



COG WATER RESOURCES PROGRAM UPDATES CHESAPEAKE BAY PROGRAM

(AS OF 7/20/16)

Summary of key CBP activities that COG staff are monitoring or actively involved in that have critical impacts or potential implications for COG's members & the RWQM Work Program.

Bay TMDL – Overall Program

COG Contact

Supreme Court Upholds the Chesapeake Bay TMDL

On February 29, 2015, the Supreme Court announced that it would decline to hear the appeal by the American Farm Bureau Federation and other industry groups to revisit the legality of the Chesapeake Bay cleanup plan. In doing so, the Supreme Court upheld that EPA acted within its authority when it established the Chesapeake Bay Total Maximum Daily Load (TMDL) in December 2010. This ensures that nutrient and sediment load allocations to upstream states and non-point sources continue to be part of the overall Bay TMDL; and that the current Watershed Implementation Plans (WIPs) can continue to be used to define local implementation efforts. The net impact is that there is now greater certainty that the entire Bay TMDL/WIP processes can continue as planned. This also ensures greater equity among sectors – as all nutrient and sediment sources are accounted for, assigned load allocations, and expected to work toward achieving their load reduction goals.

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To read the full Bay Journal article [click here](#).

Chesapeake Bay Program Mid-Point Assessment

The year 2016 will be the final year of preparation of the tools the Bay Program will use in its mid-point assessment of progress under the Bay TMDL and the development of the third iteration of watershed implementation plans (Phase 3 WIPs) by the Bay states and the District of Columbia. The plans are expected to provide more detail on how the Bay partner jurisdictions will achieve by 2025 the nutrient and sediment reductions deemed necessary to eventually meet water quality standards in the Bay.

Much of the work to be done and decisions to be taken during the year involve highly technical issues regarding updates to the Bay Program's suite of models and its framework for assessing the impact of reduction measures on achieving water quality standards. Currently the focus is on summarizing all of the changes to the various models as well as changes to the input data, and developing an overall timeline for the review process of the Phase 6 Watershed Model. COG staff is a member of the Water Quality Goal Implementation Team (WQGIT) and the WQGIT Phase 6 Model Review Strategy Team to help ensure that the review process includes adequate time for local reviews and input.

An abbreviated list of key developments includes:

- **Review and comment on beta versions of a new watershed model; final decisions on model inputs and processes** – Beta 3 version issued for review
- Inclusion of new/expanded/update loading data (e.g., extended simulation periods, more stations, land applied biosolids, septic/on-site systems, and CSOs) - Underway
- Various modeling workshops and peer review of the models by the Bay Program's Scientific and Technical Advisory Committee – Underway
- Beta 4 of Phase 6 model will incorporate all changes except for land-use
- Decision on whether the Phase III WIPs should be set using forecasted values for 2025 land use, animal numbers and other model inputs –

- Pending • Local government review of new land use for the model (September 30, 2016 deadline, the land use- land cover data will be processed and delivered to the modeling work group by December 1, 2016)
 - Significant Delays
- Decisions on how to address the impact of changing flow dynamics in the dams on the lower Susquehanna River, climate change and chlorophyll-a levels in the James River on attainment of Bay water quality standards - Ongoing

By the end of the year, the Bay Program expects to have completed its model revisions and other updates to the attainment framework. The Phase III WIPs should be developed in 2017-18. The WQGIT Phase 6 Model Review Task Force is working to develop a detailed comprehensive schedule for this entire process – including defining when reviews will take place. This is critical to ensure that there are clear opportunities for local input and adequate time for local review of all of these elements.

Watershed Model – Activities and Issues

Land Use

The Bay Program is incorporating both local land use information and data from high resolution imagery into its updated land use data layer for the Phase 6 watershed model currently under development. Local governments will have the opportunity to review and comment on the updated land use starting in August 2016. However, delays in processing data from high resolution imagery will pose challenges for the Bay Program to maintain its schedule for completing the Phase 6 Watershed Model. COG staff is working with its local government members to ensure the accuracy of local land use data, and to advocate for adequate time for local government staff to review land use data for the model.

