

**Integrated Policy Framework and
Management Objective Three – Meeting Instream and Offstream Needs
A Summary Report of Basin Advisory Committee Responses
Submitted to the Georgia Environmental Protection Division
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July 24, 2006**

Introduction

The third round of Basin Advisory Committee (BAC) meetings was held between June 20 and June 29, 2006. The Environmental Protection Division (“EPD”) presented the proposed policy framework for the integration of the first two management objectives, minimizing withdrawals and maximizing returns, for discussion and comment. This framework was created under guidance from the Water Council and feedback from advisory committee members. In previous BAC meetings, those objectives had been discussed independently and the importance of their integration for the success of the overall water management plan resonated throughout each of those meetings. In addition, BAC members were presented prototype policy frameworks for surface storage and instream flow policies and aquifer management policies which relate to the third management objective, meeting instream and offstream needs.

EPD Presentation

According to information presented by EPD, the framework for the integration of minimizing withdrawals and maximizing returns is viewed as crucial to managing water quantity, and it is intended to accomplish the following:

- Provide current and future opportunities for human uses of water in the face of economic, demographic, and other changes that will occur in the decades ahead;
- Enable policies for minimizing water withdrawals and maximizing water returns that, for any one watershed or aquifer, optimize the use of a finite resource;
- Protect current and provide future opportunities for surface water sources, and ensure instream flow needed for downstream users and for waste assimilation, habitat protection, recreational uses, navigation and other instream needs; and
- Protect current and future opportunities for groundwater sources, and maintain water levels and pressures needed to protect aquifer users and maintain aquifer water quality.

EPD representatives discussed the two critical components of the policy framework – the Consumptive Use Budget and the management of consumptive uses. The introduction of the Consumptive Use Budget, or CUB, concept is the basis for this integration and looks at setting “water budgets” on the sub-basin level to ensure sufficient water remains in our shared waterways to meet the needs of both uses and users in downstream areas. One important factor in determining instream water quantity is that it be based on a dry year scenario to ensure that no matter the variation in yearly rainfall levels. CUBs will balance withdrawal needs with returns and instream quantity needs, meeting the overall vision of the water management plan¹. The

¹ The vision statement set forth by the Water Council is: “*Georgia manages water resources in a sustainable manner to support the state’s economy, to protect public health and natural systems, and to enhance the quality of life for all citizens.*”

management of the CUBs component will require the use of certain practices, such as water conservation, and policies by which those practices are implemented.

The CUB supports the vision for managing the state's water resources by considering the myriad uses, users and values of users of a given water system. CUBs will be both geographically and resource specific and will allow for consideration of values by locals users and downstream users across time.

EPD representatives then discussed management objective three: meeting both instream and offstream needs through water storage (reservoirs) and aquifer management. Instream uses occur within the stream channel and include uses that directly benefit people, such as waste assimilation, hydropower production, navigation, and recreation. Instream uses also support ecosystem needs and the needs of fish and wildlife. Downstream users rely on instream flows from communities and users upstream to provide both instream and offstream uses. Offstream uses include irrigation, drinking water, industrial use and other needs that require removing water from the stream for use.

BAC members were asked to consider the impacts and benefits of reservoir storage and to consider two related questions: how can we best determine where and under what conditions reservoirs are needed?; and how can we best develop and operate them to meet long-term water needs? These issues relate to the integrated policy framework for objectives one and two and suggest that additional surface storage (reservoirs) be evaluated within the context of a specific area's CUB (consumptive use budget).

The second part the discussion on meeting instream and offstream needs focused on aquifer management. Discussions centered around issues which may be included in a policy framework for aquifer management: the availability and feasibility of using a particular aquifer; existing and projected withdrawals; an aquifer's contributions to stream flow; the rate of recharge versus discharge; and the general connectivity between groundwater and surface water.

BAC members provided comments on the policies and practices of efficient surface storage and aquifer management. Because some basins rely more heavily on surface water and others on groundwater, BACs were asked to decide where they felt it important to spend the majority of their time. The comments included in this summary report represent those discussions, but it is important to note that all BACs did not necessarily fully address both surface and aquifer policy frameworks.

