Scientific, Technical Assessment, & Reporting Team Meeting
TOPIC: Water Quality Science Support Needs
June 25, 2015
10:00AM – 1:30PM
Joe Macknis Memorial Conference Room (Fish Shack)

Welcome, Introduction, and Announcements *(Scott Phillips and Mark Bennett – USGS, STAR Co-Chairs)*

- The Public Access indicator was issued last week, there were 14 new access sites in Virginia and three in other states.
- Blue crab management indicator information will be uploaded once CBSAC report is released next week.
- Underwater grasses indicator data (2013-14) will not be available until July 15. The communications team is deciding whether or not to promote it to the media since SAV stories are a year old due to the data delay, results may be confusing.
- Bill Dennison and the UMCES team have been waiting on the same SAV data to complete the report card which has been migrated onto a new website. A fairly soft release of the report card is also expected, and the focus of the report card will be decided once data analysis has been completed.

Communications *(All)*

- The Chesapeake Executive Council meeting is currently set for July 23, but the date may still be subject to change. The completion and official release of the management strategies will be announced at the EC meeting, and the promotion of the management strategies will be held off until this time.
- June 25 was the release of NOAA's Chesapeake Bay Dead Zone Forecasting, which is predicted to be lesser in extent this summer.
- The Mid-Atlantic Volunteer Monitoring Conference will be held August 7-8 in Winchester, VA.
- A minimum of 12 speakers are needed at the GSA Chesapeake Bay Session in Baltimore this November.
- Osprey sampling, 2011 land cover is to be released soon as well
- A nationwide report completed by the USGS on pesticides, including neonicotinoids, is to be released soon.
- The SAV technical synthesis report is on track in development, a total of 11-12 chapters are being completed regarding recent science and research.

Water Quality Goal Team Science Support Needs
Attachment A, Attachment B

- Scott reviewed the layout of STAR, reiterating the goal that STAR is pursuing to provide more science assistance to the different goal teams as needed.
    - The purpose of the GIT review meetings is to help determine what support can be provided to different workgroups, and determine with STAC who is available to help meet the identified gaps.
    - STAC provides much of the guidance and review of the management strategies, and STAR uses that information to reach out to science providers to help GITs do the work. Together the two organizations work together to help the process of adaptive management

Forest Buffer Outcome

- Sally and Mindy discussed the current metrics of the Forestry WG and points-of-land image analysis. As a reminder, the outcomes include forest buffers and urban tree canopy.
- Potentially bringing in tree canopy acres.
- The buffer assessment is relying heavily on new imagery, as well as a land image analyst tool that the USFS has been developing. Together the two pieces will be valuable in cross checking the data being produced by the analyses.
- The objective is to identify net gains in forest buffers. It is far simpler to determine what was planted, but the verification process will also help to determine what was lost to calculate the sought after net gain.
  - Hopefully the tools will be up and running, and that some of the data may be verified by local governments that are also studying net gain.
- The land analysis tool is a bit reduced in complexity for easier use and essentially classifies land cover. The land image analyst will help you use the high resolution imagery and help draw borders around streams. The land image tool will not help with targeting, but can provide information regarding rates of change. The land image analyst is intended to classify where riparian buffers could potentially be and this targeting is reflected in the management strategy.
- There is also currently work produced by the Eastern Brook Trout Joint Venture that studied streams containing brook trout without forest buffers, which were southern facing, etc.
- The biggest need is working with the GIS and Land Cover group. A persistent problem has been accurately determining the extent of the watershed that is buffered.
- In the WIPs riparian forest buffers are not targeted, the best data received is at a county level. There may be opportunities to better locate where buffers should be placed in the county with the tools being developed.
- Currently there is no focus on determining fragmentation metrics (for habitat or other purposes) because there is no outcome to drive such efforts. The focus is centered upon forest buffers.
- Sampling may be derived through high resolution analyses rather than interpolation based on sample strata. The Agricultural Research Service is also helping to determine improved outreach methods.
- **ACTION**: Follow up discussion with Carl, Sally, other parties to continue assessing new techniques to achieve improved implementation and ensure that monitoring and research continue to emphasize principles of adaptive management.
  - While small scale studies can be done, in order to say what's working at scale of watershed it is crucial to first monitor what exists, then monitor change in the outcome over space and time, and finally monitor effects of change. Opportunities also exist to work with local jurisdictions and landowners to determine where successes are occurring.

Tree Canopy Outcome

- The tree canopy outcome is mainly focused upon urban, not agricultural, tree canopy. There is still a need for jurisdictions to provide better reporting information.
- In mapping tree canopy, a circle in urban areas that equals at least acre can be counted as forest.
  - However, increasing forest and tree canopy in tandem is still a better option than increasing the number of isolated patches of forest within urban areas.
- High-res imagery is still being used to determine changes in tree canopy. Again, there is no reporting of tree loss. There already exists science support to determine needs.
- Actions in the management strategy include building programmatic support, making trees available to citizenry, and discussing different ordinances that are effective in protecting canopy.

- Information should also be collected that tells the Bay Program which efforts are working and which are not, and should be discontinued.

