

MEETING SUMMARY
CHESAPEAKE BAY TMDL STEERING COMMITTEE
September 1, 2011
1:00 P.M.

The meeting agenda was amended to revise the order of the agenda. Meeting business was conducted in the order listed below.

1. Meeting Summary

The summary of the August 4, 2011 Steering Committee meeting was approved as distributed.

2. Alternative Onsite Systems and the Bay TMDL

Mr. David Tiller, VDH, provided the Committee with a briefing on the treatment of septic tanks in the Chesapeake Bay TMDL and a summary of how the Alternative Onsite Sewage System (AOSS) regulations that were adopted by the Board of Health in June 2011 relate to Chesapeake Bay TMDL implementation. A copy of his presentation is provided on the HRPDC website. Key points are summarized below:

- According to EPA, there are 540,000 onsite sewage systems in Virginia. Forty percent (40%) of the nitrogen from each onsite sewage system is passed through to a stream. DCR used population data to estimate septic source sector nitrogen load at 2.9 million pounds of nitrogen annually. The Phase I WIP requires a reduction to 2.4 million pounds annually (load cannot increase with population growth). The only way to achieve this goal is to have every new system to produce zero nitrogen and to retrofit 40,000 existing systems.
- Conventional septic systems do not remove nitrate, which is highly soluble in water and very mobile in the environment. A denitrification process must added to the septic system to remove nitrate. Many alternative onsite sewage systems are capable of reducing nitrogen. But, they can be expensive, and they require routine operation and maintenance.
- The Phase I WIP attempts to reduce the nitrogen load attributable to septic systems through regulatory actions and offsets via an expansion of the Nutrient Credit Exchange Program (see slide 19-20). The AOSS regulation requirements for new systems and system repairs/upgrades, as dictated by site conditions, will help slow the rate of increase in nitrogen loading from the septic source sector.
- Locality authority for other/additional regulations is not limited by the new AOSS regulations.

The Committee comments and discussion are summarized below:

- It does not seem likely that 40,000 retrofits will be achieved by 2025 if owners are only required to retrofit their systems when they fail or when they expand their systems. VDH should promote a state-level approach to prioritize the 40,000 required retrofits of existing systems (standardized prioritization by age, location, or other appropriate

factor). It would be helpful to local governments if VDH takes regulatory action to effectuate consistent implementation across the region.

- VDH has the authority to enforce repair of known failing systems; VDH cannot require septic systems to connect to public sewer systems. Local ordinances in some areas control implementation by disallowing septic systems in areas served by public sewer systems.

The Committee agreed to form a subcommittee to discuss septic systems issues and concerns. HRPDC staff will coordinate subcommittee activities.

3. Navy Chesapeake TMDL Efforts

Mr. Dave Cotnoir, Naval Facilities Engineering Command Mid-Atlantic (NAVFAC Mid-Atlantic) briefed the Steering Committee on current activities by the Department of Defense to achieve nutrient reductions at Naval facilities in the Chesapeake Bay Watershed. Mr. Cotnoir specifically discussed the stormwater management planning case study at the Cheatham Annex/Yorktown Fuels site. A copy of his presentation is provided on the HRPDC website. Key points are summarized below:

- The Navy's stormwater management planning in the Bay Watershed is guided by Executive Order (EO) 13508 and guidance documents from the Department of Defense and EPA, as well as guidance from the Center for Watershed Protection.
- The Navy is conducting site assessment pilot projects to establish a framework for similar investigations at other Federal facilities in the Bay Watershed. Stormwater improvement options are identified for pilot sites and prioritized against standard criteria for benefits, environmental impacts, constraints, and relative BMP cost. Conceptual designs and cost estimates are developed for top ranked options.
- For the Cheatham Annex/Yorktown Fuels site case study, the Navy is currently developing and prioritizing the list of BMP options. The Navy anticipates using VAST or some other tool.
- Case studies have been completed for two medium installations and three smaller installations. Assessments will be completed by 2013. Assessments of smaller installations are being completed for approximately \$40,000 to \$50,000. Costs for larger installation assessments are running closer to \$100,000. The Navy is requesting construction/implementation funding for 2014.

