



THE ABSTRACT

A Monthly Update from the Scientific and Technical Advisory Committee

February 2017

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Recent STAC News

March 2017 STAC Quarterly Meeting

March 14-15, 2017

Crowne Plaza Hotel - Annapolis, MD

STAC will host its final quarterly meeting of FY2016 on March 14-15, 2017 at the Crowne Plaza Hotel in Annapolis, MD. The STAC Executive Board (EB) hosted a call on January 30 discussing takeaways from the December 2016 quarterly meeting, specifically the discussion with the Toxics Contaminants Workgroup. STAC Staff will continue revising the March quarterly meeting agenda to include suggestions from the EB. The March quarterly meeting will include a discussion of the final scores for FY2017 Request for Proposals (RFPs), which were due on February 1. Only viable proposals that are deemed to require additional conversation will be discussed at this meeting.

Please direct any STAC quarterly meeting questions or inquiries to STAC Staff, Elaine Hinrichs, hinrichse@chesapeake.org, or visit the [March 2017 STAC quarterly meeting webpage](#) for more information.

2017 STAC Quarterly Meetings Dates

- June 13-14
- September 12-13
- December 5-6

Other Activity Updates

The RFP for FY2017 STAC workshops was distributed on December 14, 2016. Proposals were due to STAC Staff by **February 1, 2017 (THIS IS A REVISED DEADLINE).**

STAC FY16 Workshops

Planning is underway for the following four workshops to be held in spring 2017.

- 1) ***Understanding and Explaining 30+ Years of Water Clarity Trends in the Bay's Tidal Waters – (Part 1) February 6-7, 2017, (Part 2) TBD***
- 2) ***Quantifying Ecosystem Services and Co-Benefits of Nutrient and Sediment Reducing Best Management Practices (BMPs) - March 29-30, 2017***
- 3) ***Legacy Sediment, Riparian Corridors, and Total Maximum Daily Loads (TMDLs)***
- 4) ***An Analytical Framework for Aligning Chesapeake Bay Program (CBP) Monitoring Efforts to Support Climate Change***

For more information on these workshops, contact STAC Staff, Renee Kelly (CRC) at kellyr@chesapeake.org.

FY15 Workshop Reports

STAC is working to finalize five reports from the following FY15 workshops. The workshop steering committees are in the process of drafting reports that will be distributed to the Partnership over the next few months. Information regarding each workshop – including agendas, presentations, and reports (as available) – can be found on the [STAC workshop webpage](#).

- 1) ***Linking Wetland Workplan Goals to Enhance Capacity, Increase Implementation***
- 2) ***Assessing Uncertainty in the CBP Modeling System***
- 3) ***Cracking the WIP: Designing an Optimization Engine to Guide Efficient Bay Implementation***
- 4) ***Integrating and Leveraging Monitoring Networks to Support the Assessment of Outcomes in the New Bay Agreement***
- 5) ***Comparison of Shallow Water Models for Use in Supporting Chesapeake Bay Management Decision-making (Part I and II)***

For more information on the above reports, contact STAC Coordinator, Rachel Dixon (CRC) at dixonr@chesapeake.org.

Update on STAC Peer Reviews

General Additive Models (GAMs) Approach on Tidal Trends

STAC distributed a review report entitled “Scientific and Technical Advisory Committee Review of the Generalized Additive Model (GAM) Approach for Water Quality Trends in Tidal Waters” on January 24, 2017. This report has been submitted to the CBP Management Board and a written response has been requested on its recommendations. A copy of the report can be found on the [STAC website](#).

STAC has four additional review activities currently in progress.

Chesapeake Bay Water Quality Criteria Addendum

The STAC Criteria Addendum review panel is still finalizing its review of the 2015 Chesapeake Bay Water Quality Criteria Addendum. The review panel suggested a clarifying re-write of the addendum. The CBP has provided a new and improved document that the panel aims to formally complete their review over the next couple months.

Phase 6 Chesapeake Bay Watershed Model

The panel have completed part one of their review of the requested documentation and finalized a report of their recommendations. The panel is currently awaiting the remaining documentation on the approach to climate change and Conowingo infill from the Modeling Workgroup to complete their review.

Chesapeake Bay Water Quality/Sediment Transport Model (WQSTM)

STAC received the official review request from STAR’s Modeling Workgroup on the Water Quality Sediment Transport Model (WQSTM) in late November. STAC Staff is currently working with CBP Staff to finalize the review questions and documentation while a panel is assembled. Once the request is finalized it will be put forth for formal STAC approval; if approved the review will take place over the next two months.

