Scientific, Technical Assessment and Reporting (STAR) Topical Meeting: An Integrated Approach for Monitoring Progress toward the Chesapeake TMDL

Need for meeting

The Chesapeake Bay Program TMDL calls for several aspects of reporting and using monitoring data to assess progress toward the nutrient and sediment allocations and water-quality standards in the Bay. Currently, much of the TMDL documentation is focused on using a Tracking and Accountability System to assess progress toward meeting the TMDL allocations. The TMDL states that:

- EPA will rely on the jurisdictions to monitor, verify, and report their progress
- EPA will use reported tracking data and the Phase 5.3 Chesapeake Bay Watershed Model (WSM) along with Chesapeake Bay tidal and watershed water-quality monitoring data (including contributions from other agencies (NOAA, USGS, USACE, and USDA) to assess the jurisdictions' progress.

To support the needs of the CBP Water-Quality Goal Team to carry out the TMDL, there is a need for STAR to work with the CBP partners to develop integrated approaches that use both implementation information and monitoring data from the Bay and its watershed to assess progress toward the TMDL. The approaches need to consider tracking progress toward the TMDL allocations, 2-year milestones, and Bay water-quality standards and how to clearly communicate the information.

The development of the integrated approaches should also consider previous recommendations by STAC. A STAC review (2005) in the wake of the Washington Post article about using modeling to assess progress toward load reduction concluded: "*Determination of progress in achieving nutrient and sediment reduction goals should be based to the greatest extent possible on direct observation, such as through watershed and point source monitoring, rather than estimation from models. In that regard, nontidal water quality monitoring is the most reliable way to determine load reductions and trends in flow-adjusted concentrations that reflect climatically adjusted measures of progress. While continued analytical refinements are desirable, the current method for determining trends based on flow-adjusted concentrations provides the best indicator of long-term changes responding to management activities".* A more recent STAR review of the CBP monitoring program (2009) recommended realigning monitoring to more directly address the water-quality needs associated with the meeting water-quality standards and progress toward the TMDL. The STAR wants the help the CBP meet these recommendations.

Goals of meeting

The Water-Quality Goal Team and STAR will conduct a meeting to:

- Present existing approaches to assess progress toward the TMDL.
- Identify changes needed to analyze monitoring information to better assess progress toward the TMDL.
- Identify key communication products for reporting of implementation data and water-quality monitoring information.

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The workshop will focus on developing integrated approaches for analyzing monitoring information that address:

- Changes in nutrients and sediment in rivers in the watershed to assess progress in reducing loads.
- Levels of DO, clarity/SAV and chlorophyll-a in the tidally influenced waters of the Bay and tributaries to assess if water-quality standards are achieved.
- Relate changes in watershed loads to changes in tidal water quality.

The outcomes for the workshop would be used (1) to guide work plans for STAR and the Nontidal and Tidal workgroups over next 1-2 years, (2) to identify key actions through which STAR will support the Water-Quality Goal Team to assess progress toward the TMDL, and (3) to identify synthesis products to communicate progress toward the TMDL (including ideas for the revised Bay Barometer that will be released in 2012 and content for ChesapeakeStat).

Potential agenda items:

When: April 13

Morning: 10-12: Overview of current methods and potential improvements to better assess progress toward the TMDL.

- Overview of TMDL reporting and monitoring needs (Water Quality Goal Team rep: Rich Batiuk or Katherine or Larry Merrill)
- Tracking implementation of nutrient and sediments reduction practices and using the CBP watershed model to estimate load reductions in each state (Gary Shenk).
- Monitor nutrients and sediment in rivers in the watershed to assess progress in reducing loads (USGS rep/NT workgroup)
- Monitor levels of DO, clarity/SAV and chlorophyll in the Bay and tidal watersheds to assess if water-quality standards are achieved (Walter or Jeni/TMAW).

Lunch

Afternoon, 1-3: Facilitated discussion of STAR capabilities to address the science needs

Panel: feedback on current and proposed approaches to improve tracking of TMDL (state representatives on Water-Quality Goal Team, STAC rep, Communications rep., other?)

Workshop discussion on next steps

- What are the most promising approaches that should be pursued?
- What are the key communication products that should be developed?
- What can be done in the near term (2011 and 2012) by investigators in the CBP science cluster, federal partners, state partners (based on existing or planned resources)?
- What are current STAC activities that can be utilized?
- How do we best get the information to the water-quality goal team and CBP water-quality partners?
- Final actions and next steps

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Potential attendees:

- Selected Water-Quality Goal Team members (one from each jurisdiction, coordinator, others?)
- Communications Office rep.
- STAR—NT workgroup, TMAW, modeling team members addressing water-quality reporting, Land-use change analysis—Peter Claggett.
- STAC representatives focused on water quality (Kevin Sellner, Bob Hirsch, others?
- ChesapeakeSTAT representative (Doreen Vetter)
- Try to keep to 30-40 people?

Where: USGS Baltimore office conf room

References

TMDL documentation

STAC report "Assessing Progress and Effectiveness through Monitoring Rivers and Streams, STAR publication 05-005
http://www.chesapeake.org/stac/Pubs/NTWQMReport.pdf

STAC: Monitoring Realignment report

Draft March 10, 2011

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