4. HRPDC Update on Priority Issues

HRPDC staff updated the Committee on staff efforts to address the priority issues identified at the August Steering Committee Meeting:

- VDOT Properties: Staff is assessing available data and potential methods of analysis and extrapolation. Available data includes road centerlines, TPO area lane numbers (right of way and lane widths are not consistent) for major collector and larger roads, green infrastructure areas, and pending state data and information on colleges and universities. Staff is requesting VDOT in-house data sets, and will also look at parcel

data to extract proxy data for roads. Staff will be contacting localities for information on local roadways.

- Facilities with Industrial Stormwater Permits: Staff will meet with DEQ to review the agency's list of stormwater and general permits and potential methods of analysis. The DEQ database does not include the land area subject to each permit, however, this information may be available in the paper copies of permit applications.
- Private Property BMP Incentives and LID Stormwater Controls: At next month's Committee meeting, City of Richmond stormwater staff may brief the group on their incentive/rebate program. Also, HRPDC staff will report on the status of CZM program grant applications to support assessment of redevelopment rates and implementation of BMPs on private property.
- HRPDC BMP Planning Tool: Staff has developed a tool to complement the VAST tool and will distribute to localities on September 2, 2011.

HRPDC staff received a request from the September 1, 2011 Joint Environmental Committee meeting to develop outreach material for public officials. Staff will develop a template presentation to be ready in October/November 2011. The draft presentation will be circulated for comments.

The HRPDC website for the Chesapeake Bay TMDL has been updated with Committee meeting materials, presentations, and recently received materials from the State. Materials may be accessed at <http://www.hrpdcva.gov/PEP/ChesBayTMDLInfo.asp>.

5. Facilitated Discussion

a. Question and Answer Session with DCR Staff

Mr. James Davis Martin, DCR, attended the Committee meeting to answer questions related to the Phase II process and follow-up questions related to the August 15, 2011 letter sent to DCR staff following the last Steering Committee meeting. The discussion is summarized below (questions/comments from the Committee are shown in italics).

- 1) DCR has not yet identified a date for distributing the 5.3.2 model data. Pivot tables will be provided to local governments to address some of the previous questions on the 5.3.2 data (list BMP units, clarify which BMPs are cumulative and annual, etc.). DCR is working on differentiating between pervious and impervious urban lands. The land use and load data will be provided in the pivot tables, and DCR expects to complete work on the BMP information soon. EPA did not run the 2009 progress scenario on the 2010 land use (Phase I WIP), and there are some difficulties caused by comparing the 2009 progress loads on 2009 land use to the Phase I WIP. Land use information is developed

independently. A change in load observed between model runs may be the result of additional BMPs or different land use inputs. DCR is still discussing whether to wait for further information from EPA or to distribute the information as received.

- 2) *Will there be a model run for 2010 "no-action"?* That scenario was run as part of the basis for redistributing target loads for the 5.3.2 model. This data has not been distributed to localities, but is available for download from the FTP site.
- 3) *Local government staff has been asked to put together latest information to validate land use information, but staff has not been able to obtain from the State the model land use classifications. This need has been previously communicated to DCR. EPA has made the land use classification document available on the agency's website. This document explains how they derived land use subcategories from satellite data.*

Aren't some sub-categories changing? The urban categories listed as "MS4 urban" and "non-MS4 urban" are becoming "regulated" and "unregulated" – pervious and impervious – the numbers not changing. Also, animal operations will be broken out as "regulated" and "non-regulated" animal operations.

- 4) *Wouldn't it be better if the State provided a list of land use categories and descriptions to avoid multiple locality interpretations of EPA's document?* The new data set will allow the use of additional fields – the land use classifications used in the model – the user will be able to look at all 12 subcategories of crop lands.
- 5) *Should localities wait for DCR to distribute the new data set?* No, localities probably do not need to differentiate land use to the sub-category level.
- 6) *What was the State's approach to urban nutrient reductions? Did DCR take a percent reduction from the 2009 progress BMPs or did DCR start with the "no-action" scenario?* Each BMP was applied to the appropriate land use. In the Phase I WIP, at a statewide scale, it was decided that X percent of impervious surfaces will be treated with a certain BMP. This percent of treated impervious surfaces was applied to each of the land river segments in the model to calculate the acres treated. The acres treated were tallied for each jurisdiction to determine the Phase I WIP load. The same level of treatment for each BMP specific to each land use was applied uniformly across the state. A standard percent treatment for each BMP was applied to the available land in each locality not in addition to the BMPs in place in 2009
- 7) *Is there a reference sheet that shows the assumed BMP implementation percent?* Documents were presented to the Phase I WIP Stakeholder Advisory Group