Boat Wake Wave Impacts on Shoreline Erosion

STAC approved the Chesapeake Bay Commission (CBC) request for a STAC technical review of potential impacts of boat generated waves on shoreline stability and attendant ecosystem properties, and provide advice on available policy actions to minimize adverse effects. The panel completed their requested review in late October and have assembled a draft report of their recommendations. The

report has been sent out for external review, and the panel aims to incorporate feedback and finalize the report over the next few months.

Upcoming Reviews

STAC is working closely with CBP representatives to plan for approximately three additional STAC-sponsored independent scientific peer reviews between now and May 2017. These STAC reviews will help inform the Partnership's 2017 Midpoint Assessment (MPA).

- 1) ***Application of WRTDS to watershed WQ trend analysis and explanations***
- 2) ***Approach being taken to factor climate change considerations into the 2017 Chesapeake Bay TMDL MPA***
- 3) ***Phase 6 Land Use Hind Cast Methodology***

For additional information regarding the reviews above, contact STAC Coordinator, Rachel Dixon at dixonr@chesapeake.org or visit the [STAC review webpage](#).

Key Events

There are a number of relevant conference calls and meetings to which STAC members should pay special attention. All upcoming CBP related events can be found on the [CBP meeting calendar](#). Each listing provides logistical information and meeting materials, when available.

STAR Updates

In November and December 2016, STAR worked with its workgroups and the GITs to generate a matrix of actions and activities where the need for STAR support has been outlined in their workplans. This matrix is being used to track and direct STAR activities to fill gaps to supporting the decision-support information needs outlined in the GITs management plans.

STAR's Climate Resiliency Workgroup (CRWG) has been working hard to support the ongoing process to consider climate effects in the Chesapeake Bay Total Maximum Daily Load (TMDL) MPA modeling and decision-making process. The CRWG developed a [briefing paper](#) outlining a range of options for incorporating climate considerations in Phase III Watershed Implementation Plans (WIPs) and provided [written guidance](#) on the climate data variables and scenarios for input into the Chesapeake Bay watershed and estuarine modeling efforts.

The CRWG Steering Committee and full Workgroup met on December 18. The meeting focused on reviewing the implementation status of the CRWG's 2016-2018 Workplan and identifying Workgroup action priorities for 2017. The Committee selected the following thematic focus areas for 2017:

Water Quality and the 2017 MPA; Green Infrastructure and Coastal Resiliency; Monitoring Needs and Long-Term Trend Assessments; and Climate Data, Information and Mapping.

If you have any questions regarding STAR activities, please contact STAR Coordinator, Peter Tango at ptango@chesapeakebay.net or visit [STAR's webpage](#).

GIT Updates

***The following updates are provided by the CBP. Some GITs do not have recent updates to provide at this time.**

Sustainable Fisheries Goal Implementation Team (GIT 1)

Staff from the CRWG and Sustainable Fisheries GIT contributed to the National Oceanic and Atmospheric Administration (NOAA) Chesapeake Bay Office compilation of fisheries-based climate research and tools. The contents of the Climate and Fisheries Bibliography includes both peer-reviewed and grey literature as related to the Bay Agreement goal to “increase the resiliency of the Chesapeake Bay Watershed, including its living resources, habitats, public infrastructure and communities, to withstand adverse impacts from changing environmental and climate conditions.”

Additionally, the proposed Oyster indicator and Dashboard are in development by the Fisheries GIT, and were presented to the full GIT at the December 6-7 meeting. The Dashboard seeks to communicate progress towards the [Oyster Restoration Outcome](#) of restoring 10 tributaries by the year 2025. Following the meeting, the Fisheries GIT staff utilized the team input to develop the latest iteration of the Dashboard. The Dashboard provides a centralized location to report oyster reef restoration progress occurring in Maryland and Virginia, giving access to tributary restoration plans, reporting the quantity of constructed and seeded reefs of the total targets, and indicating the stage of restoration activity. The Oyster Indicator and Dashboard will be available online at Chesapeake Progress in the near future.

