EASTERN VIRGINIA GROUNDWATER MANAGEMENT ADVISORY COMMITTEE

WORK GROUP #3 – ALTERNATIVE PERMITTING CRITERIA

MEETING NOTES – MEETING #2 - FINAL

FRIDAY, SEPTEMBER 23, 2016
DEQ PIEDMONT REGIONAL OFFICE – TRAINING ROOM

Meeting Attendees

EVGMAC – WORKGROUP #3	
Curtis Consolvo – GeoResources, Inc.	Mike Lawless – Draper Aden Associates
Jeff Corbin – Restoration Systems	Britt McMillian – ARCADIS
Larry Dame – New Kent County	Wilmer Stoneman – Virginia Farm Bureau
Katie Frazier – Virginia Agribusiness Council	Mike Toalson – Home Builders Association of Virginia
Chris Harbin – City of Norfolk – Department of Utilities	Brett Vassey - VMA
Dan Holloway – CH2M/HRSD	Michael Vergakis – James City Service Authority
David Jurgens – City of Chesapeake	Matt Wells - WestRock
Mike Kearns – Sussex Service Authority	

EVGMAC – WORKGROUP #3 – STATE AGENCIES	
Lance Gregory - VDH	Scott Kudlas - DEQ

NOTE: Advisory Committee Members NOT in attendance: Nina Butler – WestRock; David DePippo – Hunton & Williams; Kyle Duffy – International Paper; Judy Dunscomb – The Nature Conservancy; Bill Gill – Smithfield Foods, Inc.; Whitney Katchmark – Hampton Roads PDC; Rob McClintock – Virginia EDP; Jamie Mitchell – Hampton Roads Sanitation District; Doug Powell – James City County Service Authority

INTERESTED PARTIES ATTENDING MEETING	
Phil Abraham - VECTOR	Mike Polychrones - VML
Ken Bannister – Draper Aden	Andrea Wortzel – Troutman Sanders/Mission H2O
Rhea Hale - WestRock	

SUPPORT STAFF ATTENDING MEETING	
Craig Nicol - DEQ	Bill Norris - DEQ

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 thanked everyone for attending the meeting.

2. Review of Agenda (Mark Rubin):

Mark Rubin reviewed the agenda for the meeting and noted that we would first hear from Lance

Gregory regarding the database and information that the Virginia Department of Health maintains on private wells and then we will be spending some time discussing the issue of how to address "unpermitted users" and to deal with those users. Then we will be talking about "the planning process" and the fact that the permitting process is not the planning process but they have a pretty significant relationship. We will talk a little about what people see as things that need to be improved in the planning process. Then we will spend a little bit of time talking about what we want to report to the advisory committee at their meeting on October 17th.

He informed the group that we had a good joint meeting between Workgroup #1 – Alternative Sources of Supply and Workgroup #2A – Alternative Management Structures on Monday, September 19th. We are closing in on a product from those groups for delivery to the Advisory Committee.

3. **Presentation – Virginia Department of Health Data on Private Wells (Lance Gregory - VDH):**

Lance Gregory, Environmental Health Coordinator with the Virginia Department of Health's Office of Environmental Health Services provided an overview of the Virginia Department of Health's Private Well Data. His presentation included the following:

- **Program Background**
  - Authority provided in §32.1-176.4 of the Code of Virginia to adopt regulations pertaining to the location and construction of private wells.
  - Private wells are defined as *"any 'water well' constructed for a person on land which is owned or leased by that person and is usually intended for household, ground water source heat pump, agricultural use, industrial use or other nonpublic water well."* – These are domestic wells that aren't a water-works (less than 15 connections – less than 25 people per day) – also covers agricultural use and industrial use – essentially those things that aren't a water-works or a DEQ regulated well in terms of monitoring.
  - Private Well Regulations (12VAC5-630) established in 1990. – Starting in 1982, VDH did start regulating private well construction, when the well was constructed in conjunction with an in-site sewage system – it wasn't specific to all private wells only this category of wells (in conjunction with an on-site sewage system).
  - Regulations cover location and construction standards for private wells – casing and grouting.
  - No ongoing maintenance or sampling requirements – there is a requirement for a bacteriological sample for drinking water wells prior to be given the inspection statement approval for the well. – Other than that there is no ongoing monitoring and inspection requirements.
- **Estimates: Statewide and Groundwater Management Area (GWMA)**
  - Approximately 700,000 homes served by private wells in the Commonwealth.
  - Approximately 275,000 to 300,000 homes served by private wells in the GWMA – these are wells strictly serving a residence
    - Census data.

        - § VENIS data.
        - § Estimates for data gap; 1990 to 2003.
    - Estimates do not included non-potable wells – so agricultural wells and irrigation wells are not included in this estimate.
- **Data Availability**
    - Private well data falls into three categories:
        - § Data prior to the implementation of the Private Well Regulations; prior to 1990.
        - § Uniform Well Water Completion Reports (UWWCR) prior to statewide database; 1990 to 2003 – these are paper records on file with the local Health Departments.
        - § Virginia Environmental Information Systems (VENIS) data; 2003 to today – this is an electronic database that is being used statewide.
    - The earlier data sets do not feed into the current electronic database (VENIS) – this data has to be manually entered into the system.
- **Pre-1990 Private Well Data**
    - Census data; 1990 reported 539,237 homes using private wells statewide.
    - Estimate 42% are located in the GWMA.
    - Records limited; installed in combination with an onsite sewage system. VDH is trying to get staff to go back and do some data entries where there is "legacy data" available to add to this database.
- **Pre-1990 Private Well Data – Example of Permit (1940 Permit)**
    - Limited information on private wells included on the Permit to Install or Repair Septic Tank System – sketch of septic system and possible location of well in relation to the septic system.
- **UWWCRs: 1990 to 2003**
    - **12VAC5-630-440. Information to be reported.** A copy of a Uniform Water Well Completion Report shall be provided to the district or local health department within 30 days of the completion of the well or completion of alterations thereto.
    - Private well question removed from census.
    - Estimate 27,500 wells installed in the GWMA during this time (13 year time frame). This is an estimate for residential use wells. The number of wells that are being used for irrigation is something that is difficult for the department to estimate. There is some anecdotal reports from Virginia Beach and from the Tidewater area that in the late 1980's and early 1990's that they were doing thousands of irrigation well permits a year – during that period there was a moratorium on the use of public water supplies for irrigation.
    - 1650+ legacy wells entered into VENIS.
- **Example of UWWCR (Uniform Water Well Completion Report):**
    - The information reported varies wildly between the reports as to what is included.
    - Typically a UWWCR would contain:

        - § When it was installed.
        - § How deep the well is.
        - § The yield of the well.
        - § The casing and grout depth.
    - Some well drillers will provide more information and will fill in the whole form but others do not.
    - The driller's log also varies greatly in the amount and type of information normally included.

- **VENIS Data: GWMA Totals (FY 16) – From 2003 onward there are over 83,000 private well installation records in the VENIS Data Base of those about 35,000 are within the Ground Water Management Area. The chart below is data for localities within the Ground Water Management Area – these numbers represent County wide numbers and include areas of the locality that are outside of the GWMA. The numbers in parenthesis are for 2016.**

Accomack – 2429 (108)	**Caroline – 1096 (31)**	**Charles City – 183 (15)**	**Chesapeake – 2899 (174)**	**Chesterfield – 791 (45)**
Essex – 410 (13)	**Gloucester – 1760 (98)**	**Hampton – 397 (18)**	**Henrico – 819 (61)**	**Isle of Wight – 870 (16)**
James City – 556 (54)	**King & Queen – 266 (20)**	**King George – 712 (55)**	**King William – 531 (55)**	**Lancaster – 314 (13)**
Mathews – 827 (4)	**Middlesex – 645 (43)**	**New Kent – 344 (36)**	**Newport News – 137 (4)**	**Northampton – 1328 (93)**
Northumberland – 707 (40)	**Poquoson – 64 (1)**	**Prince George – 529 (31)**	**Prince William – 888 (69)**	**Richmond – 36 (7)**
Southampton – 676 (24)	**Spotsylvania – 2012 (117)**	**Stafford – 1537 (161)**	**Suffolk – 1518 (55)**	**Surry – 174 (20)**
Sussex – 261 (7)	**Virginia Beach – 7092 (416)**	**Westmoreland – 269 (17)**	**Williamsburg – 16 (0)**	**York – 427 (17)**

*35,243 total for GWMA out of 83,608 total records in VENIS. **(2,115 total for GWMA in FY 16.)** These numbers represent the number of "installed" wells.

