

**EASTERN VIRGINIA GROUNDWATER MANAGEMENT
ADVISORY COMMITTEE**

WORK GROUP #2A – ALTERNATIVE MANAGEMENT STRUCTURES

MEETING NOTES – MEETING #2 - FINAL

THURSDAY, NOVEMBER 5, 2015

DEQ PIEDMONT REGIONAL OFFICE – TRAINING ROOM

Meeting Attendees

EVGMAC – WORKGROUP #2A	
Rhea Hale - WestRock	Eric Tucker – City of Norfolk
Whitney Katchmark – Hampton Roads PDC	Andrea Wortzel – Troutman Sanders/Mission H2O
Nikki Rovner – The Nature Conservancy	

EVGMAC – WORKGROUP #2A – STATE AGENCIES	
Elizabeth Andrews – DEQ – Central Office	Sandi McNinch – VA Economic Development Partnership
Susan Douglas – VDH - ODW	

NOTE: Work Group Members NOT in attendance: Brent Hutchinson – Aqua Virginia, Inc.; James Maupin – Virginia Water Well Association; Britt McMillan – ARCADIS – Eastern Shore Groundwater Committee; Janet Pawlukiewicz – Citizen; Dwayne Roadcap – VDH – OEHS; Rebecca Rubin – Marstel-Day; Kurt Stephenson – Virginia Tech; Wilmer Stoneman – VA Farm Bureau; Erika Wettergreen – Marstel-Day

INTERESTED PARTIES ATTENDING MEETING	
Jamie Bitz - JLARC	Jim Hopper – VA Association of Realtors
Robert Bohannon – Hunton & Williams/FCWA	Jamie Mitchell – Hampton Roads Sanitation District
Susan Bond - JLARC	Jeff Scarano – Brown & Caldwell
Brad Copenhaver – VA Agribusiness Council	

SUPPORT STAFF ATTENDING MEETING	
Brandon Bull - DEQ	Bill Norris - DEQ
Scott Kudlas - DEQ	Mark Rubin – VA Center for Consensus Building
Craig Nicol - DEQ	

MEETING HANDOUTS:

- A. Draft Meeting Agenda;**
 - B. Balance of Meeting Schedule**
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1. Welcome & Introductions (Mark Rubin – Meeting Facilitator)

Mark Rubin, Executive Director of the Virginia Center for Consensus Building at VCU, opened the

meeting and welcomed everyone to the meeting. He asked for introductions of those in attendance and asked for the organizations that they represented

2. Review of Agenda; General Sense of the Process and Introductory Comments (Mark Rubin):

Mark Rubin reviewed the agenda for the meeting and the plan for conducting the meeting and then went through some general meeting and location logistics.

3. Presentation – Interstate Commission on the Potomac River Basin (Scott Kudlas – DEQ):

Scott Kudlas provided an overview of the establishment of the Interstate Commission on the Potomac River Basin (ICPRB). His presentation included the following:

- The presentation highlighted the interstate management aspects of the ICPRB.
- A part of what goes on under the umbrella of the Commission is a pretty significant and robust local coordination effort.
- The signatory members of the ICPRB include the District of Columbia; Maryland; Pennsylvania; West Virginia and Virginia – this is largely the same regional structure that the Chesapeake Bay Program started out with.
- The ICPRB covers the entire Potomac River Basin.
- The ICPRB was formed by an Act of Congress in 1940 because of water pollution concerns and public health concerns due to water pollution issues.
- Each of the signatories had to adopt the compact language into their statutes – they had some ability to tweak it here and there but largely each signatory has adopted the same compact language.
- There are three other river basin commissions formed under the same kind of compact structure in the United States. They include: the Ohio River Valley Water Sanitation Commission (ORSANCO); the Delaware River Basin Commission; and the Susquehanna River Basin Commission.
- The compact that created the ICPRB has some flexibility in it – in addition to the general operating rules for the Commission that identified the types of things that the Commission can do to address these water quality issues it also had the ability to create special sections.
- The ICPRB has a special section that was created that is called the Cooperative Water Supply Operations Group on the Potomac (CO-OP). This came about due to an extended drought in the 1960's – the drought period was almost a 7-year drought (1960-1967).
- As a result of this drought Congress directed the Army Corps of Engineers to develop a study to look at how to make the water supply for Washington DC more resilient to drought. They conducted a multi-year study to look at the forecast of shortage given increasing demands in the metro area and to look at structural solutions to ensure that there was adequate water supply during drought periods. They looked at a series of 16 reservoirs in the late 60's and early to mid-70s. In addition, they looked at inter-basin transfers; doing a pilot desalination plant;

lowering the Potomac below Alexandria; etc. As a result we ended up with the Federal Government bankrolling the costs of 2 reservoirs in Maryland and West Virginia. Those reservoirs were given an initial project purpose of water quality to help dilute at the time primary treated effluent but they also have a project purpose of being available as water supply sources for the Metro DC area. The only 2 reservoirs that were constructed were “Jennings Randolph” and “Savage”.