The Sustainable Fisheries Executive Committee held a meeting on January 23. Meeting topics included a presentation from the National Fish and Wildlife Foundation (NFWF) on aligning NFWF grant funding with CBP Outcomes, discussion of the upcoming Biennial Review meeting, a presentation of how the Oyster Dashboard has been refined following incorporation of input received at the December full GIT meeting, and review of the Forage video in the CBP's Bay 101 video series.

The Forage Action Team of the Sustainable Fisheries GIT collaborated with the CBP's Communications Workgroup to develop a short video on forage in the Chesapeake Bay. This video will serve to inform a broad audience about forage species and their importance in the Bay ecosystem, and was one of the products recommended to the CBP by participants at the STAC Forage Workshop held in late 2014. Click [here](#) to view the video.

For more information on the Fisheries GIT, contact Kara Skipper (CRC) at kara.skipper@noaa.gov or visit the [Sustainable Fisheries GIT webpage](#).

Habitat Goal Implementation Team (GIT 2)

The Habitat GIT Steering Committee will meet on February 10 to follow up on actions identified at the fall 2016 meeting: beginning development of a Resource Conservation Opportunity Areas (RCOAs)-driven restoration project with a partner organization and talk with Jake Reilly (NFWF) regarding shared priorities and funding opportunities. The vision of the project is a connected network of resilient and ecologically intact habitats that will support biodiversity under changing conditions of which groups will use to inform decisions. The Habitat GIT will collaborate to get this project started using the RCOA tools and work with the CBP communications office to show how these tools are effective for holistic decision making.

Full Partnership approval was given to the Wetland Expert Panel's Final report. Four categories of wetland BMPs will be included in the latest beta calibration of the Phase 6 Watershed Model: Creation, Restoration, Rehabilitation, and Enhancement. [The full report is available online.](#)

The 73rd Annual Northeast Fish & Wildlife Conference, Relevancy and Agility: The Rising Tide of Conservation, will be held April 9-11, 2017 in Norfolk, Virginia at the Norfolk Waterside Marriott. Click [here](#) for more information.

Lastly, partners from the Atlantic Coast Joint Venture (ACJV), the Black Duck Joint Venture (BDJV), Ducks Unlimited (DU), the United States Fish and Wildlife Service (FWS) and multiple state wildlife agencies recently completed the development of a decision support tool (DST) to estimate black duck habitat needs under current and future landscape conditions in order to guide strategic habitat conservation. The bio-energetics model used in the DST provides information to estimate the biological value of land parcels for black ducks. The Habitat GIT plans to use this DST to inform the protection, enhancement, and restoration of habitat within the Chesapeake Bay Watershed to support the energy needs of a population of 100,000 non-breeding black ducks as defined in the Black Duck Outcome.

For more information regarding the Habitat GIT, please contact Kyle Runion (CRC) at Runion.Kyle@epa.gov or visit the [Habitat GIT webpage](#).

Water Quality Goal Implementation Team (GIT 3)

The WQGIT also held conference calls on January 9 and 23. Meeting topics included a discussion to approve the findings from the STAC workshop report on climate change projections in the Watershed Model, and the drafted CBP responses to comments. The WQGIT will be asked to approve the drafted CBP responses to the STAC report. Other meeting topics included: approving the Wastewater

Treatment Workgroup (WWTWG) request to submit Combined Sewer Overflow (CSO) data after December 31 and before February 1 for use in the Phase 6 model calibrations; agreement to schedule a cross-sector meeting to discuss the process of updating coverage data for multiple separate storm sewer systems (MS4s), CSOs, and sewer areas, concurrent with the 2-year milestone periods, and how this updating process may intersect with updating permits for these regulated areas; a [memo](#) issued to the Watershed Technical Workgroup (WTWG) and WQGIT, detailing the Urban Stormwater Workgroup (USWG)-approved proposal to credit the Continuous Monitoring and Adaptive Control (CMAC) technique for retrofitting existing stormwater BMPs; and a review of the revised draft Phase III WIP expectations for continued Partnership feedback.

For more information regarding the WQGIT, please contact Lucinda Power (EPA) at power.lucinda@epa.gov or visit the [WQGIT webpage](#).

Maintain Healthy Watersheds Goal Implementation Team (GIT 4)

The Healthy Watersheds GIT (HWGIT) is searching for an Interim Goal Team Chair, while the current Chair, Mark Bryer (TNC), serves as the Interim State Director for the MD/DC chapter of the Nature Conservancy. The Interim Healthy Watersheds GIT Chair is needed to assist the staff with guiding cross goal team coordination, tracking existing healthy watersheds, and engaging local governments and leaders on protecting pristine areas.

