

**THE SUMMARY OF THE MEETING OF THE
REGIONAL ENVIRONMENTAL COMMITTEE
December 3, 2015**

1. Summary of the November 5, 2015 meeting of the Hampton Roads Regional Environmental Committee.

The summary of the November 5, 2015 meeting of the Hampton Roads Regional Environmental Committee was approved as distributed.

2. Public Comments

There were no public comments.

3. Portsmouth/VMASC Survey on Adaptation Responses to Recurrent Flooding

The City of Portsmouth worked with the Virginia Modeling, Analysis, and Simulation Center (VMASC) to survey Portsmouth citizens regarding how they perceive and experience recurrent flooding. The survey utilized a large, random sample of Portsmouth households combined with GIS analysis to assess how different demographic groups have been affected by flooding. Mr. Brian Swets, Portsmouth Planning Administrator, presented a summary of the findings. Dr. Joshua Behr, Old Dominion University, was also available to answer any questions from the Committee.

Mr. Swets outlined the goals of the survey, including developing more reliable recurrent flooding maps, identifying the populations most vulnerable to recurrent flooding, and providing information to Emergency Management service providers. VMASC surveyed 1,978 households in the summer of 2015.

Some of the surprising findings include:

- Almost 80% believe in sea level rise (SLR) of at least 1.5 feet in the next 40 years
- About 70% of the damage within the last year has been outside of the flood zone
- Only 52% believe there is enough information for government to invest in SLR response

Mr. Swets presented the following conclusions:

- Citizens who experience flooding are more likely to support government action
- Recurrent flooding, not SLR, is a bigger immediate and long-term danger
- Senior household are safer than average
- More research is needed on the effects of flooding risk/perception on property values and whether flooding is causing residents to move out of the City

The full report is available on the City's website at http://portsmouthva.gov/planning/studies_reports.aspx.

Ms. Katchmark asked if Mr. Swets had presented the results to City Council yet. He said they had not but they are actively trying to get on their agenda.

Mr. Bernick asked whether the results have been integrated into City policy yet. Mr. Swets replied that the report was just finalized. He plans to distribute it and determine the path for integrating this information in 2016.

Mr. McFarlane asked if the recurrent flooding that was taking place outside of flood zones could be correlated to the stormwater system. Mr. Swets agreed that stormwater management is a critical issue. They will incorporate both in the updated mapping.

Mr. McFarlane asked VB and NO if they had included stormwater management in their recent flooding studies. Ms. Whitehurst (NO) said that FUGRO was focused on coastal flooding. Mr. Johnson said that VB is including stormwater in theirs.

Mr. Johnston added that storms in recent years have gotten stronger and VB's infrastructure is based on design standards that do not account for these stronger storms. Mr. Johnson indicated that they really could not separate stormwater and flooding.

Mr. Bernick offered a comment that he suspects that the survey results obtained by Portsmouth would likely be applicable across the region.

Mr. Heide asked how many residents they had to call in order to get nearly 2,000 survey participants. Dr. Behr replied that they had a 65% response rate. They included cell phones and land lines, which were geocoded to ensure an appropriate representation of the City. Mr. Heide asked if they had specific financial data on the property damage reported by the respondents. Dr. Behr said they did not track the amount of money, but they did inquire about the type of damage, such as a tree falling on the roof or water seeping into the house.

Ms. Katchmark asked if the demographics of the survey respondents match those of the City. Mr. Swets answered that they were not exactly the same, but still statistically representative.

4. HRSD's Aquifer Replenishment Study

Mr. Ted Henifin, HRSD, presented an overview of the Aquifer Replenishment Study. HRSD is evaluating the feasibility of using clean water for aquifer replenishment to sustainably protect groundwater supplies, reduce nutrients discharged to the Chesapeake Bay, mitigate land subsidence, block saltwater intrusion, support economic development, increase available oyster grounds, and provide drought resilience for more than 25% of all Virginians.

Mr. Henifin explained that CH2MHill completed a feasibility study looking into how the process would work. Injecting clean water back into the aquifer at existing HRSD plants could provide a sustainable supply of groundwater. The process is common throughout the world. Three treatment processes have been considered: reverse osmosis (RO), nanofiltration (NF), and biologically-active granular activated carbon (BAC)/granular activated carbon (GAC). The water that is pumped into the aquifer has to be compatible with the native groundwater. CH2MHill estimated that the total project cost would be \$1B, with annual operating costs at approximately \$21-\$43M.

The next steps for HRSD include engaging stakeholders, modeling, scoping a pilot scale project, evaluating the geochemistry, and detailing the costs analyses. By 2017, HRSD has aimed to have endorsement from DEQ, VDH, and the Eastern Virginia Groundwater Advisory Committee. The plan also includes having the project in the Phase III WIP. The projected timeline has the system fully operational in 2030.

Ms. Brumbaugh asked if DEQ would require a permit to inject the water into the aquifer. Mr. Henifin does not expect that they will need one because it is not covered under the Clean Water Act. It is addressed federally through the Safe Drinking Water Act. As mentioned by Ms. Reitz, though the process would not be permitted, there are likely to be extensive monitoring requirements. Ms. Brumbaugh also asked if HRSD would still need outfalls. Mr. Henifin replied they would because there would still be discharges during significant rain events.

Mr. Bernick asked if HRSD had engaged the CAOs or other local government representatives. They have begun talking to state agencies and have reached out to a few local governments. Ms. Katchmark said they will present to the CAOs in early 2016.

