in the discussion of the reservoir model run on page 6-10, a reference to the management practice could be added to make clear the council’s recommendation. The committee agreed to these changes.
- Cliff Arnett asked that Kristin share with the committee the materials from a recent Lower Flint-Ochlockonee Water Quantity Committee meeting in order to review how that committee was addressing the issue of the presentation of the gap in its plan. The committee can discuss this at its next meeting.

Wrap-Up

Kristin will prepare suggestions for plan modifications based on the committee’s decisions today. She will schedule a committee meeting (by conference call) to precede the next Council meeting. Kristin thanked the committee for their time, and the meeting was adjourned.

Suggested Plan Language to Address UF Water Quantity Decisions in March 23, 2011 Conference Call

Section 3.1.1 Groundwater Availability

The committee recommended multiple changes to this section. I have cut and paste the whole section (excluding Table 3-1) with modifications to address committee concerns. Changes are not marked due to the abundance of changes in this section:

The groundwater availability assessment estimated the sustainable yield for prioritized groundwater resources based on existing data. EPD prioritized the aquifers based on the characteristics of the aquifer, evidence of negative effects, anticipated negative impacts and other considerations.

The sustainable yields calculated by the groundwater availability assessment model estimated the volume of groundwater that can be used without causing adverse impacts, including: limiting use of neighboring wells (drawdown), reducing flow in nearby streams (base flow), and permanent reduction of aquifer levels. Sustainable yield estimates were determined by simulating withdrawals from existing wells and, where applicable, hypothetical new wells. Aquifer use was evaluated by the model against various threshold levels that defined unacceptable impacts. Model results are shown in Table 3-1. The sustainable yield results in Table 3-1 indicate the levels of use at which a threshold indicating an adverse impact threshold was exceeded. Sustainable yield was estimated as a range for each aquifer due to multiple model runs based on different assumptions about aquifer use. These assumptions varied for different aquifers.

In Table 3-1, current aquifer use levels are given for comparison to the sustainable yield results. Current aquifer use is expressed as a range; the range reflects variation in agricultural use of the aquifer. The lower end of the range represents use levels when agricultural use is moderate (average year), and the upper end represents use levels when agricultural use is high (dry year).

The Upper Flint Region includes the Cretaceous, the South-Central Georgia Upper Floridan, and Piedmont crystalline rock aquifers and small portions of the Claiborne and Upper Floridan (Dougherty Plain) aquifers.¹ The area of the Piedmont crystalline rock aquifers assessed did not fall within the Upper Flint Region. For the Cretaceous aquifer, in the Upper Flint Region, only the portion of the aquifer in Crisp County, Dooly County, and the eastern half of Macon County was included in the assessment; other parts of the Cretaceous in the Upper Flint Region were not assessed. The results in Table 3-1 indicate that in two aquifers, current use is within or above the sustainable yield range: Claiborne and Upper Floridan (Dougherty Plain).

¹ A map of the assessed aquifers is included in the supplemental materials provided on the Upper Flint Council's website: http://www.upperflint.org/pages/our_plan/index.php

As noted above, only a small portion of the Claiborne is located in the Upper Flint Region. The assessment model results show that estimated current use of the Claiborne during dry years (when use levels are high) exceeds the lower end of the sustainable yield range. The sustainable yield results for this aquifer are expressed as a range due to two different model scenarios with different assumptions about groundwater use. The lower end of the range is defined based on an assumption that groundwater use will increase uniformly across the aquifer from existing well locations. The upper end of the range is defined based on an assumption that groundwater use will increase in a non-uniform manner geographically. The non-uniform assumption allows for greater use because withdrawals can be held constant in some areas while increasing in others where impacts on the aquifer are less severe. At this time, use of the Claiborne slightly exceeds the lower end of the sustainable yield range, but is well below the upper end of the sustainable yield range. The model results indicate that adverse impacts on this aquifer are dependent upon the location of withdrawals. The results show that some areas of the aquifer have substantial amounts of water that can be used sustainably, while other parts show potential adverse impacts of use. These results indicate the need for caution in the management of withdrawals from this aquifer and the need for more specific analysis, based on the location of withdrawals, directed at preventing future adverse impacts.

As noted above, the sustainable yield results estimate the volume of groundwater that can be used without causing adverse impacts. In the model, increasing levels of use were evaluated against various threshold levels that defined an unacceptable level of impact. While most of the impacts evaluated related to the health of the aquifer directly, the impact on surface water flows was also evaluated where interconnection between surface water and groundwater is present. In the case of the Upper Floridan aquifer in the Dougherty Plain, the sustainable yield results were defined by the modeled impact of groundwater withdrawals on surface water flows. In the resource assessment model runs for this aquifer, adverse impacts on surface water flows were observed when impacts on the aquifer itself were minimal (i.e., drawdown of the aquifer was less than five feet at modeled use levels). Therefore, the results for this aquifer relate closely to those observed in the surface water availability assessment at the Bainbridge node. ²