- **VENIS Data: GWMA Well Purpose (FY 16)**

Purpose	Total
Abandonment	90 - <1% (0)
Agricultural	140 - <1% (9)
Drinking Water	**23,632 - 67% (1498)**
Geothermal	1581 - 4% (153)
Industrial	76 - <1% (6)
Irrigation	**9570 - 27% (448)**
Other	154 - <1% (1)

The majority of the wells included in the database were for drinking water with the next highest category being irrigation. The majority of the irrigation wells in FY16 were in Chesapeake and Virginia Beach.

- **Recent Reporting Updates**
  - Uniform form for VDH and DEQ.
  - Entering data to VA Hydro.
  - VDH staff collecting GPS for wellhead.
  - Incorporating data points not previously collected by VDH.

Discussions by the Workgroup included the following:

- Some of the Pre-1990 data has been added into the VDH database as "legacy" data, but for the most part those records are housed at the local health department and a paper record search would have to be done to obtain that information for a specific property, but it would only be for that 1982 to 1990 time frame where there would potentially be a water well completion report. Prior to that the permit may show that there is a well on the property but it would show little or no additional information about the well. – There are a lot of wells that are older than

1982 that are still in existence that would not be included in this database at all. It also was common practice after 1982 to not necessarily submit a report, especially if it was a non-potable well – someone was putting in an irrigation well – it was fairly common practice to not to submit that report even though they should have been submitted.

- One of the key things that VDH is still dealing with today is the submission of paperwork when it is existing construction – replacement wells. For new construction you have to get the sign-off from the Health Department to get the "Occupancy Permit" to move in the house so there are some incentives to getting that paperwork submitted. But with existing homes or repairs, a lot of the time that paperwork can lag way behind and sometime is never submitted.
- Regarding the estimate of 700,000 private wells – Is that an estimate? Could there be a whole bunch out there that we don't know about? Is 700,000 a low number? The 700,000 number is for statewide. Within the Ground Water Management Area we are estimating 275,000 to 300,000 private wells – the way that VDH arrived at that estimate for the pre-1990 data is from looking at the Census data – in 1990 the Census had a report on homes served by private wells – they reported 539,000 homes being served by private wells (statewide) – VDH estimated that about 42% of those were in the GWMA.
- The biggest data limitation is the pre-1990 and especially the pre-1982 wells because there was no permitting required – that is going to be a considerable number of wells.
- Hasn't there always been an understanding that if you could meet the separation distances that you had the right to drill a private well on your property. Correct. Right now if you come in and put in an application for a private well and you meet the separation distances and you can properly construct it, VDH will issue a permit for that well. Prior to 1982, the drillers were doing a good job – VDH does not run into a lot of instances where wells have been installed in areas where they shouldn't have. Maybe some of the construction standards needed to be improved but other than that there have been few issues with those wells. There are required set back distances from the property lines; separation distances from the dwelling unit if it had been termite treated and there was a separation distance from the septic tank and that was it. Essentially, if the required separation distances from sources of contamination could be met, a well could be permitted and constructed. There are also now, agricultural setbacks to account for not trying to impede on neighboring agricultural properties – you have to stay 50 feet off of the property line if the neighboring property is agricultural use. But outside of that location criteria there are no real restrictions on the permits.
- Regarding the "right" to drill a private well: Is that right in statute? Is it just something that goes along with the ownership of the land? It was noted that a locality (New Kent County) had a withdrawal permit and in their County Code that prohibited private wells in their service area and a citizen came forward and didn't think that was right and that resulted in an Attorney General's Opinion that they had the right to drill a private well on their property. The Attorney General informed the County's attorney that the individual had the right to drill the private well but that he still had to meet certain aspects of the County Code – pay the connection fee; pay a monthly service charge – these requirements deterred him from drilling the well. But he could

have drilled the well if he had desired to. It was noted that the City of Portsmouth and other localities that say that you can't have your own private well. Cities have different charters than Counties and that prohibition may be applicable in cities even though it isn't in counties. Usually the prohibition is linked to the area being served by a public water system. Is it that they can't have a private well or that they can't have a private well for potable water? The prohibition is that they can't have a private well that is used for potable water. So, an individual can put in a well and you can use it for irrigation as long as you don't use more than 300,000 gallons a month. Cities can restrict use for potable water if there it is within a service area for public water. But they cannot restrict a well for non-potable water use.

- Does VDH ever go back to the homeowner or well driller to get the reports/the well information if that information has not been submitted? In terms of a well that is going to be serving a residential development or a residential dwelling, in order for someone to get that approval to get your occupancy permit for that dwelling for the sewage system and the private well, the sing-off from the Health Department is required. That is the trigger for VDH to get that information. It was noted that in some instances that process didn't take place. It is good in concept. When the program was first started there was some transition time and there may have been some officials who weren't consistent with implementation of the requirements. It was noted that the reports vary from virtually having no information except maybe an address to a very detailed report. Just because there are 27,000 records doesn't mean that there are 27,000 detailed and complete sets of information. The majority of the records were skewed to less and less data.
- On the agriculture side is there another source of information where you could determine how many irrigation wells there are? The only possibility could be the Ag Statistical Service – again which is just another Census mechanism and depends on how accurate an individual is when they fill in the questionnaire.
- For companies in rural areas are putting in big watering systems, are there any requirements on them to submit any kind of report when they drill an agricultural well like that? If it is an agricultural well would they be getting a permit from the Health Department? Yes, and also a well like that probably needs a groundwater withdrawal permit. On the Eastern Shore that requirement is being implemented pretty rigorously. But from that rigorous implementation it appears that a lot of wells were installed earlier without the reports being submitted but after 1990 the reports are being submitted after site surveys on the farms where the wells were identified and then having to go back and retroactively fill out the GW2 forms. DEQ has found a lot of instances of that. For example, when a farmer on the Eastern Shore needs to expand his capacity or add an additional well, DEQ has gone out to the site and look at the site and find ½ dozen other wells on the site that there is no information about in the system – no reports had been filed. Then we end up camera surveying those wells, which is very expensive, to try to figure out where those wells are withdrawing from and how they are constructed. It is not uncommon for these wells to have been constructed after 1990.