- In response to having those facilities on-line and having that available storage, coupled with the Corps’ study and the drought experience, the states, the Corps, the District and the 2 primary water suppliers (Fairfax Water and WSSC) entered into an agreement called the “Low Flow Allocation Agreement”. The Low Flow Allocation Agreement (LFAA) establishes how water will be allocated during a drought should the triggers in the agreement ever get tripped. There is a series of drought-like triggers that serve as the basis for when those reductions would come into play.
- The LFAA structured those allocations based on the previous year’s winter-time use. It institutionalized a structure where there was a formula created – that formula was used to determine what the allocations would be. The agreement requires that the group come together and meet regularly – the group requires that the Corps is the accountant for the information and the agreement requires that everybody will implement those allocations during a drought.
- The LFAA was then ratified by the various state legislatures.
- In addition to the winter-time water use, the parties consented to having a moderator to enforce the agreement – there have been 3 moderators since 1978. There has been a lot of stability and trust because of that. The moderator has the ability to take any of the signatory members to court to enforce their compliance with the agreement. So if somebody tried to “game” the system during a drought and withdraw more water than they were allocated, the moderator can take them to court and seek an injunction, etc.
- The Corps of Engineers that supplies Washington DC their primary water supply is the accountant for the agreement, so the water utilities report their winter-time usage to the Corps, and then the Corps is in charge of reporting to the member states regarding their allocations.
- There are some odd things in the agreement about Junior (localities) and Senior (states) signatories but since the agreement has been in place they have all worked collaboratively as if everyone has comparable standing.
- The State Water Withdrawal Permits issued by each state under their various Water Withdrawal Programs are required under the agreement to subject the future members of the Co-Op to the terms of the Water Supply Agreement – the LFAA.
- Q/A: What are the qualifications for the Moderator? The qualifications are very general. Everyone has to agree as to who it is. There has been an effort to try to identify people who have either a significant background with the program or a strong background in water resource management. They try to ensure that the candidates know something about water – one of the things that has been discussed recently is that, given the tightening of supply within the basin in general and the number of new users, potentially there may be a need for someone in that role

that may need a different skill set – someone who is not primarily a water supply engineer but somebody who can negotiate and/or set up a process to get the parties to work together to talk rather than threatening to sue a new user - someone that has more of a mediator type skill set. The “moderator” is essentially on retainer to be available when needed – the moderator has to negotiate their salary with the signatories.

- The ICPRB signatories meet annually every April to reaffirm what those allocations are; to ensure that they have a moderator in place; and to review the flow-by. The agreement has a 100 mgd flow-by for “environmental benefit” – it was a number that was just picked out of the air at the time by Maryland DNR – there has been a lot of angst among the water suppliers in particular that at some point in time the state signatories may want to change that amount. There has been a small study that was conducted by the Corps and ICPRB to look at the issue of the “flow-by” amount – the results of the study were largely inconclusive. That question will continue to get raised over-time as methodologies for fine-tuning that number get greater experience.
- The responsibility for holding the meeting is rotated among the signatories. Whoever has the responsibility for putting the meeting on has the responsibility for designating a back-up moderator.
- The localities involved started looking at the agreement and the framework for a program and thinking that there are some fairly harsh cuts that would go into effect if the LFAA had to actually be implemented. The water suppliers at the local level said that they would prefer not to get into the position where they actually have to implement this agreement. They went to ICPRB to get them to create a “special section” and staff a cooperative water supply operations group. They came up with the idea of creating a Water Supply Coordination Agreement (1982). All of the water suppliers in the area brought their resources to the table, as well as agreed on how they would divide up the costs of buying water supply storage in those two upstream Federal Reservoirs. This agreement tells each of the local water suppliers how they can coordinate operations of all of the various impoundments so that they can maximize the available water supply in the region so that they don’t have to get to a place where the LFAA gets implemented. Their primary goal is to operate those facilities in a manner that doesn’t get them to “conservation” that would be mandated under the Agreement. They have done a very effective job using water supply models; models of the Potomac; models of the various reservoirs – and they have been very effective at optimizing their water supplies in such a manner that we have been through 4 significant droughts since this agreement has been in place where we did not have to execute the LFAA.
- Q/A: How could this type of agreement/structure work in the current situation in Virginia? How many water suppliers are party to this agreement? There are only 2 water suppliers that are party to this agreement – Fairfax Water and WSSC -- and the ICPRB. One of the challenges that they are having is that the reality is changing every day in the watershed – you have significant growth both on the Maryland side and the Virginia side of the Potomac – those folks have expanded their water withdrawals from the Potomac River. It becomes a fairly complex

analysis to determine how to keep water that might be released 100's of miles upstream from a Federal Reservoir and that is owned by Fairfax Water and WSSC, and get that water down to their intake unpoached by other users.

