

**EASTERN VIRGINIA GROUNDWATER MANAGEMENT  
ADVISORY COMMITTEE**

**WORK GROUP #4 – FUNDING**

**MEETING NOTES – MEETING #1 - FINAL**

**THURSDAY, AUGUST 25, 2016 – 1:00 – 4:00  
DEQ PIEDMONT REGIONAL OFFICE – TRAINING ROOM**

**Meeting Attendees**

<b>EVGMAC – WORKGROUP #4</b>	
Jay Bernas – Hampton Roads Sanitation District	Jeff Scarano – Brown and Caldwell
Robert Carteris – City of Norfolk – Utilities	Kurt Stephenson – Virginia Tech
Richard Costello – AES Consulting Engineers	Chris Tabor – Hazen and Sawyer
Eric Gregory – King George County	Brett Vassey – VMA
Whitney Katchmark – Hampton Roads PDC	Michael Vergakis – James City County
Mike Lang – New Kent County	Matt Wells – WestRock
Doug Powell – James City County Service Authority	Andrea Wortzel – Troutman Sanders/Mission H2O

<b>EVGMAC – WORKGROUP #4 – STATE AGENCIES</b>	
Lance Gregory - VDH	Sandi McNinch – Virginia EDP
Scott Kudlas - DEQ	Howard Eckstein – VDH/ODW/DWSRF

NOTE: Advisory Committee Members NOT in attendance: Barrett Hardiman – Luck Stone; Steve Pellei – VDH/ODW

<b>INTERESTED PARTIES ATTENDING MEETING</b>	
Ken Bannister – Draper Aden	Jason Early - CARDNO
Bryce Cole – Walla Walla University	Rhea Hale - WestRock
Robert Crockett - ADVANTUS	Mike Polychrones - VMA
Chuck Duvall - WestRock	

<b>SUPPORT STAFF ATTENDING MEETING</b>	
Brandon Bull - DEQ	Mark Rubin - VCU
Craig Nicol - DEQ	Jutta Schneider - DEQ
Bill Norris - DEQ	

**MEETING HANDOUTS:**

- A. Draft Meeting Agenda;**
- B. List of EVGMAC Members and Work Groups #1; #2A; #2B; #3 & #4 Members;**
- C. Copy of Ground Rules Document;**
- D. Chart Summarizing the work of the Alternative Supply Workgroup to date;**
- E. Summary of Issues;**
- F. List of Proposed Issues for Discussion – Mission H2O**

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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.

He noted that this was the first meeting of the Funding Workgroup. He noted that we meet this morning with the Alternative Permitting Criteria Workgroup.

## **2. Discussion of Ground Rules and Explanation of Consensus Problem Solving Process and Timeline**

Mark Rubin discussed the structure of the Advisory Committee and the Workgroups. He noted that there is an advisory committee, the Eastern Virginia Groundwater Management Advisory Committee that was set up by statute and we have a number of workgroups addressing specific questions; issues and subject areas. This is the fifth workgroup that has been formed to assist in the working of the advisory committee. Three of the workgroups have been meeting and working diligently over the last few months. These groups are: Workgroup #1 – Alternative Sources of Supply; Workgroup #2A – Alternative Management Structures; and Workgroup #2B – Trading. Workgroup #3 – Alternative Permitting Criteria had their first meeting this morning. The work of the Alternative Sources of Supply Workgroup has not been completed so that we can't say here's the project, now how are we going to fund it?

The timeline for the ongoing efforts is for all of the workgroups to complete their work by December of this year, so that we can make recommendations to the Advisory Committee and then the Advisory Committee is going to be working between then and August of 2017 to come up with final recommendations that would go to DEQ and then to the Water Commission and the relevant Legislative Committees.

Mark informed the workgroup that the State Water Commission met yesterday (08/24/2016) and that he had presented a status report on behalf of the Eastern Virginia Groundwater Management Advisory Committee. In addition, JLARC staff provided an update to the Commission on their ongoing concurrent Water Resources Study. The JLARC Report is due to be presented to the State Water Commission on October 11<sup>th</sup>. It is anticipated that the JLARC Report will give us more information to continue and complete our work.