- If there are wells that are being installed without a permit after 1990, if someone brought them to the attention of the Health Department, the department could take enforcement action. How does that happen? Unless someone happens to have their own drill rig, are there contractors out there that are going to punch a hole in the ground and put in casing without getting a permit. Yes, there are some. Historically the view has been that if a well is not being used for drinking water or for commercial use or something then a permit is not really needed, so they just punch in a hole. The general view was if a well was just going to be used to water some crops was that a permit wasn't necessary. Compliance today is pretty good. Historically compliance has not been very good or consistent.
- The majority of the wells that are included in the records are for the Virginia Beach area – a large number of those wells are for irrigation.
- It was suggested that there may be a trend that one person drills a well and the neighbors share in it. VDH does allow for multiple homes to be connected to a single well. It does require an easement in perpetuity. Even if you are using a well on an adjacent property strictly for irrigation, if it is being permitted, an easement would be required.
- What is the difference between wells identified as "agricultural" and those identified as "irrigation" in the VENIS Data/Purpose slide? This is a data entry component. Some of those irrigation wells could be agricultural irrigation wells but typically VDH staff is being instructed that if it is for agricultural use that they would list the purpose as "agricultural" rather than "irrigation". Anytime that you have a manual database there is always a potential for error. In addition, there is the category of "other" where that item of the report was left blank. It was noted that sometimes it is exactly the opposite, where people are watering grass from a well that is designated as "agricultural" and have an agricultural permit.
- The question was raised as to who has access to this database? VDH has talked about making this information available. If you have ever gone to look at restaurant inspection reports from the Health Department, it is the exact same database. There is an ability to have that information made public, but there are some questions about the legality of making that information public. Also, there is a lot of data clean-up that would be needed. The raw data report for the 83,000 wells is available, if anyone needs access to it. It basically just shows the locality; the Health District; and some basic information about the well: how deep it was; casing and grout depth. This information is provided quite frequently through FOIA requests. DEQ will have a similar data set that will be available, but that data set has only been in place since October. It was suggested that this would be a good source of information to have access for.

ACTION ITEM: Lance Gregory, with VDH, will make the raw data set of information about the 83,000 wells available for dissemination to the workgroup.

- A question was raised about the information reported in the presentation for the City of Virginia Beach – 7092 total wells in the database (416 wells in FY 2016) – and the statement that the majority of those wells were for irrigation. Why is that the case? Is there water more expensive? The cost of installing an irrigation well in Virginia Beach is somewhere around $900. It was

suggested that this is just the norm. Ever new house in the last 15 to 20 years almost always put in a well for irrigation. Historically and even now if there is a drought, you are restricted on watering your lawn using the public water supply, so the irrigation wells are generally exempt from that restriction. There will be a physical sign in the yard saying that it is "well water" that is being used for lawn irrigation not "public water". There is enabling legislation to govern/regulate these wells but most localities have not opted to adopt the rules.

- You can drill a well because of how shallow it could be for maybe as little as $800 to $900. How does that compare to a conventional well if you wanted to have a separate one for irrigation? For a residential meter sized irrigation system it would be about $3,100 for a connection fee. Drilling a well is sometimes a lot cheaper than paying a connection fee. That is why they are doing it. If you look in the Piedmont to drill a well, you are talking $10,000.
- If you are drilling a 30-foot well are those the wells that are impacting the aquifer at issue? For example, in the Virginia Beach area, there has been an ongoing concern regarding impacts to the Yorktown-Eastover Aquifer. That water is pretty much disconnected from the other groundwater resources – it is not the Potomac – that is a local sustainable use issue not a regional sustainable use issue.
- There are many places in Virginia now that the expectation of the new homeowners is that they will have a sprinkler system to water their lawns. The stormwater regulations are requiring you to install a sodded lawn. So with the expectation/requirement for there to be sod not just seed and straw, so that when you are requiring stabilization instead of just what is required by law they are expecting to have an irrigation well and an irrigation system. It was noted that in the transition from developer to home builder to homeowner, when the transition of responsibility to meet the stormwater regulations is there, if you get a good storm then the "seed and straw" might be gone, so who carries the legal liability for the sediment runoff from that new lot? A lot of time it is cheaper to put in sod then it is to carry that liability all the way forward to closure, so that they don't have to go back to re-seed and re-straw to meet the requirements, especially if it takes 60 days to close on a house and you get storms and rains in the interim.
- When you do the model runs to look at the critical cells in the aquifer, do these shallow wells contribute to those critical cells? Not all of the wells on the VDH database identified as "irrigation' wells are shallow wells. In the York James Peninsula the wells are either in the Chickahominy-Piney Point or they are in the Potomac Aquifer. If you go in other parts of the Northern Neck they are probably in the Potomac Aquifer. It was suggested that it might be useful to be able to tease that type of information out of the data. Some idea of where the irrigation wells are and which aquifers they are drawing from and whether they are impacting critical cells versus those that are drawing from shallow aquifers would be useful information. DEQ has data for 2008 that can be made available.

ACTION ITEM: DEQ will make the 2008 data on the location of irrigation wells as a way of identifying those that are impacting critical cells in the Ground Water Management Area available to the group.

- For those wells that are not in the surficial aquifer, which a lot of those in James City and that general area would not be, have we looked at the drawdown effect using the model? Have we looked at the potential drawdown effect from the unpermitted allocation? This could provide some interesting information.

Lance noted that the information that VDH was getting from the water well completion reports doesn't go to all of the items that DEQ is looking for in terms of modeling, things like pump depth. Even with the data that VDH does have available in the database there are potentials for some gaps for DEQ data needs. In order to try to improve that and to close that data gap, VDH and DEQ have been working for probably the last 3 years or so on trying to improve our communications. One of the improvements was merging the two different water well reports within VDH and the monitoring well report for DEQ into a single report format so that drillers would have only one form to fill-in for a well completion report for both agencies. We now have the VA-Hydro system, which is an on-line reporting database that DEQ developed for well drillers to be able to submit reports and VDH has access to that information. VDH and DEQ are working together on improvements to that system to facilitate data transfers. Additionally another thing that the VDH staff has started to do is collecting GPS locations at the well-head for private wells and having that information entered into the VDH database. DEQ's new regulations for the Ground Water Management Area requires latitude and longitude information and construction data for wells in the management area. In addition there are about 1,600 legacy data points that are in database and VDH is trying to get staff to work to incorporate and enter more of that information as they are able to. Localities are working with the districts to do GIS projects, to identify properties that would have a private well, even if we don't know how it is constructed. VDH is continually trying to improve their data collection efforts.

Staff noted that the data management in the VA-Hydro System was implemented about over a year ago. It has been in "Phase I" for about a year. There are a couple of updates were developed after some meetings with the Virginia Water Well Association and their Board to look at some of the priorities were for making that system more effective and easier to use for them. They will be able to access the system via their cell phones and lap-tops in the field. We are trying to find ways to make it really accessible and easy for them to use and make it a tool that has some benefit to the well drillers and not just a bureaucratic process for us to collect data, it is actually something that they can utilize for themselves for their information. In the last year, some of the data is from VDH staff entering "legacy" data for wells inside and outside of the "management area". There have been about 1,900 well registrations received to date and we are still reaching out and training people as they have questions or as we see entry mistakes or those kinds of things. DEQ will continue to do that for some time. The feedback that has been received so far has been extremely positive – people seem to like the tool and they are excited about continued development towards DEQ and VDH having one portal for all well construction information – in one form and one way to do business. There have been a few complaints but the overall approach to the tool has so far been received very positive. VDH noted that there was a lot of "push-back" initially because well drillers were accustomed to use of the "paper forms", but when they actually sat down and had somebody walk them through the process of filling in and

submitting the electronic form, they realize that it is actually a better process then filling out the form by hand and submitting it as a hard copy.