Water Council Comments

Senator Ross Tolleson, member of the Water Council, attended the Oconee-Ocmulgee-Altamaha BAC meeting and expressed the Georgia Senate's interest in the BAC meetings. He indicated that he will try to attend as many basin meetings as possible. He assured BAC members that the voices of the community are being heard on the tough and complex issues concerning water, and he committed to report those concerns back to the Senate. Senator Tolleson referred to Georgia as one Stat, noting that it is unproductive to divide the state. According to Senator Tolleson, the State of Georgia is one total economic engine and has a lot of different areas that are different pistons in that engine. The Atlanta region may be driven by a lot of big corporate structure and

different dynamics to include transportation as a huge part of that economy. Coastal Georgia's port system is a very dynamic part of that system as is the hospitality system. All of southern Georgia is agricultural and forestry based, a very important driver of that economy. West Georgia's has a huge military complex and also the insurance and financial service industry. Central Georgia's biggest engine is the military complex, agriculture and other diversifications.

Senator Tolleson continued, "Our state is very important and will need to form a policy that allows every section of the state to continue to grow. It is very important to continue the course and that every voice is included and every basin has their say and that we don't have any concentration of power on this issue, that it's diverse across the state and that we form good water policy that's good for everyone. That is what I'm doing, trying to tour the state and listen to everybody, and I will spend a couple of hours here today and will take your concerns back and roll it into the policy."

Finally, Senator Tolleson noted that the important thing about funding for the Statewide Water Plan is analogous to building a house. The first thing to do is get a blueprint drawn and then develop a cost analysis on the house to find out what it will cost. We have to do a blueprint first before we can say what it will cost. We are trying to develop a plan and take it apart to see how we are going to fund it. It's very wise if we really think about those comments when we make them. Is it \$15 - \$20 Million? But when we take that blueprint apart we can decide on how to fund it. He introduced his staff member, Lauren Winsom, and indicated that she would attend meetings in his absence. Senator Tolleson's presence and comments were appreciated by BAC members, as is his engagement in the process.

Comments on the Proposed Integrated Framework: the Consumptive Use Budget

Because this round of BAC meetings dealt with two very large subjects, the following section of the report captures examples of comments that were made across all seven basins on the proposed integrated policy framework and on management objective three. The full reports submitted on behalf of each BAC are attached for a more thorough review of BAC discussions.

Basin Advisory Committee members were supportive of the idea of CUBs (consumptive use budgets), but numerous questions and concerns arose. The following captures examples of those conversations – please refer to the individual BAC reports for complete discussion and conversations:

- How do CUBs account for new interbasin transfers (IBT's) relative to existing IBT's? Will we apply the same logic between new and existing?
- I am trying to grasp the concept of why re-use of reclaimed water is coming up. Is its purpose to reduce withdrawals from streams? What is the purpose for re-use? When you re-use it... it is still a consumptive use. The calculations would seem to suggest that focusing on re-use is the same?
- Just how do you develop a CUB on a subbasin basis? Do you simply look at all existing withdrawals and returns? Grandfather? I do not have a concept - How do you do that fairly?

- If you are going to put out standards for withdrawals, we need to have standards for returns... they go hand in hand.
- Re-use needs to be a viable focused part of this work. Re-use strategies as well as conservation strategies should be mandated. We need to analyze what we do with water and when there is a chance to re-use it, it must be mandated. We need ways to re-use water right through the system. Use, capture, treat, sit and use again. We can make that bottom arrow happen at all stages along the river.
- With regard to the economy... the entire CUB is based upon what we need for the economy, agriculture, etc... This is all about how we can use the resource!!! We actually probably have better data on the economy than we do on the natural science!
- I do have a concern about what happens when you hit your CUB limit? Is it practical to think that you can draw a line and say you are done? Will it encourage IBT's? Etc... what happens when you hit the limit?
- I share the concerns regarding the enforcement of CUB limits. There is clearly a political side of applying growth limitations and the management of a finite resource in this state. At sometime we will reach the limit.
- I like this concept because it embraces the finite resource realities. You know what you need to do. There is only so much water to go around.
- With regard to re-use, the return flows from wastewater treatment is important to maintain flow regimes. Downstream users are dependent on that flow. It must be integrated into the whole program. Where re-use replaces initial consumption, that's fine as long as it is not consumptive.
- Desalinization is become a potential application. Perhaps water supply is infinite. Why do we need to limit ourselves to what comes out of the sky? Why are we not thinking bigger? Where is de-sal in the water plan? The state needs to take this on as it may be too big for a local government. It needs to be worked into the plan in some way. It is being researched in other places in the country.
- The CUB needs to be based on good data.
- CUBS are a great concept which will set limitations and or parameters to future growth which will lead to innovation, conservation, efficiency, etc.
- Staying within a CUB should be a priority.
- Waste water assimilation may be more important than supply because it affects the whole basin. This needs to be studied and discussed further. Withdrawal needs are easier to project than assimilation needs.