² The sustainable yield results for the Upper Floridan in the Dougherty Plain are expressed as a range as a result of two different model scenarios involving two different assumptions about increases in pumping from one hydrologic unit (HUC 03130004), which crosses state lines into Florida and Alabama. For more information on the groundwater resource assessment results, see the March 2010 Synopsis Report: Groundwater Availability Assessment available on the EPD water planning website at: <http://www.georgiawaterplanning.org/news/DraftWaterResourceAssessmentsforReviewandComment.php>

Section 4.4 Thermoelectric Power Production Water Demand Forecasts

The committee recommended adding a new sentence at the end of the 2nd paragraph of Section 4.4, as follows:

Statewide, the forecasts for this sector also projected water demand associated with future power production that is not currently allocated to a specific water planning region, because it is uncertain where this production capacity will be located in the state. For 2050, the forecasts projected that thermoelectric power production will require 313-346 MGD (170-189 MGD of consumptive use) statewide that is not currently allocated to specific regions. This additional production will require water supply wherever it is ultimately located. The Upper Flint Council recommends that as a part of water withdrawal permitting decisions for new thermoelectric power production or any other water using industry, a thorough evaluation should be conducted to determine if an adequate and sustainable water supply is available to meet the demands of the new permittee.

Section 6.2: Selected Water Management Practices for the Upper Flint Region

The committee recommends the following changes in this section:

- Change the order of the management practices in the Supply Management and Flow Augmentation Section so that the high priority management practice regarding storage, currently SF5, is listed first as SF1. (It was also suggested that each high priority management practices be listed as the first practice in its respective section.)
- In the discussion about the model run to estimate storage needs to offset the gap, add a footnote at the end of the first paragraph on page 6-10 referencing the Council's recommended storage management practice, as follows:

The Council urges implementation of management practice SF5 (SF1) in this plan. The Council has ranked this management practice as one of its highest priorities. This management practice calls for the evaluation of storage options in the Upper Flint Region to provide for supply and flow augmentation in dry periods.

- In the 3rd paragraph on page 6-10, the committee recommended changing the following sentence: "Such drastic action is not justified without a better understanding of the implications of the gaps." The modified sentence would read: "Such drastic action is not justified."

To: Upper Flint Water Planning Council

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

cc: Tim Cash, Assistant Branch Chief, GAEPD

Subject: Meeting Summary: Upper Flint Water Quality Committee Meeting March 7, 2011

Attending: Cliff Arnett, Raines Jordan, Brant Keller, Frank Keller, Joel Wood, Tim Cash (GAEPD), Kristin Rowles (GWPPC), Mark Masters (GWPPC), Steve Simpson (B&V)

Section 7.4

First, the committee considered language addressing the need for better baseline information on the implementation of Best Management Practices (BMPs) in the agricultural sector. At the last council meeting, the Council considered the following proposed language:

Assess baseline implementation of water conservation and water quality Best Management Practices by agricultural producers. The lack of information on current levels of implementation limits the ability of conduct effective regional water planning. The Georgia Forestry Commission currently conducts a field survey program to evaluate the extent of BMP implementation by forestry operations. The results of this survey demonstrate a high level of BMP implementation in the forestry sector. For agriculture, a similar evaluation would document baseline levels of implementation, track implementation progress, and support future targeting of BMP programs.

Council members expressed concern about singling out the Georgia Forestry Commission program and not addressing the existence of programs that measure BMP implementation in the agricultural sector. They referred the language for this recommendation back to the committee for further modification.

The committee discussed the council's concerns. Joel Wood noted the existing state and federal programs that evaluate BMP use for agriculture and the value of the Georgia Forestry Commission program. He also noted that it is much more

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difficult to comprehensively survey BMP use in agriculture versus forestry due to the size of the sector and the variety of BMPs used.

After further discussion, Kristin summarized that the modified language needed to address: existing state and federal programs to evaluate agricultural BMP use, the need for comprehensive baseline information on agricultural BMP use, and the forestry BMP survey as an example (without singling out the Georgia Forestry Commission). She will draft modified language and share it with the committee members.

Next, the committee discussed concerns raised at the last council meeting about water quality use designations. Cliff Arnett and Brant Keller presented their concerns that existing use designations often cannot be met, especially during extreme flow events (low or high). They said that in many cases that current use designations are not met and cannot be met. They noted that if the use designations are not properly assigned, then water quality performance criteria are inaccurate. As a result, we may set targets based on conditions that are not actual, and we may select or prioritize practices incorrectly to address actual conditions.

Kristin asked the committee to try to specify their concerns as a recommendation or management practice. After further discussion, they agreed that it was an information need for Section 7.4. The recommendation should state that as a part of the Triennial Review of water quality standards, streams in the region should be evaluated to determine if their use designations are properly assigned and whether the reach is meeting its designated use. If not, a use attainability analysis for that particular stream segment should be conducted.

Kristin asked the committee to try to put this recommendation in the context of the council's vision and goals. After some discussion, it was noted that the setting of proper performance criteria is central to water resource education and management.

Kristin offered to draft language to reflect the committee's decisions and to send it to the group.

New Water Quality Model Results

Kristin referred the committee to the new water quality modeling results that were discussed at the last committee meeting and at the council meeting. She asked the committee for their reactions and whether changes were needed in the plan to address the new results.