The goal for this workgroup is to determine sources of money – sources of funding.

Mark discussed the Consensus Problem Solving Process and the Ground Rules with the Workgroup. He noted the following:

- This is a consensus process – the idea is for this to be a problem solving process. Typically what we have done is to pose things in the nature of problems and then brainstormed to come

up with options to try and resolve those problems and hopefully arrive at a consensus as to what those options/solutions might be.

- He referred the workgroup members to the Ground Rules document that was distributed to the workgroup prior to the meeting and made available at the meeting as a handout. These are Ground Rules that are governing the Advisory Committee as well as all of the associated workgroups.
- All of our meetings are subject to FOIA. All of our meetings are public meetings and must be advertised. Two members of the workgroup can meet but the meeting of more than 2 members has to be advertised and there has to be a mechanism and opportunity for public involvement.
- All communications related to the workgroups and Advisory Committee need to be distributed through one point of contact. The point of contact for his workgroup and this process is Bill Norris. If you have anything that you want to share with the group please send it to Bill for distribution to the group.
- In these processes, all of you as members of this workgroup are here as representatives of a group or groups or a company or a local government, etc. It is very important that throughout this process that you keep your principle group advised of what is going on with the group and the discussions and recommendations that are being made so that they are aware and onboard with those recommendations. It is important to keep your parent organization or group informed throughout the process so that we can get a buy-in on the final recommendations.

### **3. Review of Agenda (Mark Rubin):**

Mark Rubin reviewed the agenda for the meeting and the plan for conducting the meeting.

### **4. Brief Report on Work of the Alternative Sources of Supply Workgroup To Date (Craig Nicol):**

Craig Nicol, DEQ's Water Withdrawal Permitting Program Manager provided a brief overview of the work of the Alternative Sources of Supply Workgroup (Workgroup #1). A copy of a spreadsheet summarizing the work of the Workgroup was distributed to the workgroup prior to the meeting and was also provided as a handout at the meeting and is provided below.

Craig's presentation included the following information:

- The chart provided is a summary of a lot of work and by no means is an attempt to capture everything that the workgroup discussed. Both primary and secondary strategies are provided for each of the regions (Eastern; Central; and Fall Line). If a strategy is not listed for one of the regions it does not mean that the option wouldn't work there, it just was not evaluated for that region at this time. These are not necessarily the best strategies but they are what the group evaluated for this work product. Any identified impediments and/or incentives are also listed. It should also be noted that funding opportunities for these options have not been included in the chart – that is up to this workgroup to discuss and consider.

Strategies		Regional Assessment			Other Considerations
Primary	Secondary	Eastern	Central	Fall Line	Impediments and/or Incentives
Surface Water	Fresh (Direct Use)	√	√		Limited land and supply. Must go upstream and may be limited by upstream users. Stakeholder resistance to moving water to other areas of the state
	Reservoirs	√	√	√	Multijurisdictional, Federal permitting, Limited land availability and water supply (must go upstream and may be limited by upstream users), Agency supported. Increased opportunity for wetland impacts and mitigation, protects private well users,
Desalination	Surface Water	√			Discharge of waste concentrate / Impacts to tidal biota
	Groundwater	√			Discharge of waste concentrate
Storm Water Ponds	Irrigation	√			Limited yield but results in less irrigation wells. TMDL credits / SLAF Funding
	Reservoirs	√			Limited yield and vulnerable to contamination. TMDL credits / SLAF Funding
Decentralized Small Scale Systems	Quarries / Impoundments	√			Seasonal, cost for infrastructure
Reclaimed Water	Direct Potable	√			Currently prohibited by law
	Indirect Potable	√			Cost for interconnections and distribution
	Non Potable	√			
	HRSD - SWRI	√			EPA approval needed, costs to non-users, must be treated twice
Reuse	Onsite			√	Need end user. Additional treatment costs
	Offsite			√	
Inter-Basin Transfers		√			Stakeholder resistance to moving water to other areas of the state
Inter-Connections			√		
Aquifer Storage and Recovery (ASR)		√	√		Who pays for O&M costs
Aquifer Recharge	From Service Providers	√		√	Use periods of excess water to recharge and can utilize existing facilities and lower cost to treat water. Already being done in VA
	From Impoundments			√	Less infrastructure for distribution and may be limited by seasonal or volume considerations
	Wastewater			√	