- We don't have the information now to develop plans by basin. The water council and legislature should be aware that 20 to 25 million dollars will be needed to fund the studies needed.
- Once an area reaches its consumptive use budget, it could look to another river basin and borrow from their account. He thinks policy should prohibit that. If you want to borrow, you should return water to the account. Otherwise, permit trading might result.
- What structures are in place for interbasin transfers?
- Water should be returned to the basin from which it is withdrawn, when we are trying to create a state policy, we should not build in prohibitions.
- A water plan can foster intelligent planning. This should be one of the goals of any policy that is set up.
- When we get away from market based methodology we will find resource management very complicated. We help the allocation process when we use market based methodology.
- Potential upstream vs. downstream growth projections are very important.
- Net loss needs to be minimized. Return is important, but where it comes from is not as important.
- We could probably have consensus on interbasin balance.
- The time frame might be complicated. For example, it might not work to say we have to be in balance every day. And although balance might be possible over time, time constraints would not be helpful.
- How do we calculate the downstream/in stream CUB?
- Will downstream/in stream level (CUB) be determined based on stressed conditions or healthy conditions (i.e. for the aquatic environment)?
- Is there a safety net (in setting the CUB levels)?
- We need to think about and plan for unforeseen uses or circumstances that would eat into the initially planned CUBs.
- All of this is worthless, if we don't fund the science necessary to make sound decisions.
- Is the idea to take a resource, and determine what can be taken out of it and still protect in stream/downstream uses?

- Good science would be critical to decision making.
- I agree with the idea of starting at the bottom of the basin, but allocations need to be developed for each basin. Allocations will be more difficult to agree upon at the sub-basin level, if the full basin allocations are not determined.
- CUB is a good concept, but it doesn't reflect growth and experience.
- It would be helpful to see sample data for a whole stream, with upstream and downstream CUBs, etc.
- If you start by creating the downstream CUBs first, it will advantage downstream users over upstream users.
- What happens when pink area is exhausted (i.e. available water for use)? No more development?
- What happens when the consumptive use reaches the budget line? No more water? No more development?
- A bottom-up approach prioritized and advantaged downstream uses and users so that they would not need to conserve at the same levels as upstream users.
- Where are interbasin transfers in this discussion? Would existing interbasin transfers be included in the CUB or would the CUB include only water that originated in the local watershed?
- Is the CUB fixed?
- If one presumes an activity such as more reservoirs, this leads to the question, how do we manage these reservoirs to maintain or minimize effects on downstream flow regimes?
- Recognize the role of conservation here, too, not just consumption.
- It's difficult to predict future uses downstream. Will upstream constraints change as downstream populations grow?
- Under the worst-case scenario, with a CUB up to the line, this might lead to market forces and water permit-trading.
- Without projects and demand calculations how do you determine downstream demands?
- Looking at creating a base line and safety factor – residential growth does affect base flow. I would have something for the impervious surface.