(SAG) indicating the larger categories. The Phase I WIP does not break these down further.

- 8) *What is included in the category of “filtration based BMPs” and what are the assumptions for this category?* DCR would have to check on how that mix of BMPs was determined.

There are not enough details provided on what was assumed for the level of sweeping and nutrient management – this information is necessary to compare what was assumed to what was on the ground. The only specific guidance was to calculate the acres treated by the road width times the length swept, but DCR will check if additional guidance exists.

- 9) *Information provided on the pre-2006 BMPs is unclear. Localities were told that pre-2006 BMPs were treated differently in various model runs. How do localities know which BMPs (2009) are pre-2006 and post-2006.* DCR needs to know the type of BMP, unit of measure, location, amount, and year installed. This information will be compared to annual BMPs as reported to EPA. DCR can cross check data per year with annual numbers – that will indicate the difference.

- 10) *Is it possible to get copies of the assessments back from DCR so that localities can plan/estimate credits?* Once DCR has completed the updated data set, copies can be provided back to localities. If a locality reported all BMPs from 1982 and on, do you want to know individually if the BMPs counted, or just the total number of BMPs? The year is important because this indicates if the BMP was included in the calibration period of model. For the calibration process, the measured water quality is attributed to the total reported BMPs in existence at that time. If a BMP was installed in 2006, the locality can get credit when it is reported in 2011.

The situation is frustrating because model calibration did not include many data points. The water quality measurements attributed to a given locality are subject to influence by tidal action and runoff from neighboring localities. A water sample does not accurately reflect the composition of drainage outfalls and runoff. DCR agrees that the model may not be representative of locality conditions – EPA asserts that the model is effective at the sector/baywide scale. The margin of error increases at smaller scales.

This is problematic in that it will cost citizens millions of dollars. The model is a management tool to represent the level of effort required to meet water quality standards. DCR is not aware of an approach that is more defensible, but will communicate any suggestions from localities up the chain.

The majority of monitoring stations used for model calibration are located in non-tidal areas. There are few monitoring stations located in the Hampton Roads region. Because Hampton Roads localities need to be able to count on these model

calibration monitoring stations to provide a reasonable representation of locality efforts implemented on land and the resultant impact Bay water quality, additional monitoring stations appropriately sited throughout the region would help localities to better gauge progress. Yes, new stations will help inform the process, but long term data records are needed to be useful. New stations will not provide an immediate fix.

- 11) *Since loading rates are calculated by dividing the load by acres of land use, for localities that have multiple segmentsheds, is it advisable for localities to calculate land use loading rates for each segmentshed? Or should localities assume that it is the same? It is not the same.*

The VAST tool includes such functionality, but since we are trying to come up with a planning tool, it makes sense to use locality average loading rates for now, especially since most of the Phase I WIP planning is at the local government level. In the interim, localities can check the difference in loading rates between segmentsheds in the pivot table before deciding whether to use the locality average rates.

Multiple segmentsheds drain to different basins. Each land river segment in the model is adjusted for specific monitoring stations. There are order of magnitude differences between basins. It would be helpful to break out loads by segmentshed, but the locality average loading rate is good for local government planning efforts.