- Q/A: What about those other users? On the Virginia side it is Loudoun and on the Maryland side it is Frederick, primarily. It has become a very delicate situation because the other thing that has happened since 1982 is that all of the states now have permitting programs – which they didn't have back then. Back then only Maryland had a permitting program. Even the Virginia facilities at that time had Maryland permits prior to the Supreme Court Case concerning the Potomac. There is a lot of increasing uncertainty in the management of that system because of things that have evolved over time that weren't necessarily designed to work together.
- Q/A: Industrial Use: There are not a lot of industrial withdrawals in and around the Potomac that aren't already customers of Fairfax Water or WSSC. Are there significant industries that have their own independent withdrawals? There are some in West Virginia and western Maryland.
- Q/A: Revisiting/Updating the Agreement: Is anyone looking at ways to improve the agreement? No one wants to open the agreement. There are issues that are likely to come up in the near future that should serve as a basis for revising the agreement to meet the current situations. The agreement probably needs to evolve. The agreement is getting “brittle” and needs to adapt to the changing climate. There are issues that are going to come up that need discussion to address.
- In the agreement there are specifications for how they are going to coordinate their facilities; how they are going to allocate costs of O&M; the costs of buying the initial storage; the need for future facilities is a funding formula – just for the signatories. The other thing that the agreement says is that ICPRB is going to be their staff.
- Right after the LFAA was enacted, the ICPRB created the CO-OP Section (1979). The CO-OP is largely governed by the two primary agreements (the LFAA and the Water Supply Coordination Agreement). The three primary utilities, the Corps, Fairfax Water and WSSC are the big players. They are the committee – they make all of the decisions – they establish what the pre-conditions are for the inclusion of new members. They have been debating for some time now on how to add new members – Loudoun is a significant player now – they have brought “storage” to the table – they are going to have 10 or 12 mgd withdrawals over the next 30 years – that is a big deal – and having the amount of storage that they ultimately are going to have that close to Fairfax's water intakes and Metro DC is a really important and viable tool – but they can't agree on a funding formula to let Loudoun in – they can't figure out whether they would be equal partners or have some other standing. There is a similar situation with Frederick. There is no clear path established for the addition of new members.
- The CO-OP member localities manage the Metro Supply. They do a number of different things effectively. The thing that they do the best is that they have demonstrated with their requirement for a 5-Year Demand Study that if you don't do something very well then do it often – predicting the future is something that we don't do well – so by doing the demand study every

5-years – you minimize the gap in terms of when you are not doing it well and you are wrong, you only have 5 years to figure that you are deviating before you do your next projection. That has worked out very well for them. If you look at their 5-year projections over the last 30 years what you see is that the projections with their improvements in methodologies used have improved. Their method still over predicts what their demand is going to be but it largely now is a common slope so it is getting better by using these 5-yr incremental studies. The other thing that they do really well is they do a lot of joint exercises – they do this annually with drought – but they also do it with spill response. The staff creates a scenario and everybody behaves as if that scenario is reality – they have the meetings – they make decisions about how to move water around – they make decisions about who is allocated what water – they make decisions about how and when to go into restrictions and they do that as if it is real life. That has really created a very strong bond among the local suppliers – it makes the staff very familiar with each other – it makes them very familiar with each other’s operations – it also makes them coordinate very effectively in terms of managing the sources of supply.

- One of the things that ICPRB does is that they work with those General Managers on an on-going research agenda – there are lots of different things that the General Managers want to look at over time, so they do special projects – one of them is climate change – in terms of the east coast of the United States that this group probably should be looked at as one of it not the leader in looking at potential climate change impacts on public water. They have done a lot of research – they have scaled down the climate models and they have an operational climate change forecasting capability that they actually have developed to help them with their decisions.
- All the things that have come out of this local coordination have been very successful.
- Q/A: Regional Water Supply Plans: How or did this factor into the Regional Water Supply Plan that was done for Northern Virginia? The Regional Water Supply Plan was done for Northern Virginia by the Regional Planning Commission with the assistance of ICPRB as directed by the Operations Committee. The Operations Committee wanted ICPRB to represent them in that process and they recommended that the Regional Commission not to reinvent the wheel – that was a significant issue for them and the Commission did not do that, so ICPRB because they do the regional drought forecast for the metropolitan area – they took that forecast and added the couple of jurisdictions that were in the Regional Commission’s area that aren’t part of the larger group – so ICPRB did the demand forecasting for the Regional Water Supply Plan for the area – so that there could be consistence and so that there wouldn’t be multiple forecasts. The alternatives that were looked at in that plan were also primarily driven by ICPRB staff, because they have done that each time that they look at the drought forecast – they also look at alternatives that might occur. There was coordination between those two efforts – the part that was most challenging was that the major utility Fairfax Water and Loudoun to some extent felt that maybe they were giving up some of their autonomy by having the Regional Commission be the lead on the plan – but they worked their way through it and came up with a document that everyone was reasonably comfortable with.