Model Inputs

COG and NVRC staff are continuing to monitor the data that the states supply to the Bay Program on wastewater discharges, nutrient pollution from septic systems, biosolids and fertilizer application, and stormwater BMP implementation. This data, which the Bay Program estimates back in time (1985) as well as in the present, is the key component of measuring progress toward meeting the TMDL goals. COG staff will continue to work with COG’s members to ensure that this data is accurate and assumptions are scientifically sound.

COG staff are also leading efforts to ensure that the data and technical model assumptions related to land application of biosolids are accurate Bay-wide; and coordinating efforts to ensure that CSO, septic, and wastewater data is accurate for the COG region. COG staff have helped to organize a task force of biosolids experts to help inform these issues.

Load Estimates / Target Loads

The Bay Program is using a new approach for setting the basic rates of nutrient and sediment loading from the major sources of these constituents to the Bay – which are agriculture, urban land and forests – and for determining the geographic variation in these loads. COG staff will evaluate options for conducting an independent scientific evaluation of these key model components.

The Bay Program has established a Local Area Targets Task Force – which will address the extent to which Bay Program model output can/should be used for establishing Local Area Targets under the Phase 3 WIPs. **COG staff endorsed Norm Goulet of the Northern Virginia Regional Commission as a local representative on the Task Force, on which he now serves.**

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Overall Program Effort

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Modeling/Landuse Issues

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Reservoirs

The Bay Program is simulating the water quality impacts of thousands of small impoundments not currently simulated in the model. This has the potential to provide local governments with new credits for nutrient and sediment reduction, but there are several accounting issues to settle under the new approach. COG staff will work with our members to ensure the accuracy of this data.

Lag Time

For the first time, the Bay Program will explicitly incorporate estimates of the lag time between when nutrients run off the surface of the land or leach into groundwater and when they emerge into surface waters into its models. This is expected to improve the agreement between modeled and monitored estimates of loads and provide scientific support for the Bay TMDL's expectation that improvements in water quality will lag behind the expected impact of installing BMPs. COG staff will evaluate options for conducting an independent scientific evaluation of these model assumptions.

Scale/Applicability

Despite the many improvements the Bay Program is making to the watershed model, its accuracy will continue to vary at different scales - which has major policy implications, especially for COG members' MS4 stormwater permits. COG staff will evaluate options for conducting an independent scientific evaluation of model accuracy at different geographic scales.

Water Quality Sediment Transport Model & Others - Activities & Issues

Conowingo Dam Updates

The Bay Program and other parties are updating the scientific understanding of the changing dynamics of nutrient and sediment flows through the three reservoirs on the lower Susquehanna River and the impact of those changes on the attainment of the TMDL's water quality goals. The update is likely to result in a major policy decision regarding who has the responsibility for additional nutrient and sediment reductions beyond those currently required by the TMDL -- which could have clear policy implications for COG's members. COG staff will continue to monitor this issue and seek CBPC input on any regional policy positions to be taken. It is likely this information will be available in late 2016 and the Bay Program will make a decision on responsibilities in early 2017.

Conowingo Dam News

An agreement reached between Excelon and U.S. Fish and Wildlife Service, Excelon has agreed to improve two passages for shad, herring and migratory species. To read the full article:
http://www.bayjournal.com/article/deal_reached_on_fish_eel_passage_at_conowingo_dam

On July 7th Governor Hogan announced he is going to form a multi-agency work group and release a Request for Information to solicit private sector solutions, including dredging, to address the nutrients and sediment influx from the Conowingo Dam and Susquehanna River, See the press release and MACo link below for more information.

<http://governor.maryland.gov/2016/07/07/governor-larry-hogan-holds-first-conowingo-dam-summit/>
<https://conduitstreet.mdcounties.org/2016/07/08/conowingo-work-group-to-weigh-options-ahead/>

Attainment Assessment

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The Bay Program uses a complex combination of monitoring and modeling information to determine what constitutes attainment of water quality goals under the TMDL. COG staff continues to track changes in the attainment methodology to ensure that it maintains equity among all the parties involved in the restoration effort. COG staff will evaluate options for conducting an independent scientific evaluation of this attainment approach.