Raines Jordan said that the new results highlighted the need for more information to support better management. The plan currently makes several recommendations about the need for better information, and this emphasis should be strong in the plan.

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Cliff Arnett asked for further explanation as to why future nutrient loading increases in Lake Seminole were expected to be primarily point source related, given the prevalence of agricultural land use in that region. He said that the results should be clearly noted as the results of the model. Kristin and Steve explained that the model results projected future point and nonpoint source nutrient loads based on the wastewater forecasts, land use change projections, and assumed nutrient standards.

Arnett questioned the accuracy of the land use projections and model results. He said that the plan recommendation about the need to use more actual information (instead of modeled or assumed conditions) should address the water quality as well as the water quantity assessments. The committee emphasized that the resource assessments need to be dynamic; they need to be updated to reflect new information as it becomes available.

Kristin said that she would draft language to address the concerns raised in the discussion regarding the need for improved information and the use of that information in future rounds of the planning process. She will share this draft language with the committee.

319 Grant Proposal

Kristin said that the Two Rivers RC&D Council might have a 319 grant program proposal for which they will seek the Council's support, but at this time, a proposal is not yet available for consideration. She said that the proposal is expected to request funding for the Better Back Roads program in the region. She will share information when it becomes available. If a proposal is available, the Council can offer its support, which will make the project eligible for a pool of 319 funding set aside for projects supported by the regional water councils. The Council can express its support in a letter to EPD, and it may also be necessary to specifically list the project in the Council's plan. EPD will advise on how this needs to be handled. It is possible that the Georgia Soil and Water Conservation Commission might also have a proposal for consideration by the Council. Bill Morris (EPD) is checking into this possibility.

Brant Keller asked if the Council's support for another organization's 319 proposal would be advisable if the Council hopes to exist as an entity that could prepare its own 319 proposals in the future. Kristin said that the current 319 set-aside for council-related projects was time-limited.

Outstanding Issues and Next Steps

Kristin asked the committee if they had any outstanding concerns that should be discussed before the April Council meeting. She emphasized that this would be the conclusion of the committee's work in advance the May 2nd deadline for submittal of the plan to EPD and that any outstanding issues needed to be addressed as soon as possible. The committee did not identify any further issues for consideration.

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Last, Kristin suggested that the committee hold a meeting in early April to provide for a final review by the committee of sections of the plan related to the committee's focus. The committee agreed this was a good idea. **The meeting is tentatively set for April 7th at 1 pm by conference call.** Kristin thanked the committee for their time and input, and the meeting was adjourned.

Follow-up: Suggested Plan Revision Based on 3-7-2011 Meeting

All of the plan revisions suggested below concern Section 7.4: Recommendations to the State (see Page 7-13 of the March 8th draft):

1. Modify the introductory paragraph under Information Needs as follows:

Fulfillment of the following information needs would support improved water resources management and future water planning. Implementation of research and assessments to fill these needs will require funding (state, federal, other). Implementing agencies are not indicated here; if funding is identified, qualified researchers from state universities, institutions, and agencies, as well as private sector firms, can fulfill these information needs. As new information becomes available, it should be incorporated into future cycles of this regional water planning process, and the resource assessment models should be modified to reflect up-to-date information as it is developed.

2. Modify language under Information Needs regarding survey on baseline agricultural BMP implementation:
 - Conduct a comprehensive assessment of baseline implementation of water conservation and water quality Best Management Practices (BMPs) by agricultural producers. The Council recognizes that state and federal agencies have existing programs that measure BMP implementation, but at this time, a comprehensive baseline assessment is lacking. A comprehensive field survey of BMP implementation, such as the one conducted periodically by the forestry industry, would support estimation of potential benefits of future implementation, tracking of implementation progress, and BMP prioritization.

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3. Add a new bullet point under Information Needs regarding use designation:
 - Evaluate the use designations assigned to stream reaches in the Upper Flint region as a part of the Triennial Review of Georgia Water Quality Standards. This review is intended to ensure that water quality performance criteria reflect actual conditions, in terms of both use and quality.

EXECUTIVE SUMMARY

PROJECT TITLE: Georgia Better Back Roads Sediment Reduction Project

INTRODUCTION

Many watersheds in Georgia are impaired due to sediments leaving dirt and gravel roads. In Georgia, there are more than 30,000 miles of county maintained unpaved roads. Many of these roads lose in excess of eighteen (18) tons of soil each year. Many are impassible after heavy rains and adversely impact area streams and lakes. The purpose of this \$100,000 funding request is to reduce sediment loading from dirt and gravel roads primarily in TMDL listed streams and to train county officials responsible for maintaining these roads.

Project activities can be categorized into two groups: 1) BMP treatments of impaired watersheds and 2) statewide educational outreach efforts for county officials charged with maintaining dirt and gravel roads. Multiple sub-watersheds within the Upper Flint River Watershed will be identified by committee members and ranked according to treatment needs and costs. Site selection criteria will also include unpaved roads with stream crossings, unpaved roads in close proximity to state waters and other eroding roads directly upstream. Implementation includes both structural and non-structural BMPs. The USDA Natural Resources Conservation Service (NRCS) will serve as the primary technical resource. The final activity will consist of two (2) statewide Dirt and Gravel Roads Workshops for county officials and their staff.