For more information regarding the Healthy Watersheds GIT, please contact Renee Thompson (USGS) at rthompson@chesapeakebay.net or visit the [HWGIT webpage](#).

Fostering Stewardship Goal Implementation Team (GIT 5)

The Fostering Stewardship GIT's Environmental Education Leadership Workgroup held a meeting on December 14-15 at the National Conservation Training Center (NCTC) in Shepherdstown, WV. Meeting topics included an [overview of the Environmental Education Workgroup](#), review of the key objectives for the Meaningful Watershed Educational Experience (MWEE) Guide, project updates from the five organizations selected to receive grants to support Sustainable School efforts related to the CBP's Sustainable School Outcome, a review of the CBP Indicators, an update on the Environmental Literacy Indicator tool (ELIT) and more. Click [here](#) to view this meeting's minutes.

For more information regarding the Fostering Stewardship GIT, please contact Amy Handen (NPS) at ahanden@chesapeakebay.net or visit the [Fostering Stewardship GIT webpage](#).

Enhancing Partnering, Leadership, and Management Goal Implementation Team (GIT)

The Enhancing Partnering, Leadership, and Management GIT has been working with GITs, STAR, Advisory Committees, and other members of the Partnership to develop a Biennial Strategy Review System (SRS), for 2017. The SRS is a two-year process during which the Partnership will review progress on each Outcome, identify what is and isn't working, consider recent developments in the scientific, fiscal, and policy arenas, and make necessary changes to workplans and Strategies as appropriate to improve effectiveness and efficiency in meeting commitments to the Chesapeake Bay Watershed Agreement. The Enhancing Partnering, Leadership and Management GIT is preparing for the [Biennial SRS "kickoff" meeting scheduled February 8-9, 2017](#).

Members of the GIT leadership are working with the Communications Workgroup to produce a GIT Funding Newsletter. The purpose is to highlight the value of this funding source in removing barriers to implementation of workplan actions to achieve Watershed Agreement Outcomes. The newsletter may be a standalone product, be part of the monthly Communications newsletter, or some combination of the two.

The Budget and Finance Workgroup is working with the Communications Workgroup to develop a series of "Financing 101" and "Bay 101" short videos. These videos will be used for education and training purposes, in an effort to foster a more complete understanding of the relationship between financing strategies and Bay Program operations. The Workgroup is also working with the wider GIT 6 to fully integrate considerations of funding and financing into the Biennial SRS process.

For more information regarding the Partnering and Leadership GIT, please contact Greg Allen (EPA) at allen.greg@epa.gov or visit the [Enhancing Partnering, Leadership, and Management GIT webpage](#).

Opportunities for Student Involvement

This section features a few of the latest posts for upcoming valuable internship and research opportunities in a variety of science fields. STAC members are encouraged to distribute these announcements to anyone who may share an interest. Please visit and share [CRC's Facebook page](#) for more updates like these.

Virginia Institute of Marine Science (VIMS) Summer Intern Program

VIMS offers research experience for undergraduates in many areas of marine science. The summer program is funded by the National Science Foundation's Research Experiences for Undergraduates (REU) program, VIMS, The College of William and Mary (W&M), private donors, and grants to individual faculty. Click [here](#) for more information about this program. Applications are due February 10, 2017.

Maryland Sea Grant's (MDSG) REU Program

Each summer, MDSG's REU program supports fifteen students to conduct marine research on the Chesapeake Bay. It's a special opportunity to develop your research skills and interests with top scientists to study one of America's most significant coastal resources. Applications for the summer 2017 MDSG REU for undergraduates program are due February 15, 2017. Click [here](#) for more information about this program.

REU in Climate Science: Penn State University (PSU)

PSU's REU program for climate science will bring together a diverse group of students in an environment where they can learn how to ask, answer, and communicate research questions in the area of climate science by using cutting edge tools to apply the scientific method. The application period for the 2017 REU program will close on February 15, 2017. Click [here](#) for more information about this program.

REU in Marine and Estuarine Science Program at the University of Maryland Eastern Shore (UMES)

This is a ten-week paid summer internship to undergraduates interested in marine and estuarine science. With the assistance of faculty mentors, program staff and graduate students, interns conduct research projects, take field trips, and attend seminars and workshops related to science careers. Applications are due on February 15, 2017. Click [here](#) for more information about the program.