- Funding sources that were discussed were the possibility of using the Stormwater Local Assistance Fund for stormwater ponds; the Water Quality Improvement Fund; and the use of tax incentives (TIQs and TIFs).

**Discussions by the workgroup included the following:**

- What does the check mark in the summary table designate? The Region was divided into three separate parts and the Workgroup members were assigned one of the three regions (Eastern; Central; Fall-Line) to evaluate. If there is a check mark indicated beside an alternative or option it means that the option of alternative was evaluated or assessed for use in that region. In general, it can be assumed that if there is not a check mark that the option probably won't be discussed further for use in that particular region because it wasn't considered a priority or wasn't one of the high priority things to consider.
- It was noted that a fair amount of time had been spent by Workgroup #1 – Alternative Sources of Supply discussing the HRSD project. Jay Bernas provided a brief summary of the HRSD project. He noted the following:
  - HRSD currently treats about 150 mgd through 9 major treatment plants and 4 smaller plants.
  - The idea is to take 6 to 7 plants and instead of discharging that treated wastewater into the Chesapeake Bay to add additional wastewater treatment processes at the end of those treatment plants and then injecting that drinking water quality water into the aquifer to help recharge the aquifer.
  - By doing this we would be eliminating 90 to 95% of the nutrients and sediments that go into the Bay, hopefully we are helping to stop land subsidence; recharge the aquifer; and prevent salt water intrusion.
  - From a funding perspective, in terms of capital dollars, it is all tied into an integrated plan with EPA. They are currently under a consent decree for our sanitary sewer overflows where we are projected to spend \$2.1 billion in current day dollars – the idea is can we do this aquifer project first and then do the wet weather work later in looking at a Capital Plan through 2053. So essentially prioritizing the work that is done in the region with the limited capital dollars that are currently available.
  - The project would probably start in 2019 with the first full scale plant. There is already a Pilot/demonstration plant where we will start drinking water September 15<sup>th</sup>. So there are two Pilot Projects, one is going to be Reverse Osmosis and one is VACGAC – two different trains – two different treatment options – we should be able to drink water from those projects in the middle of September. We are in the process of selecting a firm for design build for a demonstration plant. It is about a \$15 million demonstration plant. Full construction is planned through the year 2030.
  - Of the 150 mgd, the best scenario plan is to inject 120 to 130 mgd by using 6 to 7 plants out of the 9.

- This is HRSD's plan but it is still contingent on EPA agreeing to the postponing of the wet weather capacity work.
- While we hope that the HRSD project is successful, the Alternative Sources of Supply Workgroup is not putting all of its eggs in one basket and is looking at other options as alternative sources.
- If the HRSD project moves forward it is still going to take 20 years for the aquifer to be really seeing the benefits of that kind of project.
- Aside from the EPA Approval for the project are there any other stumbling blocks or major hurdles to overcome for the HRSD project? One of the biggest hurdles to overcome is public perception. The new name for the HRSD project is "SWIFT" (Sustainable Water Infrastructure for Tomorrow). There could be political and regulatory stumbling blocks. HRSD is working closely with DEQ and VDH throughout the project.
- Are there other injection projects being considered? The City of Chesapeake does injection but theirs is an Aquifer Storage and Recovery effort. They inject locally and withdraw locally. They use the aquifer as an underground storage tank.