Targeted accomplishments will include ten (10) Cooperative Working Agreements with participating county governments, ten (10) site visits with county officials interested in adopting BMPs, ten (10) sediment load reduction calculations, forty-five (45) BMPs installed, forty (40) digital photos of treatment sites and two (2) statewide Georgia Better Back Roads Sediment Reduction Workshops.

This proposal will be completed in partnership with a committee comprised of representatives from the Association of County Commissioners of Georgia, the Georgia American Public Works Association, the Georgia Chapter of the American Public Works Association, the Georgia Department of Transportation, the Georgia Environmental Protection Division, the Georgia Forestry Commission, the Georgia Soil and Water Conservation Commission, the US Fish and Wildlife Service and the USDA Natural Resources Conservation Service.

PROJECT OBJECTIVES, GOALS AND ACTIVITIES

Specific Project Objectives

- Restore impaired waters to meet designated use standards by implementing best management practices that reduce road sediments.

Specific Project Activities

- Draft Cooperative Working Agreements for participating county governments
- Rank site selection treatments
- Implement structural and non-structural BMPs
- Conduct Road Sediment Reduction Workshops

Specific Outputs

- Ten (10) Cooperative Working Agreements with participating county governments
- Ten (10) site visits with county officials interested in project participation
- Ten (10) sediment load reduction calculations (Attachment 1)
- Forty-five (45) BMPs installed
- Forty (40) digital project photos of treatments and BMPs
- Two (2) statewide Georgia Better Back Roads Sediment Reduction Workshops
- Ten (10) TMDL implementation site tours with county officials
- Four (4) Semi-annual progress reports for the USEPA Grants Reporting Tracking System (GRTS)
- Two (2) hard copies and an electronic copy of a Final Project Close-Out Report to the GAEPD and USEPA for review and approval

SUPPLEMENTAL INFORMATION

- BMP installations included structural and non-structural practices. Structural practices include grading, shaping and crowning of road surfaces along with modifying drainage ditch contours and outlets. Additionally, other permanent structures such as drop inlets, rock-lined drainage outlets, culverts, sediment retention basins, check dams, stone aggregate and the use of geotextiles were used to achieve adequate sediment reduction. Non-structural best management practices include filter strips, vegetative plantings, hydro-seeding and mulching to trap, filter and hold sediments leaving road shoulders, banks and ditches.
- Before/After Site Photo
- Sediment Load Reduction Calculations

PUBLIC INVOLVEMENT AND COORDINATION

STATE AGENCIES

- The Georgia Department of Transportation
- The Georgia Environmental Protection Division
- The Georgia Soil and Water Conservation Commission

FEDERAL AGENCIES

- The US Army Corps of Engineers
- The USDA Natural Resources Conservation Service
- The US Fish and Wildlife Service

LOCAL GOVERNMENTS, INDUSTRY ENVIRONMENTAL AND OTHER GROUPS, PUBLIC AT LARGE

- The Upper Flint Water Council
- Georgia Chapter of the American Public Works Association
- The Georgia Resource Conservation and Development Council, Inc.
- The Association of County Commissions of Georgia

OTHER SOURCES OF FUNDING

- Ten (10) county governments that will provide cash and in-kind contributions.

To: Upper Flint Water Planning Council

From: Kristin Rowles, GWPPC, S.L. Simpson, Black & Veatch

cc: Tim Cash, Assistant Branch Chief, GAEPD

Subject: Meeting Summary: Upper Flint Plan Review Committee Conference Call
March 29, 2011

This committee meeting was by conference call on March 29, 2011 at 2:00pm. The following committee members participated: Donald Chase, Dick Morrow, Cliff Arnett, and Raines Jordan. Also present were Kristin Rowles (GWPPC), Steve Simpson (B&V), Mark Masters (GWPPC), and Bill Morris (GAEPD).

The committee followed the attached agenda materials.

Management Practices Prioritization

Kristin asked the committee for comments on how the management practice priorities were indicated in the draft plan. She said that the Water Quantity Committee has suggested that the order of each section of management practices be changed so that the priority management practices are listed first in their sections. The committee members agreed with this suggestion.

Section 7.4 Recommendation on Interstate Issues

Kristin asked the committee for their comments on the final recommendation under Water Policy Recommendations (Section 7.4, page 7-16). This recommendation addresses interstate water issues and recommends the creation of an interstate compact. Kristin asked whether this recommendation reflected the council's intent. She noted that it had come from the Middle Chattahoochee plan based on the council's request that it be added to the Upper Flint draft plan for consideration at an earlier council meeting.

Cliff Arnett said he did not support an interstate compact, but said that the council should be a part of any future such interstate arrangement. Dick Morrow said that he supports an interstate compact or similar arrangement, and he thinks that there is value in listing examples of interstate coordination in the plan to provide examples of success elsewhere. Donald Chase said that he does not support an inter-state compact; he does agree with the statement regarding timely resolution of the tri-state litigation. Furthermore, he agrees that the council needs to be a part of a compact if one is created. Raines Jordan said that we do need a framework to work together across state boundaries on water issues in the

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future. Donald Chase expressed his concern that Alabama and Florida now hold substantial power in the interstate litigation, and he did not want to endorse interstate management until we know what settlement of the litigation will look like.