- Provide a real time case study of what a consumptive use budget would look like.
- The challenge will be to keep framework flexible to meet growth demands.
- I agree that the consumptive use budget is a sound budget and is the only way to ensure the state's water supply. If we don't stay within that budget, there so much water there and we cannot go beyond that budget and that we are making the hard decisions now.
- This is a sound way to proceed, but the policy is flexible. Ensure that the buffer is sufficient so that we don't bump up against something that impacts the instream need. Make sure that we are respecting the flow regime, variations and natural needs over a period of time so that it mimics natural flows. Maintain that concept.
- Concept should be seasonal.
- With the CUBs, there must be a department solely dedicated to this effort, that has some decision-making authority, and it would have to be really organized to implement this process.
- In looking at downstream uses, for an off stream segment, we look at not only historic flow info, but look at future projections for downstream uses. There is an element missing in determining the base flow. We need to make sure that all of the downstream areas have the ability to grown.
- It seems that still having the ability to make interbasin transfers negates the whole concept of adhering to the consumptive usage budget.
- This sounds completely unrealistic. I don't see what kind of process could be established to make this work.
- It sounds like the state is going to start providing the solutions to the local level to be implemented. Essentially DNR will say, "Here is your budget, but you have to determine how you use it".
- The biggest decision that the State will make is how the districts are going to be set up to determine and apply the CUBs. That is going to be the most difficult portion of this process.
- The concept as shown is very good. The weakness is not having enough information to really define what needs to be defined to calculate the Consumptive Use Budgets (CUB).
- Lack of information about instream and downstream variables is also a problem. How much investment is going to be put in to getting this information?

- Will political jurisdictions be required to have, and follow, a set CUB? Will there be a quid pro quo? How will political jurisdictions coordinate with regional or basin jurisdictions?
- The CUB is for one source. There may be more than one source used in some places. There will probably be room for trading of costs across jurisdictions.
- If funding for finding out how the CUB works does not come, this approach is useless.
- Some sort of safety factor or uncertainty needs to be built in due to the lack of information. This will safety or uncertainty factor will decrease the amount of water that is available to distribute.
- Is there communication between DNR & DCA now that communities' 20 year plans are being updated? Water is not even an issue included in the county comprehensive plans. Developments of Regional Impact do not involve water either. So, this too is disconnected.
- What are a community's options when it reaches the upper limit of its Consumptive Use Budget?
- Public education efforts must include educating public officials to improve their understanding of water, the land use-water relationship, etc.

Management Objective 3: Group Comments on Policies and Practices for Efficient Surface Storage

BAC members had the opportunity to discuss surface water storage and the concept of reservoirs as a water management tool. Some BACs devoted more time to this issue than others, depending on whether surface water storage was a significant issue in their area. The following comments are reflective of those given around the state:

- Reservoirs take a long time to develop. The state needs to be working on new reservoirs now!
- Better utilize and manage existing reservoirs.
- Reservoirs are a last resort after conservation and better planning.
- Current facilities (e.g., Lake Lanier) are much more capable of addressing future needs than most people know.
- Any major reservoir has to meet many needs. The public is overly focused on recreational uses as opposed to water supply. No one cares about water supply until there is a crisis of no water.

- Concern was expressed that the framework as it was proposed by Georgia EPD in the meeting packet directs the group toward providing feedback only on a “more reservoirs” policy to the exclusion of all other options.
- The focus is on water supply reservoirs... not necessarily flow regimes. Water supply storage is what is critical here.
- Consider desalinization and inter-basin transfers as viable options.
- Look at the existing state regional reservoir plan to look at potential water storage. Why haven't the suggestions been implemented?
- Consider that downstream flow is an important factor. In particular, consider seasonal factors and the mimicking of natural flows.
- Consider the yield of the stream above the reservoirs.
- Change authorized uses and the laws for reservoirs at the Federal level.
- “Size” is what is missing from this discussion. You need scale for water supply purposes. Only big lakes (4,000+ acres) can have an impact on water supply during a drought.
- We need statutory authorities to subordinate all other uses to drinking water supply needs and instream flow needs.
- We need to maximize the potential of existing storage first. We should be looking at the potential for water storage in existing plans and understand why those plans have or have not been implemented. What are the other options beyond reservoirs?
- Until we turn off the water, people don't care. The political process that drives these things is much more focused on recreation.
- Each reservoir is one in a system... you need a more systematic look. Tools to assess impacts already exist. We've got plenty of models already.
- Reservoirs should be a last resort. Prioritize – drinking first, recreation last, etc.
- Consider a trading system on a watershed basis.
- How will the resources be allocated? How will the basin be divided? These points must be clarified.
- Be more specific about which regions of the state are/are not good reservoir sites. For example, reservoirs are not practical below the Fall Line.