**5. Discussion of the Current Funding Mechanisms for Funding Water Infrastructure (Scott Kudlas):**

Scott Kudlas, Director of DEQ's Office of Water provided a brief overview of the current funding mechanisms that are available for funding water infrastructure. He noted the following:

- What do folks define "water infrastructure" as for purposes of this group? Are we talking about pipes, or injection projects, or reservoirs or all of the above? The group agreed that it was probably all of the above.
- There are a number of folks in the room and here as members of this workgroup who either are water providers or use water or help folks get permits etc. to get water, folks who design system to use water. Most of you know then that the bulk of those costs get born by you – there is not a lot of money/funding out there – most of the municipal level funding comes from rate payers and bonding. On the private side most of the money comes from the folks like those here in this room and your customers.
- There are a couple of small sources of funding available. The VDH does have a Revolving Loan Fund for Drinking Water – they do have some criteria that can be used to turn some of those into grants. That fund is generally annually at \$13 ½ million (all federal monies – there is a state match component) and primarily is used to fund pipeline projects; some treatment plant projects and seems to be targeted to some of the more fiscally stressed folks. It is primarily for construction projects. It is not designed for Operation and Maintenance. About 20% of the funds are approved for grants to localities. The projects are ranked according to public health priorities. The monies are then distributed to the water works in the different localities based on those priority needs.

- Some folks have discussed the possibility of using funding from the Water Quality Improvement Fund (WQIF) at DEQ as a funding source. That program was developed primarily to facilitate the development of infrastructure initially at wastewater treatment plants so that we could meet the Chesapeake Bay Nutrient Targets. Since its inception that program has put out about 1 billion to 1 billion and 1/2 dollars in grants and loans to folks to carry out that purpose.
- During the last Water Commission meeting, Deputy Secretary Baxter talked about future commitments for the WQIF. One of the things that he pointed out was there was over the next 10 years or so at least another billion to a billion and ½ dollars that are needed to be spent for agriculture and about that much again that is needed for urban stormwater improvements. So the availability of this particular fund for funding of water infrastructure efforts that we are discussing is not likely. The WQIF is funded through a percentage of the surplus that is available in any given year. It is a dedicated fund and there is a certain percentage of the surplus that the General Assembly has to deposit into the fund.
- Another possible source of funding is DEQ’s Clean Water Revolving Loan Fund but that has historically gone into Water Quality Improvements.
- It was suggested that one of the goals of any funding discussions of this workgroup would be the ability to get loan interest or subsidized loans.
- At the state level there is no dedicated source of funding or targeted source of funding that specifically deals with the development of new sources or alternative sources of supply.
- There is a congressionally created fund (WIFIA – Water Infrastructure Finance and Innovation Act) that is intended to provide funding for infrastructure at the local level. The Act establishes a new financing mechanism for water and wastewater infrastructure projects – it provides low interest rate financing for large dollar-value projects. There are still ongoing conversations about what the criteria for projects would be or what would be eligible for that money. Congress has not put any money into this fund at this time.
- At the time that the Water Supply Planning efforts were underway there was a source of funding to support the development of those local plans. That funding source was not created by the General Assembly as a source of money to be provided to the locality, it was actually a source of money that DEQ cobbled together from a bunch of different programs that was put into that grant funding mechanism and then in 2008 it got cut. Yes, there was a “planning fund” at that time, but it was directly dedicated to the development of water supply plans.
- The funding for water infrastructure is a much underfunded area of work.
- The use of VRA as a funding mechanism was also discussed.

## **6. Issues to Solve – Identification and Prioritization of Issues (Mark Rubin):**

Mark noted that the next step in the process for this workgroup today is the identification of “Issues to solve”. He identified two documents that had been distributed to the workgroup prior to the meeting and that were also available as handouts at the meeting. The reference documents are the “Memo from Mission H2O” and the “Summary of the Notes from the Other Workgroups regarding Funding”. Mark

posed the question to the group on “What is it that we would like to fund?” Not so much what infrastructure project, because clearly we want to fund infrastructure, but are there other things you think need to be funded? Do we need to fund consumer education efforts to change consumer and public perception? Do we need to have a public education funding component?