Toxic Contaminants Research Outcome
Toxic Contaminants Policy and Prevention Outcome

- There are two outcomes: the first is research oriented, intended to continually provide a better understanding of toxics and guide the second outcome, the management of toxics.
  - To begin management efforts, the focus is largely on PCBs.
- PCB policy and prevention metrics related to the strategy and STAR and STAC's efforts include: environmental condition, source loading estimates, and estimated and actual responses to management actions.
- There is an indicator maintained in the toxics program which includes all of the impairments listed by jurisdictions in tidal waters for a contaminant that is either an organic chemical or a metal.
- The indicator is the number of tidal segments that have full or partial impairments of toxic contaminants listed by the jurisdictions.
- There is still an unanswered question concerning the treatment of indicators expanded into the entire watershed since the current indicator is based on the Bay model segmentation scheme.
- It would benefit efforts to determine an indicator by locating points where there is an impairment with no TMDL underway, where a TMDL is being developed, and where a TMDL is in place for PCBs. Levels of PCBs are primarily determined by studies of fish tissue, and this method likely the best to begin developing an indicator. There is also a need to ensure that species being used as an indicator are non-migratory, like white perch.
- Approaches to developing an indicator include examining data associated with fish consumption advisories.
- Approaches differ by state, so methods that are reasonable and consistent across the watershed will need to be developed.
- Loading estimates also need to be developed. Actions in the management strategy include efforts to obtain these kinds of data, much of which is not available as it has not been officially promulgated by the EPA.
- There is a need to better understand estimated and actual responses to management actions, whether there are BMPs that are helpful in reducing stormwater loads and which actions would look to be the most effective. Adaptive management principles would then follow the implementation of these management actions.
- Concern was expressed during the public comment period that the toxics reduction strategy issues only addressed plans for PCBs, especially since the list of contaminants could be greatly expanded. There is therefore a need to move quickly to take on other contaminants, and the toxics team is unable to move to other contaminants to determine whether or not reduction strategies are working. The toxics workgroup plans to move quickly even though other contaminants were not explicitly expressed in the management strategy, and the approach will mirror that used for PCBs.
- What are some of the criteria we would like to consider for prioritization of new toxic contaminants to be addressed?
  - **ACTION**: Follow up discussion with STAC, STAR, and whomever else people may suggest should be involved to better clarify prioritization methods.
- The research outcome indicator may involve answering how the WG can better quantify metrics of understanding for different groups of toxics.
  - If information is provided that identifies a contaminant or group of contaminants that need to be reduced, then assessing whether there is a sufficiently improved understanding of said toxics to come up with a reduction strategy would be beneficial. Available

knowledge about these contaminants helps to bring nearer a decision point that can answer whether or not the toxic groups should be addressed in management efforts.

SAV Outcome

- The outcome goal over the next several decades is to reach 185,000 acres of SAV in the Bay; 95,000 acres should be attained by 2017, and 130,000 acres should be attained by 2025.
  - To reach these targets, a goal is to pursue active restoration. The main priorities include monitoring and restoration, as well as water quality.
  - Active restoration will be needed even after the water quality goals are met because the seed banks will be depleted.
- Research projects will be needed concerning SAV genetic diversity. Monitoring surveys completed by VIMS are under significant financial strain, and there are continued funding needs for aerial surveys.
  - **ACTION**: Follow up discussion with Rich Batiuk, Greg Allen, SAV WG Chair and Vice Chair, and STAR Leadership.
- Understanding restoration progress is an important part of SAV efforts and laying out management effort guidelines. This SAV work should continue to be used in order to leverage the data as much as possible.
- It may become important and pressing to consider how water clarity attainment metrics will be analyzed if the frequency of the SAV monitoring is modified.
  - **ACTION**: SAV WG leadership and Jeni Keisman to discuss potentially leveraging SAV content and extract information in explaining trends, especially concerning the importance of SAV monitoring and its response to water quality.
  - **ACTION**: Future STAR agenda item to include a discussion about SAV monitoring issues with Greg Allen and Rich Batiuk.

Water Quality Standards Attainment and Monitoring Outcome

- STAR has a workplan for the MPA that includes reporting and explaining trends, enhancing models, and synthesis and communication of findings.
- A beta version of the Watershed Model is to be completed by the end of 2015 to provide a model for jurisdictions to review before 2017 which will help with transparency.
- The outcomes in the water quality management strategy include the 2017 and 2025 WIP outcomes. The WIPS have a target set for implementation of 60% of management practices by jurisdictions by 2017 to support meeting water quality standards for dissolved oxygen, water clarity/bay grasses and chlorophyll *a*, and implementation of 100% of BMP practices by 2025.
- Are efforts in place that look at the success of getting implementation practices put in place?
  - The WQGIT has both milestone and annual evaluations which examine programmatic commitments and reports that are numerically driven to better analyze factors that control success and failure of implementation efforts.
    - **ACTION**: Follow up discussion about SAV and modeling with sea level rise to be discussed with the SAV leadership and Gary Shenk.

STAR Seminar Presentation: *Update to the Watershed Load Indicator(s) – Joel Blomquist, USGS*

- Joel presented an overview of trends work by characterizing results from monitoring data, provided an update on the process of developing new indicators in support of the WQGIT, and reviewed other analysis products coming out of datasets provided from the nontidal network.

- It may be more helpful to show the areas that have high loads instead of specific points to better emphasize the yield entering the point at which the measurement occurs
  - **ACTION**: Bill to volunteer time from IAN science communicators to help determine some better visualizations of the draft data that was presented.

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