- Q/A: Operations Committee: The Operations Committee is the board of the Water Supply Coordination Committee. It is made up of the General Managers and ICPRB staff.
- Q/A: When this agreement was forged the two big players had their own assets already. Yes. They continue to own and operate their own systems – they have just entered into an agreement that they are committing to operate them in a certain way in conjunction with everybody else. They still set their own rates – they still operate and recruit their own businesses. For future joint assets they have a funding formula as part of the agreement. If Fairfax wanted to go it alone and build their own reservoir, they could, but they also could benefit some from working through the Coordination Agreement and get some consideration if they made it part of the joint assets.
- Q/A: Joint Assets: If there is a joint asset, do they all commit, including the Corps to seek the approvals that are necessary and support the approval process? They do not have an agreement regarding the approval process. They do all comment in support of potential joint assets.
- Q/A: Does ICPRD have any regulatory authority? No, it is a voluntary agreement that the three water providers have entered into and agreed to abide by.
- Q/A: Low flow cap? Is there a level of water that everyone agrees to? There is only a cap during periods of low flow, but it is not a true cap because it changes every year based on the previous year's winter time water usage.
- Q/A: Underground water level fluctuations: Is there a water level in the groundwater system that we could talk about every year? Or use to establish a "cap"? Not without additional monitoring. We could do simulations like we do for the projections, but the challenge that we would have would be in trying to turn those water levels into an ongoing availability calculation, because we don't really know the answer on how much is really available – what we know is how much can be withdrawn without tripping the thresholds, and that depends on where you are in the system.
- The ICPRB model provides a good example of an alternative management structure that could be used, but there are currently no clear guidelines for the development/creation of such a structure in Virginia. – There is nothing that prohibits it either.
- In addition to "Co-Op", the other thing that the water suppliers have driven is the establishment of, within ICPRB, a Drinking Water Source Partnership which is focused on maintaining source water quality within an area that impacts their intakes. From a policy perspective, they have been very active.
- Q/A: Funding: By having the Federal Government say that this is an important issue and we are going to put money towards it and create this construct to force the conversation – lead to the opportunity to create these other opportunities – and provided funding so that it could be done in a scientifically and technologically based manner. Do we need to have some form of formal arrangement like this to address the groundwater issues in Virginia? Does even have an Eastern Virginia Groundwater Management Advisory Committee in place provide a platform for this type of discussion?

4. Lessons Learned – What would we like to see potentially in a regional structure?

Mark Rubin asked the group for their thoughts on what we would like to see in a "regional structure" at address our groundwater concerns. The group discussed the following items:

- Notion of a voluntary agreement
- Ability to address problems – low flow – and consequences
- Focus people to work together
- Preventative steps – coordination
- Voluntary effort – Who has the "big stick"? Who has the authority? Who makes the decision?
- Enforceable agreement/mechanism – state enforces with providers if state does not do this then moderator can sue – in VA, SWCB has the authority to resolve issues – has never been used
- Selection of "cap" – triggers

ACTION ITEM: The group asked for information on what powers does the SWCB actually have and what laws need to be changed to allow for the use of a regional management approach. Staff will look into identifying the issues/authorities in the Code that are currently not being used.

- Enforcement Mechanism:
 - SWCB
 - Mediation
 - Arbitration – private parties
 - Public interest needs to be part of the process
- Management Area Establishment – Surface Water Management Area establishment in VA – there have been a number of attempts to create a Surface Water Management Area (19) but none have been successful – these failures fall into one of two categories – either the Board wasn't comfortable that the science provided enough information to find that the criteria in the designation for a surface water management area were met or the parties couldn't agree – lack of science at the time was due to lack of computing power and available tools/model needed.
- Politics versus Science
- Concept of regulatory certainty if you join the group or not (agreement or not) – A challenge – just don't know if the certainty that is being talked about is possible from the state's perspective – we can't say that X volume of water is going to be available for Y number of years – need a better knowledge base – more frequent modeling and more frequent course corrections as the science improves and more information becomes available. Can't usually determine if more information about the system is going to result in more water or less water being available so permitting becomes more and more challenging.
- Voluntary versus Mandatory
 - Providers (withdrawers) required to be part of the process but actual participation is voluntary
 - Mandatory as part of the process and mandatory to participate
 - Voluntary to join, then mandatory