**Discussions by the Workgroup included the following:**

- It is not just the public perception regarding the HRSD project, but there is a need for educating the public regarding the scarcity of the groundwater. The perception is that Virginia is water rich so why should they invest in that. It is both the problem and the solution that the public needs to be educated about.
- There is a need for funding for conservation and efficiency programs.
- There is a need for funding for research on infrastructure and pilot studies and what other entities are doing.
- Public and private infrastructure efforts need funding.
- Funding for DEQ to make sure that they have sufficient funding to do their job and manage the program. Funding to support DEQ’s modeling efforts in support of the program. Funding for DEQ resources to make the process work.
- Having money to have the ability to have people switch from groundwater (from individual wells) to a municipal system.
- Funding to acquire land for the most suitable surface water sites so that they don’t get turned into houses or other things.
- Funding for data collection – research.
- Funding for modeling – model maintenance.
- Funding for an economic study – demonstrate the economic benefits.
- Is there a state role in developing or subsidizing a regional project? Coordination issues? Is there a facilitation role that the state could play?
- Source identification – research.
- There appear to be two tiers of problems: One being “How do we achieve the reductions that have been proposed currently (How do we find the projects to achieve those?)”. The second being “What do we do moving forward to make sure that there is enough water for growth and economic development?” Is that planning money? Does this create two tiers of infrastructure that will need to be funded? Could this be looked at as “Short Term” versus “Long Term” Funding Concerns?
- It was noted that to the extent that people have to spend a fair amount of money to get to the reductions does that take away from the money that would be available for future projects?
- Both the economic benefits and the economic risks should be considered.

**7. BREAK**



## **8. Issues to Solve – Identification and Prioritization of Issues – Funding Mechanisms (Mark Rubin):**

Mark Rubin brought the workgroup back to order and suggested that now would be a good time to talk about what are some possibilities for funding mechanisms for whatever we end up with – Where is the funding coming from?

A follow-up to the discussions before the break was that under the guise of “research”, funding is needed for localities to improve on their water supply plans – maybe in the first round they didn’t have sufficient resources to put a comprehensive plan together.

Mark suggested that during this “brain-storming” session on “where the money could come from” that we need to “separate our creative function from our evaluative function” so that we can be creative about things that we are thinking of and if there are things in other programs in other areas that might be adapted to something like this and if someone suggests something please feel free to add to that suggestion. We are just trying to come up with possibilities first then we will start evaluating them. If you make a suggestion, please try to describe it a little bit so that others are clear as to what is being discussed. What are some options that this workgroup should consider?

### **Discussions by the workgroup included the following:**

- Provide low or no-interest loans.
- What is the VRA? They leverage the state’s “Triple A” Bond rating. Every quarter they provide these pools of money that can be loaned at a low rate of interest to localities. They also help DEQ with their Clean Water Revolving Loan Fund with subsidized loans. They are like the financing vehicle for the Commonwealth. Localities bring their projects into the VRA, and then VRA goes out once a quarter and pools the projects to get better leverage. They do not accept every project that is brought to them. It is a bond bank. On the Clean Water side, they have been funding everything that has been applied for. The way that they raise money is through leveraging and lowering risks because of pooling all of the different projects and lowering administrative costs. There are two pieces to the process, there is the pooled financing and there is the Clean Water Revolving Loan Fund (this is a subsidized fund using federal funding).
- User fees based on “ERC” – Equivalent Residential Connection – patterned after the way that stormwater fees are handled in many localities. This would be a fee per connection. This could be based on gallons per day. Households could pay it twice a year with their taxes. Industry and such could pay for it monthly. Need to be careful about the differences between “pay per connection” and “pay per gallon” fees for different users. It might be better to just have one system instead of two.
- A tiered or per gallon permitting fee. How are permitting fees handled now? The permitting fees go back to the state. There is no predetermined or set General Assembly guidance or directive about how much of a program’s costs ought to be paid for out of fees, but the average for DEQ is in the neighborhood of 30%. For the Groundwater Permitting Program it is less than 10%. One of other aspects of this program is that for upkeep of the model and running technical

evaluations through the permitting process 75% of what DEQ gets in the fee is expended just to get that done. The average costs per permit for the resources that DEQ puts into it is approximately \$40,000 and the permit fee is \$6,000.