Continued Discussion Included the Following:

- Are you getting pretty good compliance with the electronic submittals through VA-Hydro? DEQ is actually evaluating that now, but for the most part, yes. It was noted that for new homes that you get pretty much everything, but for "reconstructed wells" there is not a good level of compliance. It was noted that would be an interesting dialogue. For wells that are reconstructed or refurbished, where compliance may currently be lacking, really at that point that becomes a new well. They are supposed to be considered as a new well. In DEQ's dialogue with the well drillers and the community, they need to make sure that it is clear that wells that are reconstructed or refurbished should be treated as new wells and should be entered into the database. It is not that DEQ has that piece of data and that was sound data for the original well and so now they can go ahead and change it and make a quick modification. There are a lot of holes in the existing database and a lot of uncertainty in that data, so if we want more certainty and want the model to be more effective and we want our understanding of those construction facets we actually need to treat those reconstructed or refurbished wells as new wells and we need to see it entered as a new well in the database.
- It was noted that the original reason that you needed a permit to drill a replacement well was to identify location and distances – setbacks. It was required to make sure that you were drilling on your property and that you were drilling with the proper separation space from a septic system and the termite treated house. Beyond that the concern was water quality. Are you doubling up with you count the original well and the refurbished, reconstructed well? Just need to make sure that we count one – to fill in the gaps in the system. The important piece of information about the well is the depth of the well – that is the critical data point. A lot of the original wells may not have had a form at all, so the replacement well may be the first time that any information on that site would be reported. Sometimes people will put in a replacement well because they want a deeper well. In the case where someone is reapplying for a groundwater permit, to streamline the process, DEQ has put in regulatory language that says that if that data has been previously submitted and it is sufficient data that they do not have to resubmit that information. Is there a way to streamline the VDH system so that people who already have technical data in the system don't have to submit that information if nothing has changed? It was noted that there is probably not as much double-counting as you would think. DEQ noted that in all likelihood the things that they have the most confidence in are probably an underestimate of the total number out there.
- It was suggested that an interesting piece of information might be the number of replacement wells that were constructed in 2016 – that number might be zero. VDH noted that information is included in the data set that is currently available.
- In the summary information in the presentation that identified a total of 90 well as being abandoned, where those wells replaced by new wells? VDH noted that when they have a permit

for the installation of a new well, a replacement well, you can have the fee for the application waived if you abandon the existing well. The abandonment also requires a permit, so there are two permits that are issued. It is more than likely that someone putting in a replacement well is going to be abandoning the existing well to avoid the permit application fee. One concern that has been raised by the drilling community is that VDH may need to look at their abandonment procedures because it is about $1,200 if you follow the VDH regulations to abandon a well properly. There is a need to look at this procedure and try to make it more cost effective, so that there it provides more of an incentive for someone to actually abandon the well.

- Since there are significant gaps in the data, currently when there is a permit how are unpermitted users accounted for? What effect does this have on the permitting process? Staff noted that DEQ has an estimate of the unpermitted use assigned to each jurisdiction within the Ground Water Management Area and that was developed by the USGS using a Census base – they then estimated from drilling records that were available, which aquifers those were in and how many there were and what types there were. This forms the base for the "unpermitted users" that is currently included in the model. That has largely remained static and one of DEQ's objectives in requested that the legislation be introduced to have this registration program was to try to keep that estimate as up to date as possible, so that as that grows over time so does the representation in the model.
- The estimate for the unpermitted use came from 2005 data so it is currently 10 years old, so if we use the current numbers as a metric we could very likely have 20,000 more unpermitted use that are not included in the current model. That is the reason that the estimate of unpermitted withdrawals is somewhere between 29 mgd which is the 2005 estimate (included in the 2008 report) and today based on what we know has been registered, a total of 40 mgd. The estimate from 2005 is the best that we can do at this time, based on the work that the USGS did at the time. But what the growth has been we probably don't really know, we just have the data that we have in the current system and USGS estimates of water use based on these use types. There is confidence in the data that is included in the VENIS database that is being captured by VDH since 2005 – new construction data especially – the difficult thing would be "irrigation wells" and things that don't require sampling or follow-up monitoring. Sometimes, irrigation wells can represent the majority of the use in an area, especially during the summer. It was noted that the estimate of the unpermitted use being around 40 mgd is probably pretty good, because the permitted use numbers are reasonably good and the use type numbers that are being used as a multiplier are good, if anything it is probably a little bit of an underestimate.
- Where localities put together their Water Supply Plans were they using the same numbers off of the USGS report to do their planning? That probably ranges from locality to locality. The most sophisticated localities tried to do a comparable kind of projection of their unpermitted use and in most of those cases they looked at their tax parcel base where they knew they had private homes, they looked at their public water supply customer base, they found out what the difference was and they added a multiplier to it based on how many of those parcels they thought might convert over the planning period.

4. **Alternative Permitting Criteria – Issues: (Mark Rubin)**

Mark noted that with regard to the consideration of "alternative permitting criteria" given the information presented during our discussions and given that it is the basis for an estimate that is used in the model that DEQ feels fairly confident about, what issues do we have around "unpermitted users"? Availability of data does not seem to be an issue at this point in our discussions, even though there are gaps in the database.

Discussions included the following:

- The issue is whether or not you have the right to drill a well for drinking water purposes on your property. It was suggested that most Virginias would say yes. Do property owners "have a right to drill a private well" and that "they can't be made to connect to the public system". It was noted that the understanding has always been that as long as a well was functioning and healthy that you can't make the well owner connect to the public system.

Staff noted some concerns with this concept of "the right to drill a private well". The first being "That is a lot of wells. How do you manage it? And does it really make sense to manage through a permit? The second issue is "when your unpermitted component of the withdrawal becomes equal to or greater than the permitted component is your regulatory program really managing the system?"

- It was suggested that the real issue is "when the impacts of the unpermitted users become equal to or greater than the impact of the permitted users."
- With the growth rate from 2005 of 29 mgd to a current estimate 40 mgd – is that growth rate expected to continue? The problem with projections is that most of them tend to overestimate. If you use the projections, the odds are that you are going to be conservative. Localities have their own projections that they are using.
- It was suggested that from 2005 to 2008 or 2009 that there was extraordinary growth in many areas including home construction. In 2009 that was curtained by about 90%. It has only returned to a level equal to about ½ of the normal market in the past few years. It was suggested that we probably need to separate those statistics. Staff noted that even during that downtime period there were still 1,000 wells that were actually being drilled. Most of those may have been irrigation wells.
- It was suggested that not all of the unpermitted wells have an impact on the aquifer. The question then is which aquifer? What is the overall impact of the unpermitted users on the primary aquifers? Staff noted that through this process we have been focusing on the Potomac Aquifer because it has the largest anticipated impacts based on permitted use.
- Do these unpermitted wells impacting an aquifer. Are the aquifers connected? Do the wells influence each other? If we are taking permitting and trying to permit unpermitted wells then we need to know which ones and to the general public why. Staff suggested that the approach to take is to say that all of them are connected at some level and it does depend on where you are and what size the withdrawal is and maybe how the well has been constructed – there are a lot

of facets there – so they are all connected – they all have different risks. We have to figure which unpermitted wells matter and which ones don't