§ Incentives to join – certainty

§ Nudges

- The ICPRB concept creates a coordinated group to push policy change – they have periodically sought legislation to fill gaps – consumptive use regulations/legislation in Maryland and Virginia
- Where the “science” (i.e., research and modeling) should be housed?
 - Regional
 - State oversight with coordination capability at regional level
 - State
- The ICPRB concepts – results in greater resources – ability to pool resources to develop more science.
- There are significant data gaps – there are areas that need further study - need more information on land subsidence.
- The challenge is coordination of the various efforts – so that all parties, state and localities know what each is doing and are not redundant and part of a larger plan – coordination is the key – need to maintain an overarching view at the state level even if the work is not done at the state level.
- State permits implement regional agreement (low flow agreement) – special conditions - helps with enforcement?
- Group permits – might be a useful concept to consider – blanket permit with multiple withdrawers? Uncertain as to limitations of this approach.
- Incentives in permits to use alternative sources – incentives for folks to work together – could you change the permitting system to provide incentives?
- Conservation management plans are in existence now that might be modified to accommodate the concept of incentives for coordination and cooperation
- Discussed "Go Virginia" effort and whether that would provide a regional approach for this issue.
- Drought exercises (a week to 10 days in length) are not done in Virginia other than as part of the ICPRB cooperative operations – maybe could be added to VDEM program/exercises.

5. What do you want a Regional Group to Be? To Do" (Mark Rubin – Members of the Work Group – Stakeholders):

Mark asked for members of the Work Group and Stakeholders to identify what they would want a Regional Group to be – to do? The discussions included the following:

- From a regional perspective – look at all sources globally – not just groundwater
- Integrated water management – a more holistic approach
- Look at things in a comprehensive manner – a regional body needs to look at all water sources
- Need to look at who the decision makers should be.
- Need to think comprehensively.

- There is benefit from diversity.
- Look at alternative sources
- Focus on groundwater and then surface water and then water quality implications - need to follow a holistic approach

6. BREAK

7. Report on Activities of Other Workgroups - Summary (Mark Rubin):

Mark provided an overview on the activities of the other workgroups. He included the following:

- Workgroup #1 – Alternative Sources of Supply:
 - 3 Meetings
 - Criteria by which any alternative supply would be judged
 - § Economics and Money Issues
 - § Affordability
 - § Practicable
 - § Feasible
 - § Minimize the stranding of existing infrastructure
 - § Quality concerns
 - § Protecting public health
 - § Consistent quality
 - § Protecting the quality and integrity of products that rely on water
 - § Assurances of safety to the public
 - § Effective waste management from purification process
 - Alternative Supplies
 - § Adequate
 - § Sustainable
 - § Optimize demand management where practicable
 - § Reliability
 - § Adequate quantities in the future for both current needs and future growth
 - § Ensure a balance between the needs of current users and future needs
 - § Availability during emergencies
 - § Ease of monitoring as to quality and quantity
 - Consistency
 - § Regulatory – Federal and State
 - § Design standards
 - § Consumption standards
 - Future Growth
 - § Regulatory Impediments
 - § Expectations

- § Unregulated sources
- § Unpermitted users (every group has identified this as an issue that needs to be looked at)
- Protect the interests of private well users
- Being Sensitive to small and rural localities
- Allow citizens to build and live where they want
- Where to put the water back in the ground – reuse – injection
- Options:
 - § Aquifer Storage and Recovery (ASR)
 - § Desalination
 - § Demand Management
 - § Direct Potable Reuse
 - § Indirect Potable Reuse
 - § Increased use of Surface Water in lieu of groundwater – development of the use of reservoirs
 - § Water Trading
 - § Interconnections between localities
 - § Collaborative infrastructure maintenance
 - § Tax credits for updates to infrastructure
 - § Salt water intrusion barriers
 - § Reclaimed water unused under a permit
 - § Converting stormwater BMPs
 - § Rain water harvesting
 - § Grey-water – stormwater reuse
 - § Framework for small projects
 - § What happens if there is no option?
- Presentations:
 - § Aquifer Replenishment System – HRSD
 - § Hanover County – Aquifer Recharge
 - § Desalination Project – Poseidon Water
 - § Demand Management – Southwest Florida
 - § ASR Lessons Learned – City of Chesapeake
 - § Western Tidewater Water Authority – Legislative Proposal – Regulatory Certainty

ACTION ITEM: Staff will provide a copy of the Western Tidewater Water Authority Legislative Proposal to the Advisory Committee Members and the Distribution List prior to the next scheduled meeting to allow time for their review and consideration of the proposal.

- Workgroup #2B – Trading and Banking
 - 2 Meetings

- Discussions have been led primarily by Kurt Stephenson with Virginia Tech. He provided an overview of the Trading Concept as well as some examples from other states – Nebraska; Arizona; Texas; North Carolina – they all have different types of trading or banking systems
- Considerations/Criteria
 - § Predictability for permit holders
 - § Flexibility
 - § Appropriate trading metric that fits Virginia
 - § Sensitivity to geologic factors and effect – how close to the fall-line
 - § Have to define a quantity for a closed system – set a cap on what you are allocating and who is going to do that
 - § Minimize third party effects/impacts
 - § Timing issues – how long can you count on it – predictability
 - § Eligibility
 - § Trading must work with banking – trading should be an incentive to banking
- Group was positive about banking as a viable tool that should be explored a lot more – great interest
- Strawman for what a Trading/Banking system would look like
- Agriculture voiced some concerns about the concept of trading/banking

ACTION ITEM: Mark Rubin will develop a list of the options and criteria examined by each of the Workgroups for presentation to the Advisory Committee. Staff will distribute the information to the Workgroups as information.