- Explain how reservoirs significantly alter flow regimes. Provide some type of incentive or disincentive for building reservoirs at better or worse sites.
- EPD should separate the actions required before a reservoir can be considered: Such as conservation efforts, conservation pricing, data on instream and offstream needs must be gathered, etc. The reservoir should be the last resort. But, once a reservoir is truly needed, there needs to be help from the state level.
- EPD should create a guidebook or other tool kit for reservoir development that includes all of the relevant regulations and activities in one central place. A “how to” guide.
- There should be some state-level coordination and planning for reservoir development, along with some help with funding.
- When a municipality can demonstrate that it’s exhausted all options short of a reservoir, there should be a streamlined process to expedite that. Presently it takes ten years to build a reservoir.
- Again, localities should be encouraged to articulate their need for a reservoir only after other avenues for water have been exhausted and conservation has been maximized. This includes public education efforts and data gathering.
- There need to be incentives and funding for local data gathering OR data can/should be gathered at the state level in order to keep it uniform. Locals might be able to help with the funding of such data gathering.
- State-local collaboration for reservoirs is crucial.
- Looking at reservoirs should happen only after conservation (reduction of demand) is fully explored. We appreciate the attention to cumulative impacts; we need to start gathering data now.”
- Benchmark of efficiency – who sets it?
- Reservoirs should be prohibited in high quality habitat as defined in the State Wildlife Action Plan – tie incentives into SWAP.
- Encourage more efficient use of existing and new storage water maximum return to basin of origin. Water Conservation Plan and implementation must be a permit condition
- I’m not sure I understand why reservoirs should be a last resort. I’m not disputing that it should or should not; I just said that it doesn’t make sense to me.
- I think we make broad swath judgments that reservoirs have negative impacts on ecosystem and sometimes that is the case; then again there are very positive benefits from reservoirs that meet the demands of the population of people.

- As a bass fisherman, I have a very hard time to saying no to reservoirs, but I am very concerned about the future if we go to a CUB concept, reservoirs are going to be the easiest way of conserving water for a community. Everyone wants one, but it's not efficient for everyone to have one. I want very strict rules and regulations placed upon where they're placed, how big they are, and they should definitely be required to show a need.
- Where does water conservation fit in there? While you increase your demands for storage, you also have to increase conservation efforts.
- Allison Keifer's research seemed to show that there were some reservoirs that would not be needed as originally projected. That should be looked at.
- We need to fully evaluate the impact of changing the authorized purposes, and support those.
- Need to do more to work on coordinated management of the entire system.
- You need to look at farm ponds, and you need to differentiate between farm pond water usage and storage needs vs. amenity or lagoon system that are used for dewatering.
- One thing I don't see is reference to some of the work that has been done in the past. Need to look at other research that has been done, and utilize other resources that have already gone into this. This is not a new issue.
- This is an excellent example of why we need education and to begin making people aware that water costs will be going up.
- We need to stop excavating ponds just to lower the water table so that houses can be built. We need state protection for depressional wetlands. It might go back to the Corps after the Supreme Courts recent rulings.
- We need to think of reservoirs as more than just a water source. They are a tool to manage upstream and downstream water. Reservoirs do not create a new source of water; it just creates a time shift in the time of use of the water.

*Information Strategies*²

- Does anyone from EPD look at where reservoirs might go, or is it just case-by-case based on request?
- Who makes strategy determinations? U. of GA? Dept. of Agriculture? Washington?

² Italicized items are specific policies (in bold) or practices (only italicized) included by EPD for BAC member responses.

- Reservoirs maintain stream flow but eliminate peaks and valleys of flow. Some species rely on peaks and valleys in flow.
- Good! Don't forget about existing tools.

Instream Flow Protection

- We need good data to underwrite the criteria.
- There are gaps in the data and the data sharing.
- Modeling is very expensive. Who pays for it? The cost may prompt needs reassessment.
- We need to set new time tables for study of various basins. We have been saying year after year we must do this, but no time-line for a water management plan has been set.
- Flow variability and natural flow should be an integral part of planning.
- Ensure sufficient time to conduct sub-basin data gathering.
- We are concerned that the in-stream flow policies are not being addressed in this third objective effectively.
- Research on in-stream flow standards need to be studied more, and a timeline needs to be established for this, as well as funding mechanisms.