- We can probably make a general statement that applies in most of the areas of the Coastal Plain that a withdrawal from the surficial water table aquifer is far more sustainable then one from a confined aquifer if for no other reason than it is recharge order of magnitude is at a higher rate than the confined aquifer.
- What is "irrigation"? – What is "agriculture"? Somehow we have to differentiate those uses as well simply because "food production" and "animal production" are beneficial use above "making sure my grass is green".
- How do we manage the water resource conflict when the "unpermitted" withdrawal is significantly affected the "permitted" withdrawal?
- Almost all of the estimated unpermitted withdrawals are coming out of the confined system – very little if any is coming from the shallow water table aquifer.
- Drillers historically will put a well in the confined aquifer as opposed to the unconfined aquifer given the choice because it is easier to put a well in the confined aquifer. They don't need as big a pump and it is easier to develop.
- How do we manage this type of conflict between the uses of the water table aquifer versus the use of the confined aquifer?
- Staff noted that one of the strategies that they are trying to pursue is that for some of these non-potable purposes to try to get people to use the water table aquifer in lieu of the confined aquifer.
- Are there "best management practices" that are provided to localities and to drillers on how to encourage people to use the water table aquifer for their non-potable water needs? Is it coordinated or is it "ad hoc"? Right now it is essentially done on an "ad hoc" basis. It is written into some of the local water supply plans.
- The "confined aquifer" is more predictable then the "unconfined" but the "unconfined", where it is usable is far more sustainable. USGS estimates the recharge rate for the unconfined aquifer on the order of close to 500 times more rapidly than the next closest confined system.
- One of the surprising outcomes from the 2008 USGS report was they domestic wells estimated to be about 25% in the Potomac Aquifer directly. There were a lot more there than was expected. The drillers know that the Potomac Aquifer can produce.
- Regarding "private irrigation" – there is nothing pushing the unpermitted private irrigation wells towards a permit. The only thing along those lines are things like they do in James City County and Loudon County where they "Irrigation Ordinances" that limit the number of days that they can water – that is the only type of active best management practices that staff is aware of. It was noted that this applies only to "water coming out of the water system" and does not apply to an "irrigation well".
- Regarding the estimate of the amount of unpermitted use having risen to 40 mgd in the last 15 to 20 years, if that growth continues what is going to keep that to raising even higher and having a greater impact on the permitted use. Staff noted that is the reason that they are raising

the issue now, because the trends don't look good and we probably after we ratchet down these permits we are going to be really close. Permitted withdrawals are probably going to be in the neighborhood of 40 to 50 mgd in actual use. The policy question then becomes do we continue to ratchet down the permitted withdrawals.

- Is there a risk that if we are over tapped in the Potomac and all the trends are indicated an increase in unpermitted withdrawals, if there is a new industrial user coming to the area that needs ½ mgd and we are over the threshold that requires a permit and doesn't want to get public water and now can't use the Potomac, aren't there going to be folks looking to look at pulling 1/2 mgd/1 mgd from Yorktown-Eastover? Yes, that is where they go. The Yorktown-Eastover is much more sustainable – it is recharged at a much more rapid rate then the deeper aquifers. In terms of the ability to pull water from the Yorktown-Eastover, it is more sustainable but you are limited by yield. You are going to need a lot more wells to get the required volume. In the Potomac you would need one well to get ½ mgd, in the Yorktown you are going to need ½ dozen to a dozen wells to get the same volume.
- One of the big questions seems to be "what is the responsibility of the unpermitted user towards the health of the aquifer"?
- It was suggested that another question should be "what is the necessity of water for public life"?
- Another question is "if you are going to continue to allow the housing industry to operate in this part of the state and if public water systems cannot be expanded and if I have the fundamental right to have a well on my land" what are you going to do about it?

5. **Flipchart Notes:**

Issues:

- **Right to drill well on your property?**
  - **Potable**
  - **Nonpotable**
- **How to manage large number of wells?**
  - **Permits?**
- **When impact of unpermitted is equal to or greater than permitted – Are you managing the resource?**
  - **What is the impact on the primary aquifers?**
  - **How do you address conflict?**
- **Distinguish irrigation from agriculture use.**
- **Trend of unpermitted going up – permitted being pushed down – Policy?**
- **What is the responsibility of the unpermitted user to the health of the aquifer?**

6. **Break – 10:30 – 10:35**

7. **Continued Discussions (Mark Rubin):**

Mark Rubin noted that based on this morning's discussions it is that relating to the data question that there is fairly good confidence in the new reporting requirements getting us to a place where we have better information – we don't have all of the information that we need in terms of legacy data, but it is probably cost prohibitive to go back to start figuring out that information. The big question would be who would pay for that effort. Staff noted that there a couple of the local Health departments that have worked to pull together the legacy data for their districts. They have used interns and students to do the data compilation work.

He posed the question to the group as to whether we needed to spend any more time on the data question? Do we already have the picture of what we are going to have to work with or are there things that we still need to talk about in terms of how to improve the data? It was noted that one of the things that might not be clear is the issue of which wells have a significant impact to the aquifer and which ones don't. Do unpermitted wells have an impact on the aquifer? They have an impact but it is the degree of impact based on which aquifer that they are drawing from.

The group discussed the difference between the confined aquifer and the unconfined or surficial aquifer and the degrees of impact. The greatest impact would be the Potomac Aquifer, simply because #1 it gets the least amount of recharge and #2 it is the one that is used the most generally. Next would be the Aquia, the Piney Point – these are ones that we have already identified as stressed aquifers – these are all confined aquifers. Then we also have the confined Yorktown – Eastover Aquifer which is not right now currently stressed and it is recharged faster than the others. Then there is the surficial at the top. That is in the order of greatest impact to least impact. By far the surficial aquifer has the least impact. The surficial aquifer is the unconfined aquifer and is also known as the water table aquifer.

Staff suggested that a useful way to think about this is that the permitted wells have individual impacts on the aquifer that is measurable – the unpermitted wells have a cumulative impact on the aquifer that is measurable, they may or may not have a measurable impact on the aquifer individually, but they may in some cases – that is what the difference is. Now that there are so many of them (unpermitted wells), cumulatively they are having almost the same impact as the reduced regulated amount. Are the unpermitted federal withdrawals included in the permitted category or in the unpermitted category? They are not in the USGS study but they are accounted for in the model. They are accounted for in the model but where do they come up in your list of permitted and unpermitted? Some of those are pretty big demands. They used to be in the group of the permitted withdrawals. Those run the gambit – some of those actually implement their operations as if they were "permitted" – DEQ has more or less agreed to an operational scheme for some of these federal unpermitted withdrawals. But there are a handful that are still claiming "sovereign immunity".

Back to the question in terms of data, is there anything that we would be thinking of as a possible recommendation to the Advisory Committee regarding data going forward? We need to try to enforce what is now required. That is more of a regulatory focus rather than a data one. But in terms of the data that we are trying to collect today it is probably as good as we are going to get.

CONSENSUS: The group agreed that in terms of the data questions that we are probably as good as we are going to get and can move past the data question.

8. **Unpermitted Users (Mark Rubin):**

Mark posed the question to the group as to what are we going to do, if anything, regarding unpermitted users? The last time this group talked a little bit about one of the options of having some form of regulation. If you were going to regulate unpermitted users, in some form or another, what would you do? There are pros and cons that would also need to be considered. What is the sense of the group in going down the path of regulating unpermitted users?

Discussions by the Workgroup included the following:

- From the home builders perspective there is a concern that if you can require a permit then you can deny a permit. That would significantly impact the home building business. You cannot contract to build a house unless you can provide a water supply. If the water supply would not be available, then business is dead. It was noted that a couple of General Assembly sessions ago there was a piece of legislation proposed that was trying to allow for an aggregation concept for subdivisions over 30 homes. It would allow the aggregation of subdivisions that would be large enough that would require a groundwater withdrawal permit. The Home Builders Association noted that they had objected to that proposal and will continue to do so. (2015 GA Session – HB 1870 – Left in House Agriculture, Chesapeake and Natural Resources – See proposed legislation below.)

2015 Session – HB 1870 Ground Water Management Area: Withdrawal Permits:

"B. The developer of a subdivision, as defined in § 15.2-2201, located in a ground water management area shall apply for a permit prior to subdivision plat approval if the projected total withdrawals by private wells, as defined in § 32.1-176.3, within the subdivision will amount to 300,000 gallons or more in any month, calculated pursuant to a method established by the Board. This permit requirement applies to any such subdivision for which the developer obtains plat approval on or after January 1, 2016. The developer may transfer the permit only after the developer and transferee provide written notice to the Board in accordance with requirements established by the Board. The construction of a new, private well that will increase the ground water withdrawal in a subdivision covered by a ground water withdrawal permit is prohibited without an approved permit amendment."