8. What do we want to report to the Advisory Group? (Members and Mark Rubin):

Mark noted that this workgroup (#2A) has met 3 times counting today's meeting. His summary presentation to the workgroup this afternoon will include the following:

- The workgroup hear a presentation from Andrea Wortzel on the current regulatory framework.
- Questions raised by workgroup:
 - Is there a need for change?
 - Should the current system be tweaked?
 - Is there an opportunity to create something new?
 - Keep the current structure and overlay it with another that meets the issues with the current structure.
- Factors that ought to be considered in evaluating the current system and any suggested alternatives
 - Ability to have and encourage regional solutions
 - Responsibility and capacity to identify resources and problems
 - Human needs are the priority – agreed basis to work off of – clarify what "human needs" means

- Ability to set priorities
- Science staying at the state level – state oversight ability
- Consistence in application
- Predictability
- Economically feasible solutions
- Equitable
- Fairness and beneficial uses
- Should be a suite of integrated tools – coordination
- Clearly protect the resource
- Maximize beneficial use
- Balance uses
- Protect the long term ability to use the resource
- Clarity on water and property rights
- Adaptability based on science
- Stakeholder involvement
- Funding sources
- Current Structure
 - Identification of Gaps and Problems – part of permittee piece to be addressed at the next meeting
 - Based on individual permits
 - Doesn't encourage regional solutions
 - No mechanism to manage funding for regional solutions or to look for economies of scale
 - Responsibility and capacity to identify resources and problems
 - Unregulated users – a concern
 - Concerns about terms of permits
 - Fairness and equity – reliance on individual permits
 - Inadequate incentives for effective use of water
 - Funding
 - Stakeholder involvement
- How do we start looking at a regional solution?

Mark noted that part of the idea of taking this information to the Advisory Group is that even though there are no decisions that the group needs to make at this time, it is really a reporting opportunity and a request of them of whether there is something that they want to see the workgroups address that is not in this summary.

Mark asked for input from the group on what other information should be reported to the Advisory Group and what format should be used to present the information. The group noted that the summary as presented provides too much information. It was suggested that for this group that the biggest question to be addressed was "What is wrong with the status quo?" Need to refine the summary information. Need to identify the areas of overlap among the workgroups and integrate the summary report to the

Advisory Committee. It was suggested that we just report the key issues in the summary and ask for their input in areas that need further examination.

Discussions included the following:

- Q/A: Is there a number that we are trying to? Is the science available that says that we need to reduce groundwater consumption by "X" amount? What is the problem that we are trying to solve? There is a number but it is a "model" not really a number. You can look at the proposed reductions and add up the total permitted withdrawals after those reductions and you basically come up with that "number". Which is what the model tells us today will eliminate the majority of the critical cells by 2025. That is the status quo. If another user comes in then that "number" changes. The model is also based on the current estimate of "unpermitted use", which is in the neighborhood of 30 million gallons per day. We are in the neighborhood of a total of 70 and 90 mgd. So there is kind of a cap already.
- The "existing cap" assumes that you are going to follow the original objective of protecting the aquifer. Has the Advisory Committee bought off on this?
- When you look at regional solutions and the possibility of getting several groups together to reduce the overall consumption then you need to have a target for what you are trying to get to.
- You can write into the statute all the regulatory certainty you want to but when you start to get beyond 15 to 20 years out there is questionable resource certainty. The plan that DEQ puts out in terms of the reduction plan contains a "regulatory criteria" of 80% - what DEQ has done is in its proposal is to try to get the water use to level off above the 80% level instead of (if everybody executed their limits) below the line. But by virtue of the continued use of water, even at that reduced level, from the aquifer we eventually would fall below the 80% criteria line. It just goes down at a slower rate – that is why we have to move towards diversification of sources and the use of groundwater and only use the groundwater when the system can most recover from its use. That is the real challenge. It is a pressure driven system and any time you continue to use the system the level will continue to go down some. The system is "not sustainable" at its current level of usage. If you don't want the water levels to go down then you can't use any water. Any use of groundwater will ultimately result in head decline because there is recharge but it is in terms of 1,000's of years.
- Q/A: What is the 80% regulatory level? The regulation says that we are to keep a 20% cushion above the top of the aquifer so that we don't dewater it. That was the original margin of error in the original model.
- Q/A: The model is based on the permitted use not the actual use today. One of the questions that people are struggling with and one of the reasons that the WTWA brought forth their legislative proposal is that in order to make those reductions in the permitted uses requires a fair amount of sacrifice by the 14 largest permittees immediately – so what do they get in exchange for making that sacrifice? Do we have that conversation now and push for those reductions now (in 2016)? Recognizing that under this legislative proposal it would be a 15 year transition period to get to that point – under the normal scenario it might be a 10 year period (under the

current statute). Or, does it make sense to look at the alternative sources that are available that might be implementable in a shorter time period – at potential a lower level of sacrifice – and still get to the same solution? The model tries to take into consideration current use. It does still create a hardship even though people may not be using their full permitted amount – decisions have been made on having that "permitted amount" available if needed in the future – it does require a sacrifice by the permittee to get to the proposed reduction levels. When do we pull that trigger to get to the proposed reduction levels and what do the permittees get for making that sacrifice?