- User fees and taxes.
- Could there be a premium for an “expedited permit”? That doesn’t currently exist.
- Tax credits. For what? How about something like a “historic rehabilitation” credit? For so many millions of gallons that you put back into the ground per year, you would get a tax credit. A tax credit could be handled in a similar fashion to the way that some states handle their solar programs. Tax credits should be saleable and refundable.
- It was noted that there are probably two kinds of buckets/categories of ideas and suggestions that the workgroup should be considering. They are “stuff that we could get to now” (things with a reasonable expectation of working) and “stuff that is more future-facing” (things that require more planning and setup).
- On a long-term basis - A trading program – you would generate credits for various activities (injection or conservation) – a good mechanism for getting capital into the market.
- On a short-term basis – More of a peer-to-peer model – User-A needs to make a reduction but there is nothing currently feasible for them to do but another user (User-B) has a project that makes a lot of sense but they can’t fund it then User-A helps them fund their project – somehow then a credit would then be generated. There is not a framework for this type of exchange system to work in the current program. It is probably not prohibited but it is probably limited by a user’s particular impact on the system.
- If you want to create a stable system in the long-term then trading would be more viable than sort of an ad hoc peer-to-peer approach. People could perhaps make better financial decisions based on a structured program going forward to plan projects that are a benefit to them and everybody else.
- What percentage of the water that is withdrawn on an annual basis can be attributed to folks like Franklin and West Point Mills? About 40%. Right now these folks are not eligible for funding sources like VRA. What if we opened up that funding source to them? They are driven by the bottom line – they are going to do things the cheapest way possible – we could limit it to things like water conservation. If 40% of the water is coming out of those two sources, giving them access to lower interest rate money might be helpful. You can currently do that a little bit with VRA funding but there will never be federally tax exempt funds, so they will never have the benefit a federal tax exemption possible because they are private users. The VRA can certainly be useful in helping to increase their credit quality.
- Could a regional authority or a non-profit be created that would handle water supply planning and conservation that would qualify for VRA funding? It would have to be established by the General Assembly and it would have to be an approved political subdivision.
- The Economic Development Authorities can give private activities bonds to assist with economic development projects coming in but they are not entitled to the tax exempt status that municipal bonds are.

- The Economic Development Partnership has a mechanism called the Virginia Investment Partnership – is there a potential for the major industrial withdrawers and the business retention team to do a specialized thing like that for the conversion costs or a proportion of the conversion costs? So using state general funds to make grants to those companies for those purposes? Yes. The Virginia Investment Partnership is currently used for companies that are investing large sums of money and hiring large numbers of people, so it would have to be a different kind of model if used to support the types of activities that we have been discussing. Not sure what the acceptance for such a model would be. It would require a lot of public policy explanation for retention, because it is used for companies putting up big numbers for employment. The case would have to be made that these companies would have to make the investment or they would have to move.
- Research is needed for economic benefits of economic development.
- Could a private/public partnership model similar to that used by the Virginia Health Care Foundation be used? It could be an “infrastructure bank” for purposes of our discussions. Basically for an “infrastructure bank” you are using a structure of the creation of a public authority for the state, then the state puts some appropriation into the “bank”, similar to the WQIF (a dedicated fund) then it is a competitive award based on whatever the criteria are. In some states they are doing it for climate change adaptation to move buildings for sea level rise, etc. They are leveraging federal monies in different ways. They did this in the Governor’s Climate Change Commission – there was a whole section on the use of Infrastructure Banks. There would have to be matching monies for this type of bank to function. In other states these infrastructure banks are usually used in rural areas for rural development.
- Access Fees versus User Fees. An access fee would be a one-time connection fee.
- An unpermitted user fee? Do we know who they (the unpermitted users) are? DEQ knows who a sub-set of them are - the VDH permitted wells. VDH typically permits about 6,000 to 10,000 private wells per year in the state. The Groundwater Management Area private well number is somewhere just north of 50% of that number. DEQ now has a kind of consistence check because every time a new well is drilled, it has to be registered with DEQ within 30 days in a groundwater management area. VDH started permitting wells in 1990, so any wells prior to that time may not ever be accurately accounted for.
- Maryland has a “flush tax” why couldn’t you have a “Tap Tax”?
- Taxes don’t have to be universal. There could be separate tax districts with some folks paying the tax and certain folks not.
- Could you have a tax incentive for the abandonment of a well that is no longer being used as the primary source of water – maybe have a lower connection fee if the well is officially abandoned?
- If local governments extend water lines down a street or a road they cannot require private property owners that abut that line, who have an operational well to connect. That is a prohibition put in place by the General Assembly. It would be politically unpopular to require that but it would solve several problems. One, it encourage people to get off of private wells