Kristin said that it sounds like the existing recommendation does not match the council's interests. She suggested that Cliff and Raines work together on draft revisions to this recommendation to be shared with the rest of the committee in advance of the council meeting. She suggested that they also consider revisions to the preceding recommendation. Combining and revising the two recommendations might be a way to address the committee's concerns.

Section 7 & 8

Kristin asked the committee for comments on Sections 7 & 8. She had asked the committee to review these sections, in which there have been substantial modifications. Cliff Arnett asked about new material at the bottom of 7-16. These are the joint recommendations with the neighboring councils. It was noted that page 7-17 was missing from the review draft document. Kristin will send the missing page.

Section 8.3 concerns future plan amendments. Committee members would like to see this section revised to emphasize the importance of continuing the council's work. Cliff Arnett said that the Council's need adequate funding (similar to the Metro District) in order to provide for adaptive management. Dick said that the local input and consensus basis of the regional planning process made it valuable, and these characteristics should be noted. Donald Chase agreed that this section needed to be clear that the council should be involved in future plan amendments. They requested modifications to Section 8.3 to reflect their comments and a reference in this section to the council's recommendation for continuation of the councils in Section 7.4. The committee also suggested that this emphasis be added to the last paragraph of the plan (page 8-6). Kristin will draft these revisions and share them with the committee.

Wildlife Resources Division Comments on Section 3

Kristin said that the GA Wildlife Resources Division submitted detailed comments on Section 3.3. They were included in the meeting materials sent to the committee. Steve Simpson reported how the Middle Chattahoochee Plan Review Committee had addressed these comments the day before: Much of the detail in the comments will be moved to the supplemental materials. Position statements will not be incorporated. Brief and general discussion based on the comments and reference to the detailed information will be added to the document. The UF committee agreed with this approach. Committee members expressed concern over some position statements in the comments. Kristin and Steve will draft the revisions. The Water Quality Committee will review them at its meeting next week.

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Outstanding Issues and Finalizing the Plan

Kristin said that the council will be seeking to adopt the plan for submittal to EPD at the April 14th council meeting. Dick Morrow suggested that the plan revisions (approved and recommendations to the council from the committees) be made to the plans and distributed with no mark-ups to the council in advance of the April 14th meeting. Kristin said that the advantage of a non-mark-up version would be to encourage complete review of the plan. The committee reports will draw attention to specific areas where council discussion is needed on April 14th. The committee agreed to this approach.

Kristin said that she would be scheduling a Plan Review Committee meeting for after the April 14th council meeting in case there was a need for wrap-up work by the committee on the plan prior to submittal to EPD.

Kristin asked the committee to look at her margin comment on page 6-9. She asked whether management practice WQ5 would be more appropriate as a recommendation to the state (Section 7.4) since it concerns all areas of water management, not just water quality. The committee agreed to this modification.

Kristin asked the committee if they had any other issues that they wished to raise, with the knowledge that this was the last committee meeting before the April 14th council meeting, at which the council would decide on the plan to submit to EPD. Cliff Arnett asked about the issue raised in the Water Quantity Committee concerning the strength of plan language on the need for storage and on the issue of gap closure, especially on page 6-10 and in management practice SF5 (page 6-7). This issue will be addressed by the Water Quantity Committee in its April 12 conference call. Cliff will draft modifications to suggest to the committee for consideration. He will work with Kristin on preparing these and distributing them to the committee.

Kristin will prepare suggested revisions for the council based on today's discussions in the committee. She asked the committee members to note any concerns or questions about the revisions before the council meeting. Kristin thanked the committee for their time. The meeting was adjourned.

Kristin Rowles

From: Kristin Rowles
Sent: Thursday, March 24, 2011 10:39 AM
To:

Attachments: UF Plan Review Committee: Materials for 3/29 Meeting
20110211_UpperFLI_WRD_Section3comments.doc

UF Plan Review Committee:

As noted in my earlier message, the Plan Review Committee will meet by conference call on Tuesday, March 29th at 2pm. Call-in information:

Dial: 877.603.8688
Conf ID: 1330060

The agenda will include the following items:

1. Management practices prioritization
 - o Please review Table 6-1 for how the priority management practices are noted.
2. Section 7.4 recommendation on interstate issues
 - o Please review page 7-16. I have included an excerpt from the Council's Feb 7th meeting summary below that describes the issue to be discussed here.
3. Review of Sections 7 & 8
 - o Significant changes have been made to these sections. Please review and bring suggestions for modifications to the meeting.
4. Wildlife Resources Division comments on Section 3
 - o The Georgia Wildlife Resource Division submitted comments on Section 3 (attached to this e-mail). Please review. We will discuss how to address these.
5. Discussion of outstanding issues and finalizing the plan

Discussion will be based on the March 8 draft. If you cannot find this document, let me know and I will send it.

Please let me know if you have any questions.