- The reasons that the Home Builders Association opposed this legislation was the cost – data from engineering firms that apply for the permits regarding the time it takes to get a permit and the costs associated with the permits, they exceed $100,000, just to get the permit. Then you add into that, for what are typically small subdivisions, the costs of construction and then the facilities of the system and you are looking at $35 to $45 thousand per house for water. This is based on the assumption that you would need to drill one well and have a community water system to serve the subdivision. It was suggested that was not what was intended by the legislation. It was written so that a subdivision could have individual wells but they counted as an aggregate for a single permit. The group discussed the wording and intent of the legislation. The explanation provided to the Home Builders Association was that if a subdivision meet or

exceeded the total aggregate amount that they had to go to DEQ for a permit and that a community well system was required. Staff indicated that was not their interpretation or intent. What was said was that any subdivision that had a comparable impact to what would have otherwise been permitted because of the threshold needed a permit for the subdivision. How the subdivision gets its water was not the concern it was the total aggregate volume of water that was the concern and the trigger for this proposed requirement. The Home Builders Association felt that the net result of the proposed legislation would be the requirement for a community system.

- If the proposed aggregated use in a subdivision was not a "community system" then how does that fit into the current regulatory structure? Would a new structure be required? Staff noted that this proposal would have fit into the current management system – the current regulations – so each individual house would not be permitted, the subdivision through the developer and then ultimately the homeowners association would have been required to have a permit for the subdivision – based on the aggregated use of its individual wells.
- An example of this approach was what is currently done with agricultural withdrawals. Say a farmer owns 5 parcels and everything aggregates under one farm and the farmer has 3 wells on each parcel and in aggregate he is withdrawing in aggregate over 300,000 gallons per month, that farmer is going to need a permit and he is getting a permit. That is happening on the Eastern Shore all the time now – it is very common. But he still has separate parcels and he still has different wells on each different parcel, but in aggregate, when you aggregate everything together for his "farm", he exceeds the threshold of 300,000 gallons per month. The intent of the legislation was to take the same approach to subdivisions that exceed the threshold with an aggregate of their individual wells. The big difference between the subdivision and the farmer is that the farmer owns all the parcels and a bunch of different people own the parcels and the wells in a subdivision.
- It was suggested that this is an issue that we need to note – what we have been discussing is "common ownership" but it may not be "common use". If "common ownership" creates a "permit" – other permitting processes don't necessarily say that because someone has 5 separate entities that collectively they have to have a permit on all of them. Staff noted that the wells would have to be on contiguous and all for the same use (irrigation). The properties would all need to be adjoining – the example discussed was assuming that all of the properties were contiguous. Properties that are not adjoining under this example would be permitted separately.
- The overarching reason that this group has been brought together is that the Potomac Aquifer is over tapped and there is more growth coming so what do we do? The numbers that we hear from staff indicate that the withdrawals from permitted and the withdrawals from unpermitted are essentially equal and the unpermitted withdrawals may be exceeding the permitted. We have to have water to live. We probably need to move to some other source. We can't reach a solution if we are focusing on a portion of the use (permitted) that may in fact be smaller than another (unpermitted).

- Is there some way to describe what some minimal level of permitting would look like for the types of uses that we have been talking about today? Staff noted that it would be probably that the form of a General Permit. Does that really answer the question? On surface water, the agricultural community just has to tell DEQ how much they are withdrawing, up to a given threshold amount. That is a general description of what these "minor users" – whether they are unpermitted or not, they are small, individual users – but in the aggregate they amount to something. You can go to a surface water user that is a farmer and say this is what you have to do and they go okay – most of the time there is not a lot of discussion and they will often do what is asked or don't. We can talk about permitting or not, but we have to have some concept of what that means to a "minor user". What is it going to mean to a "minor user"? We need to have a concept of what that means.
- Does a "permit" mean limits"? Is it more than just I want your use data and I want you to fill out this form? Does a "permit" mean that the withdrawals are limited to a certain amount or within a certain threshold? The bigger concern does having a permit mean that the withdrawals are limited or does it also carry with it the possibility of the denial of a withdrawal? The denial of a permit?
- Conceptually, the question is whether some type of regulation is a good idea or not?
- A concern with the rationale behind the legislation proposed in 2015 is even if you permitting the subdivision as an aggregated use meeting or exceeding the threshold through a Homeowners Association mechanism, who will manage that "permit' until all of the lots are sold in a subdivision? Likely it would be the developer. But once the homeowners take it over from the developer and that permit comes up for renewal the Homeowners Association is not going to know what to do and they are going to go to their local utility or service authority to help them out. That is not a revenue stream for the locality but it is potentially a lot of work for the service authority or utility to do. The flip side of this coin is once the houses are built and the developer moves on and the homeowners are there, they are citizens of that county (locality) and the wells do go dry then they are going to be looking to the locality and the local water authority to get water to them – that is a long range concern. This has happened before.
- It was suggested that the second choice is always "well and septic". It has always been understood that the way that localities controlled development patterns was through the expansion of their water and sewer systems. Water being number one.
- It was noted that there is not of lot of support being voiced for additional regulation.
- It was noted that some form of limitation or regulation for wells for irrigation (i.e., lawn irrigation) might be reasonable and might be acceptable.
- From a groundwater hydraulic standpoint, there is a real possibility that unpermitted withdrawals might, in the future, if not already, may overdraw some of these shallow aquifers, like the Piney-Point – then what do you do when the unpermitted withdrawals over-draw an aquifer? It was noted that on a localized level that is already occurring. Some subdivisions that were put in with private/individual wells that are running dry and they are now complaining to the locality and wanting to be hooked to public water when the infrastructure is not in place to

do so. In a lot of these instances, the subdivision should have been designed to be hooked to the public system but for one reason or another was not.

- We need to incentivize connecting to the public water system somehow at all levels, not just at the local level but also at the State level, so that we have less of a demand on the aquifer. More of the public water systems are using a higher percentage of the available surface water then groundwater.
- It was suggested that incentives need to be also discussed in terms of landscaping and the use of turf. Incentives for uses such as nurseries should also be considered. We need to consider the use of best management practices and education to help people recognize groundwater use concerns. The group discussed a requirement to install rain sensors and other mechanism to help conserve water and minimize water use. The question is how do you incentivize better management activities? One possible consideration would be the freedom to use non-potable water for irrigation.
- It was noted that one of the options that was raised by the Alternative Sources of Supply Workgroup was maybe putting in a system where stormwater ponds can be used.
- Would permitting for currently non-permitted (unpermitted) withdrawals also be necessary if we were to need a funding mechanism for HRSD to do their injection well project and also if it would reduce the cost of everybody in the watershed? It could be done as a permit or as just a fee, it doesn't necessarily have to be tied to a permit. The only difference would be who would collect it and that would make the difference as to whether it was considered a permit or a fee.
- If the HRSD project (injection) is the mega solution and there is no funding mechanism – point sources only cannot pay that bill. Regardless of the efficacy of whether you should have a permit of not for unpermitted users, you cannot get from "A" to "B" without some mechanism to have those that are "unpermitted" part of the solution. There could be a means to assess a fee on non-permitted entities without having a permit. Maybe the permit is not a permit to restrict but it is a vehicle to collect money. Individual residential water works could be a part of that funding solution probably through the collection of a fee through the property tax.
- Do the unpermitted users have an obligation/a responsibility to the aquifer? What about the notion of a fee for non-permitted users to fund all the different things that have been discussed by the group? Existing users should be part of the funding piece. There probably would be no objection that for new wells that there should be some reasonable fee attached.
- A concern was raised that there needs to be more information regarding this assignment of the "reasonable fee". Who does it apply too? How is it collected? It was suggested that rural Virginia might not be too excited about being assessed a fee to fund this. There would be a need for a more developed proposal before acceptance or further consideration of a "fee proposal". One major concern is what would the amount of the fee be? If the fee were reasonable or was a fair share it might be acceptable. But what would a fair share look like, what would be a reasonable fee? It would be more likely and more acceptable if a project was developed that had the cost of maintaining that project over its life span embedded in it. On the other hand coming to property owner who has 400 to 500 acres and telling him that he has 500 units so we want

this much money for those 500 units – this is open land, so there for you pay to the aquifer this amount – it is likely that the Agricultural community would object to such a proposal/concept.