- There are two levels of sacrifice: there are those that have a certain permitted level and have not used it and those that have made the capital investment/improvements to use that permitted amount.
- The suggestion was made that we reduce the amount of information that we report to the Advisory Committee due to the volume of materials and focus on several key items, including "uncertainty of permit term" – maybe it is not the "term" that is of concern but the "uncertainty of the amount of the allocation" – there is a desire to lock in that amount (allocation) for a given period of time. If we don't have the modeling certainty that we need, what does that mean if you lock in a given allocation amount for a length of time? So is the concern over the "permit term" or the "predictability of the amount" or both?
- Because of the way we do groundwater withdrawal permits now (with term limits), those that get their allocation numbers first are at an advantage and those that come in later in the process are at a disadvantage – they only get what is left over.
- Q/A: What is wrong with the status quo? That question should be looked at. We really have not looked at the liability concerns. The Management Area was designed to avoid people ending up in court and having to debate whether your pump had taken water from other users – if you don't fix this that is what is going to happen. The Mitigation Plans are all going to get implemented if this problem isn't addressed. The law says that you actually have to provide water to the property that you harmed – which could be really daunting in certain areas of the state. The area of impact could be very large – it could include the entire coastal plain.
- The report to the group should include: the current system doesn't encourage regional solutions; there is no mechanism to manage funding for regional solutions; need to look at economies of scale; the current structure does have the responsibility and capacity to identify resources and problems within DEQ but not within VDH; unregulated users are an issue; concerns about the terms of permits – wanting a certainty of a number (allocation) and length of permit (time); incentives for efficient use of water; funding is an issue for a management structure; fairness and equity issues; more stakeholder involvement; and the current system doesn't take into consideration economic factors.
- Should be looking at all water (groundwater; surface water; stormwater, etc.).

Mark noted that part of what we need to do for the Advisory Committee is to build them a structure by which they can look at and evaluate the options provided by the workgroups. They need to have an

overarching structure on which to base their discussions. A close look at the current system is a good idea – at least to identify where the gaps are. There is too much information for presentation to the Advisory Committee at this stage of the process. The goal is to summarize the discussions and conversations of the various workgroups and present that to the Advisory Committee at their meeting on November 19th. It was suggested that if the report was too long the group is likely to not read it.

- Q/A: Is the approach that will be used to allow everyone to know that they have been heard but as the process moves along that the issues will get narrowed down? Yes, absolutely.
- Additional items to include:
 - Current structure doesn't consider stormwater and surface water in a holistic manner
 - Statutory framework could use clarification – What can the SWCB do and not do according to statute? Are there things that they are not doing that the statute would allow?
- Q/A: What is your "right to water"? There continues to be confusion over what is your right to groundwater in Virginia. This needs clarification.

9. What do we want to do at our next meeting? (Members and Mark Rubin):

A concern was noted about the group not meeting during the General Assembly session. We don't have a long period of time in which to try to resolve these issues. We have some momentum going on the process – it would be a shame to stop the process and then have to start it back up months from now. We can meet again – each group can set additional meeting dates, we just may lose a few folks, including Bill Norris if we meet during the session. Are there other topics and information that the group can exchange between meetings to keep the information exchange going and to keep the discussions and idea flowing? Yes, specific topics can be explored and the information distributed as needed.

The group discussed the idea of the workgroup meeting on Monday, December 7th either in the morning or the afternoon. The workgroup decided to meet on Monday, December 7th in the afternoon.

ACTION ITEM: Staff will send out a confirmation to the Workgroup for the meeting on Monday, December 7th.

- Q/A: What are we going to ask the Advisory Committee to do with the "10" items that this group will be reporting on? We will be just reporting on the activities of the workgroup and asking them if they think that we are looking at the right things or are there other things that this and the other workgroups need to be looking into? What do they need in order to make a decision?

- Q/A: Is the work of this workgroup finished after this report to the Advisory Group? No – we will meet again as soon as meeting dates can be agreed on – likely after "Cross-Over" for the 2016 General Assembly Session.
- When the group last met, programs in three different states were mentioned. These programs included the Alabama Clean Water Partnership; the Kansas Local Enhanced Management Area and the Indiana Water Rights Emergency Regulation. Mission H2O has compiled some information about these programs for distribution to the group if that would be useful. It is a very high-level overview of how each of the programs work.