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Air Model

Deposition of various forms of airborne nitrogen emitted by vehicles, power plants and other sources onto the land and water surfaces of the Bay watershed is one of the major sources of nitrogen to the Bay. The Bay Program is updating its models for estimating these inputs, which COG water program staff will continue to track in conjunction with COG's air program staff.

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Climate Change

The Bay Program has begun to incorporate estimates of future changes in temperature, rainfall and other factors likely to result from climate change into its modeling framework. COG staff will continue to track how these changes could affect the attainment of water quality goals under the TMDL. COG staff will also evaluate options for conducting an independent scientific evaluation of the model's climate-based assumptions. COG staff also participates in the Climate Workgroup, which is tasked with identifying how climate changes may influence the ability of various management strategies to restore the Bay.

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Other – Activities & Recognitions

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EPA, States Acknowledge Success of Wastewater Treatment Plants' Contributions to Bay Restoration

At a June 14th press event held at Blue Plains, **EPA recognized the strides that the wastewater sector has made towards Bay Restoration Goals, by completing plant upgrades nearly a decade ahead of schedule.**

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Key features included implementation of wastewater treatment plant upgrades ahead of 2025 schedule and in many cases, reducing nitrogen levels/loads now in advance of the 2025 schedule. For the COG region, this has resulted in **documented improvements water quality in the upper portion of the Potomac River** in response to all of these wastewater treatment efforts

For the more detail see the COG news release:

<https://www.mwkog.org/about-us/newsroom/2016/06/22/epa-states-acknowledge-success-of-wastewater-contributions-to-chesapeake-bay-restoration/>

Bay Awareness Week Events

COG staff worked with CBPC members to highlight activities across the COG region, and to prepare an **op-ed piece by CBPC Chair Craig Rice featured in the Bay Journal.**

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See links: <http://www.bayjournal.com/opinion>

<https://www.mwkog.org/about-us/newsroom/2016/06/03/metropolitan-washington-celebrates-chesapeake-bay-awareness-week/>

COG staff worked with the CBPC members to coordinate messaging about all of these accomplishments and to emphasize the Bay Awareness Week efforts as part of the CBPC's formal Outreach Plan.

Bay Grasses are Making a Come Back

Underwater grasses in the Bay have reached the highest level seen since monitoring programs began more than three decades ago. The Bay grasses provide critical habitat to juvenile fish and crabs. To read the full article: http://www.bayjournal.com/article/bay_grasses_expand_to_greatest_extent_in_more_than_30_years

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Population Growth Cited as a Challenge to the Chesapeake Bay

At the 2016 Chesapeake Bay Summit, population growth projections for the watershed were highlighted as a challenge for Bay water quality progress. Speakers at the Summit acknowledged the wastewater technological progress and stringent stormwater requirements for redevelopment, but said that we must escape the notion that the economy is dependent on growth if we are to continue Bay water quality progress.

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http://www.bayjournal.com/article/summit_highlights_bays_growth_dilemma

Chesapeake Bay Program's Op-ed: Bay Restoration Depends on Decisions by Local Governments

Nicholas DiPasquale, Director of the Chesapeake Bay Program, wrote an Op-Ed in the March *Bay Journal* acknowledging that local governments are on the front lines of efforts to achieve Chesapeake Bay TMDL water quality goals and goals established by the Watershed Agreement regarding fisheries, habitats, stewardship, land conservation, public access, environmental literacy and climate resiliency. The article mentions the land cover tool and \$5 Million in state funding and funding provided to the National Fish & Wildlife Foundation (NFWF) and Environmental Finance Center by the Chesapeake Bay Program. To read the full article: http://www.bayjournal.com/article/bays_restoration_dependent_on_decisions_by_local_governments

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