- 12) *In Maryland's MAST tool, all federal lands are lumped together. Assuming that VAST will similarly lump federal facilities together, there is concern that VAST will not be useful to federal agencies without extensive collaboration with the other federal agencies with facilities in each segmentshed. The model now shows federal facilities at the land river segment scale. This scale may be more helpful, but may not be fine enough to differentiate between Navy and Coast Guard facilities. The model combines the land areas, but not the land use.*

- 13) *For nitrogen load from septic systems, how many people does the model assume? The model attributes the load to the number of systems, but estimates the number of systems based on population data from a combination of sources including census reporting.*

- 14) *For tracking BMPs – would it make sense for us to create a spreadsheet on how to track these or should we wait for state to provide what those fields are? Focus on post-2006. Let the historic data be – it's baked into the model. Can use historic data later to recalibrate in 2017. For recent BMP data, since January 1, 2006, localities should use VAST to submit data revisions. Localities can submit additional, more specific data, outside VAST if they wish.*

- 15) *Is the fertilizer ban captured in VAST? EPA is still considering how to represent the fertilizer ban in model.*

As the Phase II WIP process is to account for a 15 year planning period, the information on the ban would be useful. DCR does not feel that this is a component of the planning process. It is best to assume there will be a modest reduction in phosphorus as result of ban on the order of approximately 200,000 pounds statewide. The impact is not as large as people may expect. The 200,000 pound reduction estimate was stated at the SAG meeting, but no source was provided.

Could a confident reduction estimate be provided by the State? A reduction could be assumed for the model and also used by the localities. HRPDC could propose a loading rate change.

- 16) *Localities are urged to apply new approaches and BMPs, however, these new BMPs are not credited in the model. If a practice has water quality benefits and is scientifically supported or widely accepted in the locality, then localities should use and report the practice. This will assist DCR in making a case with EPA for incorporating into the model.*

Floating wetlands are of interest to James City County.

A study on floating wetlands is being completed by Virginia Beach. As part of the Committee objectives, Localities are urged to bring other new BMPs to the Committee to gage the level of interest regionally and set priorities.

Virginia Beach is also doing a study on wetland removal efficiencies and oyster restoration with VIMS and the Army Corps of Engineers.

Hampton is interested in low-cost urban retrofits.

The Committee should contact James Davis Martin for future assistance in determining loading rates for new BMPs.

b. Roundtable

The following updates were provided by Steering Committee members:

Poquoson: The City is gathering materials for data request and tidal specific technical information request.

Gloucester: The County continues to ground truth and gather data.

Norfolk: The City continues to gather baseline data and is setting up one-on-one meetings with key stakeholders.

Suffolk: The City Council has appointed local committee members; the initial committee meeting is pending. Staff continues to ground truth data. The City is interested in BMPs and retrofits to maximize credits from ongoing development.

Chesapeake: The City's consultant is engaged in a land use inventory, but the interstate right-of-way remains an issue. Discussions with VDOT are pending. The City is doing a BMP inventory and hopes to capture older facilities in the Greenbrier area that were likely omitted from reporting. If implemented, a City wide septic pump out program would be estimated to remove 0.5 pounds of nitrogen per pump out according to the BMP spreadsheet. The City is interested in pursuing tree planting, but would like the State to confirm/acknowledge credits and benefits.

Virginia Beach: The City has established a local group and continues to gather data. The City is developing a database to track initiatives and across City agencies and community groups.

York: The County is concentrating on removing septic tanks from shoreline areas, identifying existing projects for retrofits, and establishing an interdepartmental committee on nutrient management.

VDOT: The impervious area shapefile has been requested from the central office. Staff has also requested a position statement on local government development of BMPs in VDOT right-of-ways.

James City County: The County established an interdepartmental work group that has been active for a couple of months, but has suspended activities pending further information from the State. The County is gathering data on existing conditions.

Hampton: City has established an interdepartmental committee with a TMDL and regulatory subcommittees. City staff and consultant are ground truthing the spreadsheet data.

Virginia Dare Soil Water Conservation District: The SWCD is assisting Virginia Beach and Chesapeake and is participating in a pilot program to collect and report voluntary agricultural BMPs. A brief on the pilot program could be presented to the Committee in the winter months.

DEQ: Looking at data available to carve out acreage for industrial facilities with MS4 permits.

Newport News: The City has hired a consultant to ground truth the information in the spreadsheet provided by DCR. The City is looking at potential retrofits and would like guidance on nonstructural BMPs such as large scale property acquisitions and flood assistance programs.