- Limit residential irrigation wells in some manner. Need to make a distinction between use of potable and non-potable water for irrigation and look into mechanism to allow the use of non-potable water for residential irrigation.
- Need to incentivize connections to the public system.
- Need to incentivize the use of best management practices and educational efforts.
- There should be some incentives for the expansion of public water systems. Uncertain where that funding source would come from but it is worth considering.
- It was noted that it is real easy for Councils to say that no they are going to control development through the expansion of the public water system when the whole legal mechanism for controlling development is designed to be zoning but that is easier to roll over on than to just use the public water system footprint and expansion or not as the tool. We need to try to shift the balance to a point where zoning is used the way it was intended to be and the utility systems are not used this way, because the utility systems are creating much greater negative impacts by using the expansion of the public water system as the control mechanism both on the water and sewer side. We need to get the utility systems out of the growth management business and back into the providing utilities and protecting public health and safety business that they are designed to be.
- Need to make it clear that we are talking about incentivizing alternative sources, and systems that utilize alternative sources.
- Is there some kind of minimum threshold that could be used or is being considered to address these unpermitted users? No, no minimum alternative threshold has been developed. The biggest concern is that we would be talking about thousands of people – thousands of potential new permits that would have to be managed with all different kinds of uses. Staff indicated that they didn't know administratively how they would be able to manage that effectively. There is a concern that there is not or might not be any way to manage it at this time.
- How many people that are on private wells have immediate access to a public water supply? This number varies greatly depending on the localities and the overall size of the localities and the areal extent of their service area.
- Need to also consider getting folks off of private wells and onto the public system and incentivize the abandonment of those public wells.
- Subdivisions are located here and there but they are not everywhere. A struggle with this concept is its applicability outside of the urbanizing areas and a giant chunk of this land base area is in the rural area – the local governments are not created equal. So then what do those less developed communities with less access to public water do? Is the cost the same in rural parts of a locality as it does in urban areas? No, because there are no public water system usually in the rural areas. The rural areas don't have another alternative at this time other than use of private wells. That is the reason that having incentives to expand a public water system into or closer to these rural areas is important. That is the struggle that a lot of people had with

the stormwater fees was that it was a wonderful idea because in some of the urbanizing areas, they have a light-switch mentality – you flip the light-switch and everything comes on then everything is wonderful but in some of the more rural areas applying that same thought process and those same level of fees doesn't work as well – you thought the house was burning down.

- For the domestic use and for private well use, for example if we are looking at a place around Tappahannock, all of the domestic use in the Tappahannock area is probably not having any significant effect on the portions of the aquifer that are stressed. It is the domestic use in James City County; New Kent County; Hanover; and Henrico County areas that are having the impacts not the rural Tappahannock and Northern Neck areas.
- The folks in a huge chunk of the land base of this aquifer that we are talking about are going to want to have some kind of tangible return on the dollar invested in either a permit or a fee.
- It was noted that in some areas when an individual with a private well does connect to the public system that they often keep their private well for another use (lawn irrigation) – so along with the need to an incentive to connect to the public system there needs to be an incentive to properly abandon the private well.
- There may be different solutions for different areas of the state. Any solution(s) need to be broken down by geography and geology.
- Localities at the Fall-Line are impacted in ways that other localities don't see an impact so we need to be able to address the problem as a total package. This group is supposed to be here looking at the long-range problems so that we don't have these impacts that impact the aquifer in other areas.

9. **Flip Chart Notes:**

Regulation:

- **Power to deny**
- **Costs added**
- **Management difficult – a potential negative**
- **Limit on residential?**

Options:

- **Limit residential irrigation wells (potable/non-potable)**
- **Incentivize connection to the public system that rely on alternative source and abandonment of well**
- **Best practices – education and incentives**
- **Fee – tied to permit or not – new wells – fair share – rural/urban**
- **Incentivize expansion of the public system**
- **Mandate to connect to the public system**

10. The Planning Process (Mark Rubin):

Mark moved the group to a discussion of the planning process. What, if anything do we need to put into the Planning Process that might improve it so that it might be able to deal with the issues we have discussed this morning? Their discussions included the following:

- There is a need for more public information about the process and especially the issue/concern. There needs to be more public education about the issue.
- The use of P.E. stamps for the permits should be considered. We are talking about a 4 to 5 year period before you could have any permitting charges in place and the GA is not going to authorize additional permit writers, so use of the P.E. stamp might be a valuable option.
- It was noted that localities have the ability to require you to connect to the public water system if it is available. Cities have this ability. Counties only have the ability to require you to connect to the public water system only in their service areas. The only people that don't connect is when it is cost-prohibitive, when it is just not economical. Couldn't there be a requirement for someone to have to hook to the public system? The political will in local government is lacking to require hook-up in these areas. Could there be some condition that mandates that you have to connect to public water if it is available. There are a lot of folks out there who say that "they don't want to connect."
- There needs to be a requirement to connect to public water "when it is available". Available or immediately available is the key to this concept.
- Incentives when they have been fleshed out need to be linked to the planning process, because they are a large part of the alternatives analysis.
- An example of another process is the Rural Development Authority in areas of the Mid-west was in essence/fact the Rural Water Authority, which extended water to rural parts of the counties that didn't have access to an alternative source of water – they serve as the rural water system – they are financed differently, they were incentivized differently – they are considered a development authority that was improving the county but it was in areas where groundwater was not as readily available. There are examples out there that might be translatable – but they might not be available here at this time.
- There needs to be confidence in the "model". Confidence in the model needs to be improved.
- It was suggested that the list that had distributed at the last meeting by Andrea Wortzel should also be reviewed and considered.

Mission H2O – August 18, 2016

Basis for Permitting Decisions

- How frequently should the model be validated against actual monitoring data?
    - Actual monitoring data shows that water levels are improving in some areas.

- Validation has not occurred to assess whether model is accurately predicting changes (both declines and recovery).
- Validation is also needed to confirm the appropriateness of the 80% drawdown criteria (and how it is applied).
- One option is to validate the model at least every five years as the state water resource plan is updated.
- Another option is to have a third party research or academic group review periodically.

Changes to Current Groundwater Withdrawal Permits

- Can a comprehensive timeline be established that assesses when various alternative sources can be implemented and how that affects the need for current reductions in actual withdrawals?
  - Understanding of actual groundwater usage that recognizes the need to preserve the option of using groundwater under certain scenarios, but acknowledges that groundwater is not regularly used outside of those scenarios.
  - Based on this understanding, is there a longer time period to make the reductions? If so, some of the "long term solutions" may actually be timely. For example, in DEQ's charts regarding the reductions needed (attached), actual withdrawals are in the 90110 range; the target reduction range is 70-90. If we can ensure that actual withdrawals remain closer to 90 during the next permit cycle, is this sufficient to protect the aquifer while other projects come on line?
  - This is an important question to address because if individual permittees invest in an individual solution to achieve their own reduction now, there will be little interest in investing in additional reductions in the future. The long term problem will remain unsolved.
- Should permit terms be lengthened?
  - Currently limited to ten year terms by statute.
  - The ten year time period is not consistent with bonding/funding timelines.
  - Creates uncertainty.
  - Where investments are made to achieve reductions, there should be a longer time period to recover the value of those investments.
- Should a reopener provision be included in the permits to allow for changes based on development of alternative sources or improvements in the aquifer?
  - What should be the triggers for a reopener?
  - Could reopener provision include automatic restoration of groundwater withdrawal volumes under certain circumstances?
  - Need consensus on language for such a provision.