and connect to public systems - it would eliminate the private wells, if they agreed to cap it and two, you would have a new user – i.e., more funds at your disposal.

- Discounted connection fees to encourage connection to the public system and abandonment of a private well.
- An availability fee.
- Federal funding sources.
- Buying back the over-allocated permits – used in Georgia – used on a short-term basis and focused on agricultural use.
- JLARC reported at the Water Commission meeting that 83% of the withdrawals are for power plants – statewide – primarily surface water – there are a handful of plants that use groundwater for cooling but they are small plants – any of the major power plants use surface water. Most of that gets returned – there is a 20 to 30 % loss due to evaporation.
- Utility tax.
- Incentivize the use of surface water – get them off of wells but then where do they go? Augmentation of our surface supplies. It goes to the timing question, you have the immediate “you must reduce your usage by X amount” and then you have the bigger long term “ok, then what do we do for the future?” It is both a question of “timing” and a “funding”.
- What is the dollar amount we are trying to get to? Don’t know. Individual permittees may know their own costs. Groundwater is “free” but “not free”.
- What are we trying to fund? Depends on the incentives and on how many projects do we need?
- Public/Private Partnership Act – incentivize the public sector – create an in-lieu fee fund.
- Lawn irrigation is part of the problem. Water for irrigation – pay more for a particular use such as irrigation?
- You can do Public/Private Partnerships for energy efficiency projects why couldn’t you use it for “water efficiency”? The problem would be how do you monetize the benefits of water efficiency?
- It is a regional problem but we don’t have a regional funding mechanism for a regional solution.
- There will probably need to be a regional authority to solve the regional problem. What would it take for localities to buy into such a regional authority for groundwater?
- Funding of the cost of stranded assets.
- Use of “Go Virginia” fund?

The workgroup had a lengthy discussion on the HRSD project.

## **9. Flip-Chart Notes/Options:**

- Low or no interest loans – VRA, loans to localities; Bond Bank
- User fees – like stormwater connection – pay per ERC
- Pay per gallon
- Tiered or per gallon permit fee

- Taxes
- Premium for expedited permit
- Tax credits for injection or other investment – conservation or efficiency
- Short term – peer to peer
- Long-Term – trading – certainty of structure
- Low interest loans to private users – conservation and efficiency – authority mechanism – GA can create.
- VA Investment Partnership – grant
- Infrastructure bank – dedicated source of funding
- Public/Private Partnership – state money leveraged
- Access fee – new wells – additional fee
- Unpermitted user fee
- Tap tax/flush tax
- Tax by district/neighborhood
- Require connection to municipal system – where possible
  - Amnesty or discount to create incentive to switch
- Availability fee to run line
- Federal funding source
- Buy back permit for over-allocation - \$ used for alternative source
- Utility tax
- Incentivize impoundments to create alternative source
- Monetize credits
- Public/private partnership for development of sources or water efficiency
- In-lieu fee to mitigation fee
- Irrigation – pay more for a particular use like watering lawns
- Regional funding mechanism – regional authority with revenue generating authority for moving forward not to manage what currently exists
- Go Virginia
- A New Regional Authority – focused on stormwater; address sea level rise; TMDL Issue (Not HRSD)?