Reservoir Planning and Development

- Reservoir planning and development implies a pro reservoir position. We should be looking at everything that can be done to forestall the construction of a new reservoir.
- If reservoirs are required, think of regional reservoirs rather than individual reservoirs.
- Whatever agency is going to take this on will need a whole, fully staffed, fully funded division to deal with them [reservoirs].
- There should be fewer restrictions on site selection.
- We should pull together what is in-place rather than reinventing.
- Economic growth may render not feasible selection of sites for distant future use because of rising property values.
- We should evaluate alternatives to reservoir storage. Desalination may not be a viable alternative.
- Aquifer recharge areas must be protected in reservoir planning.

- Consider 303D streams as a factor in siting ponds and impoundments.
- Encourage efficient use of alternatives to reservoirs.
- Desalination on the coast could have impact on north Georgia because it would reduce downstream needs from aquifers and streams.
- Bold steps are needed now for planning to meet needs 50 years from now.
- State permitting plans need to be aligned with Corps of Engineers.
- There are costs of building reservoirs that don't show up on the balance sheet, i.e. destruction of habitat.
- Building off-stream reservoirs can create habitat; contribute to the environment.
- Conservation could, in fact, be a major contributor to furthering our water supply.
- Educating the people is the key to conservation.
- Agricultural permits need to be examined. In Floyd County there are many agricultural permits that are not used, but that water cannot be used for other purposes. Those who have agricultural permits should use them or lose them.
- Identify need for water at local level, plan on regional level—thus the state needs a study to determine where to build large reservoirs.
- *Enact state-level mechanisms to guide reservoir site selection*
 - Define need locally with regional implementation. Land use is highly politicized and goes beyond EPD; is not an EPD function.
- *Provide incentives for projects designed to protect streams*
 - Do not build where there's high quality habitat.
 - Incentives for restoration are desired.
 - Include funding for instream flow studies.
- *Encourage more efficient use of existing and new storage*
 - Delete – this should already be done before considering a reservoir.
- *Establish a pre-application or screening process...*
 - Yes; need commitment to staffing program; define criteria and streamline process.
- *Provide targeted state funding for reservoirs...*
 - Yes, yes, yes.

Management Objective 3: Group Comments Policies and Practices for Aquifer Management

BAC members had the opportunity to discuss aquifers and interbasin transfers as a water management tool. Some BACs devoted more time to this issue than others. The following comments are reflective of those given around the state:

- EPD should be able to deny new permits.
- Even though the Metro BAC does not use a lot of water from aquifers, they were concerned that aquifer issues in Southern Georgia, or restrictions on aquifer use, would result in greater downstream needs. Downstream needs would then limit the water available to the Metro area.
- Downstream uses need to be reviewed and conservation highly incentivized.
- The EPD document does not fully account for the variety of aquifers found in Georgia.
- Groundwater withdrawals need to address distinctions shallow and deep wells, confined and unconfined aquifers.
- The difference between permitted use and consumptive use needs to be quantified
- Ensure consistent monitoring
- Nothing in here mentions conservation.
- There should be an overarching rule that all processes look at conservation.
- Through permit fees, we can fund some of these policies. Many states that have the fees do a better job (more resources) to manage their water resources. This is a very politically undesirable option/suggestion.
- How would the strategy/policy framework handle the case of a paper mill with an 80 MGD and that only uses 30 MGD for years. Answer: The policy does not deal with that directly.
- I would like to deal with it directly. The policy framework should deal with permitted industrial volumes that are not being used.
- We need to recapture the unused portion of existing permits for redistribution by the state under applicable laws.
- This might reduce the incentive of industry to conserve water use since they now see conservation of water as creating a possible revenue source by future sale.

- Wording on recapturing unused permitted withdrawals might read as: “Recapture water volume of unused portion of industrial water permits for redistribution to alternative users, consistent with applicable priorities and management principles.”
- Aquifers can be managed by distributive pumping.
- GMA & ACCG may raise concerns about requirements for collecting more withdrawal (and discharge) data.
- Couldn't we require local governments to actually use the plans they already have rather than just letting them sit on the shelves?
- *Aquifer withdrawals should not exceed recharge*
 - [withdrawals exceeding recharge] should never happen.
 - This is too low a standard. It does not comply with the law (Chapter 391-3-2-05). It does allow permits to create saltwater intrusion.
 - This sounds like it permits degradation up to the point of collapse. If this is not the intention, then it needs to be reworded or explained.
 - You need to look at a withdrawal limit that is WELL before the aquifer is rendered permanently unusable. We need to figure out the balance between recharge rate and withdrawals.
 - Suggest that we need a new bullet/policy suggestion “withdrawals should not retard the recharge of the aquifer”.
- *Withdrawal permitting should take into consideration future users...*
 - Why don't CUBs include future users?