Mr. Iyer asked what the direct benefits would be. Mr. Henifin replied that allowing more permitted groundwater withdrawals would be marketable for region. Ms. Katchmark added that Suffolk and some of the other western localities in Hampton Roads rely exclusively on groundwater.

Ms. Roberts asked how much water they would be injecting. Mr. Henifin estimated about 120 million gallons per day, similar to the example in Singapore that he discussed.

Ms. Brumbaugh asked what the injection system would consist of. Mr. Henifin replied that they would construct well fields adjacent to their existing plants, where possible. The wells would range from 1,500 to 2,000 feet deep.

Mr. Bernick asked if the project would be interfacing with regional SLR projects. Mr. Henifin replied that the aquifer replenishment would slow down SLR and reduce land subsidence.

Mr. Keaton offered a comment that some states have regulations that prevent injection, including North Carolina.

Ms. Stiff asked how long the injection system would last. Mr. Henifin answered that it would be designed for 40 years.

It was also asked what would happen to the aquifer if HRSD injects water for 40 years and then stops. Mr. Henifin suspected that it would go back to the way it is now, depending on the rate of groundwater withdrawal.

5. Virginia Stormwater SAG Update

Ms. Katchmark presented an update on the stormwater legislation streamlining SAG. The most recent meeting was held on November 20, 2015. It is likely that the SAG will meet one more time to discuss the remaining revisions. Ms. Katchmark will distribute the most recent version of the revised language for review.

There continues to be inconsistencies with the revised legislation and the draft nutrient trading regulations. The draft nutrient trading regulations allow credit towards MS4 compliance whether the credits were generated upstream or downstream from the project site. The proposed legislation limits it to upstream only.

The rural localities continue to want to preserve the opt-out option for managing stormwater programs. Ms. Katchmark anticipates strong involvement from the VA Association of Counties (VACo) and the VA Municipal League (VML) during the upcoming General Assembly session.

6. Sea Level Rise

Mr. McFarlane provided an update on the Joint Subcommittee to Formulate Recommendations to Address Recurrent Flooding, which adopted recommendations for the 2016 General Assembly. Thirteen recommendations were considered and the following were adopted:

- Extend committee for more years
- Provide funding/tax exemptions for living shorelines
- Appoint stand-alone resiliency officer
- Require state resiliency plan
- Establish VIMS and ODU as a “Center for Coastal Resiliency”
- Fund 3x3x3 program with USACE

Mr. McFarlane mentioned that the SLR Technical Assistance Final Report had been submitted. He explained the sea level rise maps in more detail. The new maps show a projection of 2 feet of SLR on present conditions. HRPDC staff also developed a GIS model to run any given SLR scenario in about 4 to 5 hours.

7. Coastal Zone Updates

The quarterly Coastal PDC meeting was held last month in Port Royal at the George Washington Regional Commission. Mr. McFarlane provided a summary of the topics discussed at the meeting. The rural PDCs have significant concerns regarding the stormwater streamlining SAG and the opt-out clause. Those localities have local ordinances in effect that indicate DEQ will manage their stormwater programs. The current draft legislation discussed in the SAG includes the opt-out clause.

The Section 309 strategies for 2016-2020 have been submitted to NOAA. There is a focus on protecting environmental assets without hindering development. The first strategy is to evaluate cumulative and secondary impacts for the Lower Chickahominy project and continue with Working Waterfronts. The second strategy is to study coastal hazards.

The Section 309 grant proposal should be connected to enforceable policies. The HRPDC was previously focused on the City of Hampton Threshold Analysis, but that was changed due to DEQ's concerns with the ongoing Stormwater SAG. The draft proposal for the Section 309 grant has four deliverables:

- Assessment of Coastal Hazards in Current Local Plans and Policies in Virginia
- Coastal Hazards Planning Case Study Identification and Analysis
- Assessment of Best Practices for Addressing Coastal Hazards in Local Policies
- Education and Training on Best Practices Addressing Coastal Hazards

Mr. McFarlane said he would distribute the scope of the proposal to the SLR Committee for review. He envisions a half or full day training workshop to disseminate the information from the assessment.

The announcement for the competitive grants for FY16-17 is expected in January or February. Mr. McFarlane asked the Committee to submit their ideas for public access projects.

8. Other Matters

- A. VDOT – Mr. Scott anticipates the new MS4 Coordinators to start with VDOT in January.
- B. SY – Ms. Russell stated that Surry does complete technical review of Stormwater plans. They recently received a letter from Middlesex County concerning the opt-out clause.
- C. PO – Mr. Swets announced that the RFP is out for Portsmouth's Comprehensive Plan. Proposals are due January 4, 2016.
- D. SU – Mr. Heide said that Suffolk received comments from DEQ on their draft Bay TMDL Action Plan. They asked for documentation on some calculations, but it will not be hard to put together.
- E. VB – Mr. Johnston announced the DEQ extended the deadline for SLAF applications to December 18, 2015. Mr. Heide mentioned that they added living shorelines as an approved BMP.

- F. PQ – Ms. Roberts asked about the Back and Poquoson Rivers TMDL. Ms. Sunderland will follow up again with Ms. Jennifer Howell about a letter explaining the TMDL revisions.

The next meeting of the Regional Environmental Committee is scheduled for January 7, 2016 at the Regional Building in Chesapeake, VA. Materials will be sent in advance for review.