#### **10. Flip-Chart Notes/What To Fund:**

- Water Infrastructure
  - Public
  - Private
- Public Education
  - Problem
  - Solution

- Conservation and Efficiency Programs
- Research – pilot; data collection, model making; source identification
- DEQ Resources
- Switch consumers to municipal systems
- Land acquisition – surface water sites
- Economic benefits and risks of project – study
- Coordination of local and state project issues
- Funding for current reductions and future projects
- Improved planning
- Stranded assets

## 11. Discussions:

Mark Rubin asked the group for what kind of data do we need to be able to evaluate all of the options and issues that we have discussed today, where do we go from here? Now that we have generated all of these ideas what do we do with them?

### Discussions by the workgroup included the following:

- If you have a \$10 user fee how much \$ does that generate?
- How much information is there on permitted users? Number? Quantity that they are permitted for? For the unpermitted users, what information is available? We know a fair amount about the permitted users and would be able to provide information that we have available on numbers, quantity, etc.
- What constitutes “unpermitted”? Houses; farmers are included but what else is considered “unpermitted”? It could be anybody that doesn’t have a permit. The general categories are some kind of Ag watering, not necessarily irrigation, but more like livestock watering. The most frequent source of Ag water use that isn’t permitted is not for irrigation, it is for livestock watering. The largest single unpermitted group is probably the irrigation group. Anybody under the 300,000 gallon per month cutoff. How much can be quantified? From 2008, DEQ has a good idea/estimate of the homes based on census data in the management area – that is what went into the model estimate. The delta from 2008 to today has not been developed. We could start there and also look at a typical (based on the information that we are getting now) proportionality of the kinds of information that VDH has collected from private wells.
- A presentation was referenced that DEQ gave at the State Water Commission last year where information was presented about water usage by the different use categories and a lot of other information that might be useful for this workgroup to have access to.

**ACTION ITEM: Scott Kudlas and Andrea Wortzel will identify which of the DEQ reports to the State Water Commission contains the latest information about water use in the Commonwealth – that presentation will be distributed as information to the workgroup.**

- Need to quantify the revenue streams and the costs of administration of those revenue and funding streams – there are administrative challenges that need to be considered.
- Need to evaluate the various revenue streams that were discussed to identify amounts of revenue that could be generated and the costs of administering those funds.
- Further discussion about the HRSD project and its funding needs and timing need to be further fleshed out and discussed by the workgroup. What would it take to accelerate the HRSD project?
- How much room does the state have under its debt cap? - Need more information about VRA.

**ACTION ITEM: DEQ will ask the folks with the VRA program to make a presentation regarding the program to the workgroup.**

- What are the costs to move folks off of groundwater?
- Need to look at three options: Groundwater – Surface Water – Trading. Is there a role for trading?

**12. Next Steps:**

Mark noted that for the next meeting we really need to start looking at some of the data items and additional information about HRSD as well as other funding options that go to other projects that have been discussed.

It was noted that it would also be helpful to talk about options like: Scenario I – HRSD and SWIFT (groundwater Augmentation) and Scenario II – Without HRSD (No Groundwater Augmentation). Sometimes you need to consider that you can't do both. You don't spend money on how to get people off of groundwater if you are spending money to replenish the aquifer. Need to evaluate options under these two different scenarios.

It was suggested that it would also be useful to hear from VAMWA or the Trading Exchange about what if they were given the authority to just allow the groundwater permittees to trade – to just manage that like they do nutrients – if they were given that authority so we didn't have to reinvent the wheel – could they do it or are there reasons that it would not work? Is it as “apple to oranges” situation? Would there be any added value? It was suggested that for this type of approach to work that we would need to have a closed system with a capped amount of who would get what.

**13. Public Comment: No public comment was offered.**

**14. Meeting Adjournment:**

Mark Rubin thanked everyone for their attendance and participation in today's meeting. We will try to set meeting dates through the end of the year. We need to have our work completed by the end of December.

The meeting was adjourned at approximately 4:05 P.M.