Kristin

Excerpt from UF Council Feb 7th Meeting Summary Regarding Recommendation on Interstate Issues in Section 7-4:

Next, the committee's recommendation concerned the last bullet point under Water Policy Recommendations in Section 7.4 was discussed. The committee suggested the following modified language to emphasize that the recommendation related to resolution of the ACF tri-state water litigation:

- *The Council supports timely settlement of the interstate water litigation in the ACF. The Council recommends that the General Assembly and other state policymakers should consider the development of an interstate compact for the ACF Basin. If any regional management institutions are created in the Basin, they would need the capacity to operate as a part of that compact. The Council recognizes the examples of the Great Lakes Basin Compact, several of the Texas river basin compacts (i.e. Sabine River Compact Commission) and other successful stakeholder led water councils managing large river basins that cross geopolitical boundaries such as the Fraser River Basin Council (British Columbia, Canada). Collective legislative action involving Georgia, Alabama, and Florida would be needed to develop such a compact.*

The Council discussed the recommendation. Kristin said that she had imported this recommendation and the one above with slight modifications from the Middle Chattahoochee plan, after discussion of this issue at the last council meeting. The Council had asked Kristin to use the Middle Chattahoochee recommendations on this topic for develop draft lanaguage for their plan. She asked the council whether the part of the recommendation regarding an inter-state compact met their interests. It was suggested that if an compact were developed, the regional councils would need to be parties to that compact and not just having “the capacity to operate as a part of that compact.” While some liked the specific examples of other inter-state compacts, others did not want to specifically endorse those compacts. ***It was decided to refer this recommendation back to the Plan Review Committee for further discussion and the development of a recommendation for the council.***

Kristin Rowles
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krowles@h2opolicycenter.org
Georgia Water Planning and Policy Center
www.h2opolicycenter.org

3.3. Ecosystem Conditions and Instream Uses

3.3.1. 303(d) list and TMDLs

The state of Georgia assesses its water bodies for compliance with water quality standards, as required by the federal Clean Water Act (CWA). Waters of the state are monitored by GAEPD, USGS, and other local authorities contracted by GAEPD. If an assessed water body is found not to meet standards, then it is considered “not supporting” its designated uses and it is included on a list of impaired waters. Impairments must be addressed through the development of a Total Maximum Daily Load (TMDL), which sets a pollutant budget and outlines a strategy for corrective action. Several stream reaches in the Upper Flint water planning region are on the state’s list of impaired waters. A summary of impaired waters in the region is provided in Table 3-2.¹⁰

¹⁰ A more complete list of impaired waters in the region is available in the supplemental materials provided on the Upper Flint Water Planning Council website: http://www.upperflint.org/pages/our_plan/index.php

Table 3-2: Summary of Impaired Waters in Upper Flint Water Planning Region. *Maybe the title of this table should be “Summary of Impaired Stream Miles in ...” to clarify that the numbers throughout the table represent numbers of stream miles rather than numbers of violations. The total number of stream miles assessed in the region should also be included. You might also consider a map of impaired streams to accompany Table 3-2.*

3.2-3.2. ~~Wildlife and Fisheries Conservation Resources~~

In 2005, Georgia’s Wildlife Resources Division (WRD) published *A Comprehensive Wildlife Conservation Strategy for Georgia*, which outlines a plan “to conserve Georgia’s animals, plants, and natural habitats through proactive measures emphasizing voluntary and incentive-based programs on private lands, habitat restoration and management by public agencies and private conservation organizations, rare species survey and recovery efforts, and environmental education and public outreach activities.” The strategy divides the state into several ecoregions, and the Upper Flint water planning region includes portions in both the southeastern plains and the piedmont ecoregions. *It is probably more important for readers to know the numbers of high priority plant, animals, and habitats that are specifically found in their planning region. These data are available by COUNTY from WRD at <http://www.georgiawildlife.com/node/1370>. Because this information is available by county, it can be used to clarify the numbers in this paragraph to include only species and habitats found in this planning region. You may want to narrow them down to animals, or expand them to include high priority plants. There’s a lot of flexibility, but the point is that the information can be tailored to the Upper Flint water planning region. Another option is to use the table below, which our Nongame folks produced for you. This table narrows the information down to only aquatic species that are listed by the state or federal government in the upper Flint planning region. Each common name in the table should be hyperlinked to a species account on the WRD [protected species account webpage](#). ~~In the southeastern plains, a total of 85 high priority animal species, 145 high priority plants species, and 27 high priority habitat types were identified; in the piedmont, a total of 55 high priority animal species, 71 high priority plants species, and 16 high priority habitat types were identified. Detailed listings of critical species and habitats are available through the Georgia Department of Natural Resources.~~*

TableX. *State and federally listed aquatic species known from the upper Flint River water planning region. The lined pocketbook is not state or federally listed because it is considered extinct. It was last collected in the Upper Flint River in the vicinity of Thomaston in approximately 1974, but unknown populations could still exist. The Nongame Conservation*

GA DWR Comments on Section 3 of UF Plan

Section (Wildlife Resources Division, Department of Natural Resources) should be contacted for additional information on rare aquatic species.