Adopting a conjunctive use policy

- Why would we use this? It seems economics would take care of this.
- Regarding Conjunctive use – not enough margin of safety
- A municipality should not have right to sell its water company to a private operator, along with the withdrawal permits, and then have the private operator sell the water to others.
- We must expand the State's ability to use hydrologic modeling.
- Conjunctive Use – might incur problems if not monitored by EPD. If current situation is working why change it?
- Conjunctive use: what kind of scenario would this be used under? Are there studies that support its use?

- Conjunctive use: under what conditions would such a permit be considered? Who decides which source?
- Define “conjunctive use” to clarify aquifer vs. surface water – can we use the same rules for both?
- Define conjunctive use to clarify aquifer vs. surface water
- Eliminating any use of conjunctive use for agriculture would be devastating.

Define areas of the state where ground water and surface water are closely linked

- We would need to have science to determine whether the sources are actually linked. Don’t assume that physical proximity means physical (hydrological) linkage.
- The ¼-mile is an arbitrary standard. Need real sound science. Eliminate the designation of distance.
- Wells in horizontal distance: not true in all parts of state. Will vary in different parts of the state; a blanket, uniform guideline is inappropriate.
- Why quantify distance (1/4 mile)

Expand the State’s ability to designate capacity use areas

- I’m more interested in the ability “to discover”, before allowing the ability “to designate”.
- Should be based on science and real data.
- Regarding bullet #3. Too open-ended. Provide additional specifications about what is intended. How will this be enforced?
- Allow groundwater to be used to supplement: be cautious about degrading one resource to save another.”

Legislatively establish artificial recharge, including ASR (Aquifer Storage & Recovery) techniques.

- Is there research to say whether this is a beneficial practice?
- Why would we get the legislature to endorse something that we have not done the science to determine the relative benefit of?
- For some of us this is as an important a concern/issue as the interbasin transfer.

- We assume that the legislature would want some sound science before they enact legislation.
- Regarding artificially recharging aquifers, why would we inject drinking quality water? Why not just drink it?
- Should not inject untreated water in aquifer as it will contaminate the aquifer.
- The group does not embrace injecting.
- Why has there been a legislative action called for by EPD in ASR. It seems that the science on ASR's ability to adequately protect our groundwater resources is not available. Perhaps more study should be done before legislative action is called for.
- Ground water is completely different from many stream waters, and could be a shock to certain species.
- Maybe consider dismissing the groundwater option. Maybe only consider this for absolute worst-case scenarios.
- ASR research should be taken with a grain of salt from other areas, until more research is done here in Georgia.
- I question the wisdom of putting this treated and yet less than pristine water into the aquifers.
- Aquifer storage is a good management technique but we must be extremely careful about what we allow to go back into the aquifer. Drinking water standards are too low for the water that would be injected into aquifers.
- Given our experience with enforcement (that is, that it is not properly funded and is not stringent enough) it is very dangerous to consider a rule about ASRs that would require a significantly higher level of enforcement. Without enforcement this will not get done. There will be some accidents and some cheaters.
- The risk with ASR is very high. An accident will almost surely have irreversible consequences.
- In regard to ASR, I would like to underscore the potential for operator error, which is an immense and looming problem in ASR.

Consider regional geologic studies to identify groundwater basins

- Good idea.
- Geologic studies should be done on a regional basis for all groundwater withdrawals.

- Locating recharge areas for aquifers would be good information. Do we know enough about recharge areas?

Conclusions

Members of the BACs continue to provide thoughtful input into the State-wide Water Management Planning process. Many consider the further integration of Management Objective 3 into the proposed policy framework for minimizing withdrawals and maximizing returns an important next step in the management of water quantity. For a more thorough review of comments from individual BACs, please see the independent reports from each group.

The final Management Objective which addresses water quality will be addressed in the fourth round of BAC meetings scheduled to be held in late September.