Isle of Wight: At the County's first multi-sector meeting, unexpected information on agricultural practices was reported and the County is working with the SWCD on this issue. The County supports the formation of a subcommittee on septic system issues.

Navy: On August 31, 2011, the DOD Quality Management Board met and discussed the current stormwater management activities of installations. The agency is looking at

nutrient trading, evaluating legal issues as they impact the agency's ability to participate, and assessing the need for nutrient trading policy development.

VDH: The agency welcomes any questions from the Committee and is open to reviewing and providing feedback on Committee work products.

DCR: The agency welcomes inquiries via the Hampton Roads engagement team or directly to James Davis Martin.

Meeting Attendance

Regional Steering Committee for the Chesapeake Bay Phase II WIP:

Chesapeake Bay TMDL Steering Committee members in attendance at the September 1, 2011 meeting are indicated by a “√” in the list below. Those represented by an alternate are indicated with a “Δ” (see list of alternate representatives below).

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|--------------------------|--|
| √ Amar Dwarkanath, CH | √ Ted Henifin, HRSD |
| √ Eric Martin, CH | Δ Carl Hershner, VIMS |
| Stanley Stein, NO | Marjorie Mayfield Jackson, Elizabeth River Project |
| √ June Whitehurst, NO | √ Christy Everett, Chesapeake Bay Foundation |
| Dave Hansen, VB | √ Chris Moore, Chesapeake Bay Foundation |
| √ Clay Bernick, VB | Karen Forget, Lynnhaven River NOW |
| √ Randy Wheeler, PQ | Bill Street, James River Association |
| √ Ellen Roberts, PQ | Tara Outland-Williams, Peanut SWCD |
| Δ Mary Bunting, HA | Chuck Griffin, Peanut SWCD |
| √ Lynn Allsbrook, HA | √ Roy Flanagan, Virginia Dare SWCD |
| Brian Lewis, NN | W. Brian Noyes, Colonial SWCD |
| √ Dave Kuzma, NN | Laverne Calhoun, Tidewater SWCD |
| Richard Hartman, PO | Joan Salvati, DCR |
| √ James Wright, PO | √ Todd Herbert, DCR |
| √ Steve Martin, WM | Noah Hill, DCR |
| Carolyn Murphy, WM | √ Mark Sauer, DEQ - TRO |
| √ John Hudgins, YK | Roger Everton, DEQ- TRO |
| Connie Bennett, YK | John Carroll, Forestry |
| √ Fran Geissler, JCC | Robert Hicks, VDH |
| Darryl Cook, JCC | √ David Tiller, VDH |
| Rhonda Mack, SY | √ John Harman, VDOT |
| Patrick Roberts, SU | √ Andrew Scott, VDOT |
| √ L. J. Hansen, SU | John Gordon, DOD – Air Force |
| Frank Haltom, IW | Ron Joyner, DOD – Air Force |
| √ Gretchen Gonzalez, IW | √ David Cotnoir, DOD - Navy |
| Peter Stephenson, SM | √ Sarah Diebel, DOD -Navy |
| Brenda Garton, GL | Mark Bennett, USGS |
| √ Martin Schlesinger, GL | |
| Michael Stallings, WN | |

Alternate Steering Committee Representatives in Attendance:

- Pete Peterson, HA
- Pamela Mason, VIMS

Additional Attendees:

Barbara Brumbaugh, CH
Joseph M. DuRant, NN
Justin Shafer, NO
Jennifer Reitz, HRSD
James Davis Martin, DCR
Casey Magruder, CH
William J. Johnston, VB
David Imburgia, HA
Weston Young, HA

Jeff Scarano, Brown and Caldwell
Mike Barbachem, URS Corp.
Sean Bradberry, URS Corp.
Claudia Cotton, Tidewater Builders Association
Shelly Frie, CH2M Hill
Tim Hare, CH2M Hill
Karl Mertig, Kimley-Horn
Richard Phillips, College of William and Mary

HRPDC Staff:

John M. Carlock
Whitney Katchmark
Jennifer Tribo
Tiffany Smith

Lisa Hardy
Jai McBride
Sara Kidd
Ben McFarlane