Scientific Name	Common Name	Federal Status	State Status	Group	Comment
<i>Acipenser oxyrinchus desotoi</i>	Gulf Sturgeon	T		Fishes	Extirpated
<i>Ameiurus serracanthus</i>	Spotted Bullhead		R	Fishes	
<i>Cyprinella callitaenia</i>	Bluestripe Shiner		R	Fishes	
<i>Cyprinella xaenura</i>	Altamaha Shiner		T	Fishes	
<i>Etheostoma parvipinne</i>	Goldstripe Darter		R	Fishes	
<i>Notropis hypsilepis</i>	Highscale Shiner		R	Fishes	
<i>Percina crypta</i>	Halloween Darter		T	Fishes	
<i>Pteronotropis euryzonus</i>	Broadstripe Shiner		R	Fishes	
<i>Pteronotropis welaka</i>	Bluenose Shiner		T	Fishes	
<i>Alasmidonta triangulata</i>	Southern Elktoe		E	Invertebrates	
<i>Amblema neislerii</i>	Fat Threeridge	LE	E	Invertebrates	
<i>Anodonta heardi</i>	Apalachicola Floater		R	Invertebrates	
<i>Anodontoides radiatus</i>	Rayed Creekshell		T	Invertebrates	
<i>Cambarus harti</i>	Piedmont Blue Burrower		E	Invertebrates	
<i>Elliptio arctata</i>	Delicate Spike		E	Invertebrates	
<i>Elliptio purpurella</i>	Inflated Spike		T	Invertebrates	
<i>Elliptioideus sloatianus</i>	Purple Bankclimber	LT	T	Invertebrates	
<i>Hamiota subangulata</i>	Shinyrayed Pocketbook	LE	E	Invertebrates	
<i>Lampsilis binominata</i>	Lined Pocketbook			Invertebrates	Extinct
<i>Medionidus penicillatus</i>	Gulf Moccasinshell	LE	E	Invertebrates	
<i>Pleurobema pyriforme</i>	Oval Pigtoe	LE	E	Invertebrates	
<i>Procambarus gibbus</i>	Muckalee Crayfish		T	Invertebrates	
<i>Procambarus versutus</i>	Sly Crayfish		R	Invertebrates	
<i>Graptemys barbouri</i>	Barbour's Map Turtle		T	Reptiles	
<i>Macrochelys temminckii</i>	Alligator Snapping Turtle		T	Reptiles	
<i>Hymenocallis coronaria</i>	Shoals Spiderlily		T	Vascular Plants	

The upper Flint River is critical to the conservation of aquatic species and includes the best remaining populations of southern elktoe, purple bankclimber, and bluestripe shiner. The planning region also contains several river reaches that have been designated by the U.S. Fish and Wildlife Service as critical habitat for federally protected mussels (if you'd like to include the link to their critical habitat website, it's: <http://www.fws.gov/endangered/what-we-do/critical-habitats.html>).

A map of high priority waters showing high priority streams, high priority watersheds, conservation lands, and county boundaries should be included here with a link to WRD's high priority waters page (<http://www.georgiawildlife.com/node/1377>). GIS layers of high priority waters and DNR conservation lands can be accessed from this link. A table of high priority waters could be included instead of, or in addition to, the map (available by water body in Excel at the high priority waters site).

3.2 3.3. Recreational Resources

The Flint River provides an opportunity to combine fishing with an experience of natural beauty that few rivers in the Southeast can surpass, and only a short drive from Atlanta, Macon, or Columbus. The Scenic Rivers report of 1970 stated “The upper portion of the Flint River is undoubtedly the most picturesque stream in the Georgia Piedmont.” The Flint River is one of only 40 rivers left in the United States that flows for more than 200 miles unimpounded, and the upper sections, composed of alternating shoals and flatwater reaches, are especially suited to the canoe and kayak float trips that are increasingly popular with all age groups. This section is ideally suited for the future development of a canoe trail.

~~The Upper Flint water planning region provides boaters, fishermen, and other outdoor enthusiasts with a diverse and easily accessible river environment. Near the fall line, the river provides a scenic area for canoeists and kayakers. Below the Fall Line, Lake Blackshear and the Flint River offers additional boating and fishing opportunities in addition to the camping, hunting, and hiking trails that are recreational options across the region. The Department of Natural Resources manages State Parks and Historic Sites, Public Fishing Areas, and Wildlife Management Areas throughout the Upper Flint water planning region.~~

The upper Flint River contains perhaps the largest existing population of shoal bass, an especially popular sport fish found only in the Apalachicola-Chattahoochee-Flint river system. Large shoal complexes along the 60-river mile section of the Flint River between Pike and Crawford counties typify preferred shoal bass habitat. Fisheries biologists at GAWRD and Auburn University have located extensive spring breeding migrations from Lake Blackshear upriver to spawning shoals in the Piedmont above Spirewell Bluff State Park. Shoal habitats are particularly productive and support a diversity of unique aquatic life besides shoal bass, including Halloween darters, bluestripe shiners, and shoals spiderlilies. Shoals spiderlilies, restricted to a few locations in the upper Flint River, are found only in the southeastern U.S.

While most anglers head straight for the rocky sections of the river seeking shoal bass, the flatwater stretches of the upper Flint offer angling opportunities for other kinds of sport fish as well. Some favorites include largemouth bass, redbreast sunfish, bluegill, redear sunfish (shellcracker), channel catfish, and flathead catfish.