ACTION ITEM: Andrea Wortzel will send the materials compiled by Mission H2O on the various state programs to Bill Norris for distribution to the workgroup.

- It was also noted that there had been questions raised about the current programs in other East Coast states. It was suggested that those other programs aren't set up to address the problems/issues in advance. The North Carolina Capacity Use Area program was mentioned. Georgia and South Carolina have programs that are largely based on dealing with saltwater intrusion and concentration limits. Maryland's program is similar to Virginia's – the language is similar and they have the 80 percent rule – we have had to do things a little differently than they have – they are taking people off of groundwater and making them get surface water.

The group discussed options for what we need to cover at our next meeting. The discussions included the following:

- Report on the Advisory Group meeting
- Unregulated users – options for addressing (Q/A: Are there any examples where a user has gone from unregulated to regulated? Has any other state looked at doing this? That happened in Virginia when the Groundwater Management Act was created and expanded. It doesn't appear that any other state has done this – the closest would be in the Western States – the Prior Appropriation States because all users are regulated.)
- Threshold level (Q/A: Are we at the proper threshold? Legislation was put in last year that would have closed part of the threshold loop-hole but that legislation was withdrawn and not acted on.)
- Allocation amounts for small withdrawers/rural areas – allocation formula for small withdrawers
- Define the regional concept
- What are the biggest weaknesses with the status quo? (How do we get permittees to participate in that discussion – there seems to be some concern that the experiences of individual permittees may be unique enough that there's not necessarily broad value in sharing their experiences with the program for any particular user's group (user's sector). How do we get people comfortable speaking about their concerns about the status quo?) The fact of the matter is that if we had enough water the permitting process is pretty easy to understand and works

well. We are just not in that situation now. The feedback from some of the permittees was that those that have permits that have recently gone through the process went through it before these dramatic cuts were proposed, so their experience is not necessarily the same as those that are going through the permitting process now. Those that are going through it now are in the process and don't necessarily want to serve as an example. We can probably talk in generic terms about whether there is a concern with the permitting process in terms of a process by itself, but the real problem is more one of if you are in the time of shortage does the permitting process really allow you to come up with solutions. Maybe the conversation that needs to take place is whether there is a problem with the permitting process or is the problem what we do when we get to a time of shortage? Staff noted that they would have a hard time leading the conversation critiquing their own program – that's why we need one or more of the permittees or one of the members of the workgroup to initiate the conversation for the group. .

- It was noted that as individual permittees, their experiences are very individualized. In the case of Norfolk, their ability to utilize other sources of water versus groundwater is very different than other localities, because they are primarily surface water. Norfolk's groundwater usage is primarily is for drought type conditions – that is reflected in their permit. Another locality that maybe basically just on groundwater would have a totally different issue. Don't think that you can look at one locality's permit and broad brush it around for everyone. It is going to be different depending on what the locality's resources are. Staff noted that they agree with that perspective but we can't have all 147 mainland permittees come talk to this group. The question is can we get a permittee to talk in more generic terms about the permitting process? It has to be a permittee or someone who works directly with a number of permittees and who can speak for them.

ACTION ITEM: Whitney Katchmark agreed to prepare a presentation regarding the permitting process and issues raised by permittees regarding the process.

10. Scheduling and Next Steps (Mark Rubin):

Mark Rubin reviewed the remaining meeting schedule for this Work Group and outlined the “next steps” in the process.

- **EVGMAC Workgroup #2A – Alternative Management Structures - Meeting #3 – Monday, December 7, 2015 – 1:00 – 4:40**

Meeting materials will be provided to the work group and will be posted to the web page – an agenda will be distributed prior to the next meeting.

11. Public Comment: No Public Comment was offered.

12. Balance of Meeting Schedules:

The current balance of the meeting schedule for the Advisory Group and the various EVGMAC Workgroups for 2015 include the following meeting dates:

- **EVGMAC Workgroup #2B – Trading - Meeting #2 – Thursday, November 5, 2015 – 1:00 – 4:30;**
- **Eastern Virginia Groundwater Management Advisory Committee Meeting #2 – Thursday, November 19, 2015 – 1:00 – 4:00;**
- **EVGMAC Workgroup #1 – Alternative Sources of Supply - Meeting #4 – Monday, December 7, 2015 – 9:00 – 12:30;**
- **EVGMAC Workgroup #2A – Alternative Management Structures - Meeting #3 – Monday, December 7, 2015 – 1:00 – 4:40;**
- **EVGMAC Workgroup #2B – Trading - Meeting #3 – Monday, December 14, 2015 – 9:00 – 12:30;**
- **Eastern Virginia Groundwater Management Advisory Committee Meeting #3 – Monday, December 14, 2015 – 1:00 – 4:00**

13. Meeting Adjournment: Mark Rubin thanked everyone for their attendance and participation in today's meeting. The meeting was adjourned at approximately **12:30 P.M.**