Permitting for New Water Supply/Water Storage Projects

- Should the permitting criteria for water supply / water storage projects be adjusted to recognize the benefits of reducing groundwater withdrawals? If a water supply project has benefits in other program areas, can such projects be given greater weight?
    - For example, if a water supply project also addresses a stormwater or water quality problem, should that be included when evaluating the project? This would enable projects to be evaluated on a more holistic basis.
    - Likewise, Virginia's Water Resources Plan notes the "need" for greater water storage projects. If a project helps meet this "need," how can that be factored into the permitting process?
    - How can we incorporate a philosophical change to consider water resource management holistically?
    - How do we accommodate economic development and new growth? Unpermitted Withdrawals

How should unpermitted withdrawals be addressed?

- Currently, the volume of unpermitted withdrawals is estimated to equal actual permitted withdrawals.
    - Without addressing unpermitted withdrawals, we could end up in a situation similar to the Bay program, where significant costs are incurred by permitted withdrawals. But, at the end of the day, it becomes apparent that the problem will not be solved without addressing unpermitted withdrawals.
    - Addressing residential water withdrawals on the basis of cumulative impacts for residences in subdivisions is one option.
    - Other options that could be explored include setting location or density goals; evaluating incentives to minimize private wells, enhancing monitoring requirements, etc.
    - Development and use of farm ponds for agricultural irrigation is another option to be explored as a groundwater alternative, including evaluating how to address current obstacles to the use of farm ponds.

- How is water availability factored into the current local planning process? How do you decide where to put subdivisions? Water is usually the last consideration. This is a gap in the process but it currently does not get a lot of early attention in the local planning process. This is a really significant issue moving forward. People in rural counties talk about "land rights". Trying to tell someone what they can and cannot do with their land is a "no-win" situation.
- Development in general and subdivisions in particular follow the major transportation corridors. It follows transportation which is a higher determining factor than the availability of water.

- For public water suppliers to plan for another water source or to do a large plan for a plant, it is a 30-year planning process. The 10-year permit timeframe is really short – to get from inception to actually building a project is typically 10 years and then you are going to a new permit – so you are crossing your fingers that you can really get the value out of what you have built, as you are coming under a new permit. Can or should the permit time frame be extended to be more consistent with the timeframe of a project or the lifetime of a project for a water supplier? Especially when you consider the difference between the "actual use" versus "projected use" versus "permitted use" – all three are vastly different. The "if/when" type of comments where we have situational considerations such as "your permit is this, but if this occurs then you can withdraw more for that time period" have been really helpful. It was noted that DEQ has been very workable and flexible and good to work with throughout the permitting process. Staff noted that they have tried to be flexible and have tried to work closely with the permittees to make these permits work.
- There needs to be more flexible types of permitting objectives, limits and allowances.
- It was suggested that the permits for the major users were the drive for this whole committee's organization and the legislation and by virtue of issuing those permits and being very workable so none of the permittees feel that Scott is being "Attila", but you still may be "cherry-picking" the permits and getting enough people and enough permit reductions in place so that the incentive for this whole committee and this process/action may be going away. With the result that we may lose a historic opportunity to make real changes at the State level because the individual permits are being issued before the ongoing process has been completed. The incentive and the drive behind people to support and push for big changes to occur may be going away and may be getting lost. There is a big concern that this might happen. We have an opportunity to effect change but if all the permits get issued the support for making any significant changes may fizzle and you may not have the chance for 10 to 20 more years. Why is this the case? This whole process was created because the permits of the major permittees were being cut by 65% or 55% or 57%. If these permits get issued then all of those major users no longer have the incentive to support anything because they are all of most of them are content with what they got. Their desire to talk to their legislators is going to drop because they are okay for a while. But if that is the case, in 10 to 20 years we will be right back here. We don't want to go into a repetitive loop of "over-allocation"; "meetings"; permit reductions"; and over again.
- The idea that all of the major permittees are going to be okay with their reductions was news to a number of the workgroup members. It was noted that they are not all "okay" but they "might be" especially since DEQ is working with them and being very reasonable in their negotiations. There are some of those permittees who are not happy with the proposed reductions in their permits. But it was stressed that if 5 or 6 of the major permittees are pulled out of the mix then there may not be enough clout or push at the State legislative level to change anything.
- There was support for DEQ being reasonable.
- "Let's tale the can and squish it not push it down the road."

- Some folks have indicated that if they have to spend a whole lot of money to make the reductions that are being asked for in the permit there may not be any money to put towards support of a project such as HRSD. This issue is going to be discussed
- Affordability is a big deal. Affordability to the public water system customers is becoming a big deal. An analysis done by HRSD has shown that the bottom 20^{th} percentile, based on the income of the customers (City of Chesapeake) are paying between 15% and 18% of their monthly income on water and sewer and stormwater.

11. Flip Chart Notes – Planning

Planning:

- **More public information**
- **P.E. Stamp use allowed – in permitting**
- **Incentives linked to planning – look for models in other states**
- **Improve model**
- **Tie between the local planning process and the State Water Planning Process**
- **Permit time frame – extend for life of project**

12. Report to the Advisory Committee (Mark Rubin):

Mark asked the Workgroup members "what they would like to report to the Advisory Committee" about what this groups is doing?" Is there anything that we have been talking about that couldn't be just raised with them as these are the types of things that the group is talking about, even though we have not made any final decisions? Is there anything that we should not talk about?

Discussions of the workgroup included the following:

- The concept that the unpermitted use is approaching the level of the permitted users and that use is going to continue to grow and is going to be an issue further down the road should be brought to the attention of the main committee. We don't have the answer, but they need to be made aware of it.
- The unpermitted is to a degree and will continue to be the driver for what can be permitted.
- There is a link to economic development, because if there is not an adequate supply and you are a large water users you are going to go somewhere else.

13. Scheduling and Next Steps:

Mark Rubin reviewed the progress of the group today. We have discussed the topic of "unpermitted users'. There are items that we talked about at the last meeting that had to do with permitted use and because we are looking at alternative permitting criteria – we talked a little bit about cushions (are there

cushions in the permit) and whether they should be there at all or be as large as they are, what is the purpose of them, etc. We had also talked about a collectively cushion for economic development. Should you or can you figure out a way to provide a cushion in terms of economic development. We talked about credits for conservation and efficiency. We talked about the concept of "use it or lose it". We had discussed the concept of reopeners. We had also talked about ways to streamline the process, such as use of the P.E, stamp.

Should we attempt to start looking at these items at the next meeting? Yes. We might also want to add items from the Mission H2O memo included the concept of different adaptive management approaches and flexibility in the permitting process.

The next meeting of Workgroup #3 is scheduled for Friday, October 21st from 9:00 – 12:00 at the Virginia Housing Center.

Mark asked the group whether they wanted to include the topic of fees in their discussion topics, since the Funding Workgroup (Workgroup #4) will be discussing this topic during their upcoming meeting. The group agreed that they did not need to address fees at this time, but the suggestion was made that if the Funding Workgroups lead into a recommendation related to unpermitted users and associated fees that a joint meeting of the two workgroups might be a good idea.

14. Public Comment: No public comment was offered.

15. Meeting Adjournment:

Mark Rubin thanked everyone for their attendance and participation in today's meeting.

The meeting was adjourned at approximately 11:45 A.M.