6. Addressing Water Needs and Regional Goals

Management Practice Number	Description/Definition of Action	Relationship of Action or Issue to Vision and Goals (Section 1.4)
OCP-3 Promote Integrated Planning	Encourage coordinated environmental planning, land use, stormwater, and wastewater	1,2,4,5,10,13
OCP-4 Local Government Erosion Control Measures	Encourage local governments to enforce Erosion and Sedimentation Control Ordinance (as found in Cities of Pearson and Valdosta Watershed Protection Plans, 2008 & 2009)	4,8,10

Summary of Management Practices for Shared Resources – The Suwannee-Satilla Region will implement management practices summarized in this table and collaborate with the following Councils to address shared resource gaps. Note: As summarized below, each Council has identified a series of management practices intended to address the contributing portion of the surface water flow gap within their boundaries.

Surface Water Quantity – Satilla River (Atkinson), Alapaha River (Statenville and Jennings), and Withlacoochee River (Pinetta)

Suwannee-Satilla – The Suwannee-Satilla Council has identified the management practices in the above table to address the majority of the cumulative gap at Atkinson, Statenville, and Jennings, and a portion of the cumulative gap at Pinetta.

Altamaha – The Altamaha Council has identified water conservation, replacement of surface water use with groundwater use, refinement of forecasting and modeling data, and potential use of incentives and new permit conditions among others to address a portion of the cumulative gap at Atkinson, and a small portion of the cumulative gaps at Statenville and Jennings.

Lower Flint-Ochlockonee – The Lower Flint-Ochlockonee Council has identified conservation, investigation of replacement of surface water with groundwater, greater utilization of farm ponds, and consideration of new storage and Aquifer Storage and Recovery (ASR) to address a portion of the cumulative gap at Pinetta.

Upper Flint – The Upper Flint Council has identified conservation, investigation of replacement of surface water with groundwater, greater utilization of farm ponds, and consideration of new storage and ASR to address a portion of the cumulative gap at Statenville and Jennings.

Surface Water Quality:

Satilla River Watershed Model – The Altamaha Council has identified the same BMPs for nutrient loading as are summarized in the above table for the Suwannee-Satilla Council.

Altamaha – There is one reach with exceeded assimilative capacity in the Suwannee River basin that is shared with the Altamaha Region. The Altamaha Council recommends improved level of wastewater treatment to improve in-stream dissolved oxygen, implementation of ammonia limits, and improvement of wastewater treatment for nutrients (nitrogen and phosphorus).

Coastal Georgia – There is one reach with exceeded DO assimilative capacity in the St. Marys River basin that is shared with the Coastal Georgia Region. Both Councils recommend monitoring and data collection to assess whether impairment is caused by non-point source discharges or naturally low DO concentrations in the reach.

¹Seek to reduce frequency and severity of human impacts to 7Q10 low-flow conditions in the region associated with agricultural water use. Focus on surface water permit holders and new surface water permit requests in Satilla Watershed [(Atkinson, Bacon, Brantley, Coffee, Irwin, Pierce, and Ware Counties (Atkinson Gap)], Alapaha Watershed [Atkinson, Ben Hill, Berrien, Echols, Irwin, Lanier, Lowndes, Tift, and Turner Counties



8. Monitoring and Reporting Progress

REGIONAL WATER PLAN

Management Practice No. (See Table 6-1)	Benchmark	Measurement Tools	Time Period
Management Practices to Support Educational Needs			
Support education programs for: Water Conservation, Stormwater Management, Septic System Maintenance, Logger Education, and, Forestry BMPs	<ul style="list-style-type: none"> - Data used to identify where future program efforts will be most effective - Funding for programs maintained or improved 	Survey and summarize program effectiveness and success stories	1- 5 years
Management Practices to Address Ordinance and Code Policy Needs			
<ul style="list-style-type: none"> - Encourage implementation and/or compliance with Stormwater ordinances and/or regulations - Encourage improved conformance with <i>Environmental Planning Criteria</i> developed pursuant to Part V of the Georgia Planning Act - Encourage local governments to improve conformance with erosion/sediment control measures 	<ul style="list-style-type: none"> - Select local governments surveyed to indentify current knowledge base and recommended areas of improvement - Improved education at state and local government conferences and workshops - Enhanced awareness in Comprehensive Planning by local governments across region 	Select follow-up survey of local governments to identify changes and success stories	1-5 years
Shared Resources			
Combined management practices for the Atkinson, Statenville, Jennings, and Pinetta surface water gaps (Altamaha, Upper Flint, Lower Flint-Ochlockonee Planning Regions)	Regional Council-specific management practices implemented	Evaluate project improvement of surface water flows using gauge data and Resource Assessment tools	1-5 years
On-going Planning coordination with Florida	<ul style="list-style-type: none"> - Outreach and coordination with states completed and water planning data collected - Review Resource Assessment tools and make modifications if warranted 	<ul style="list-style-type: none"> - Report summarizing planning data - Information needs and issues documentation 	<p>1-5 years</p> <p>5 years</p>