



THE ABSTRACT

A Monthly Update from the Scientific and Technical Advisory Committee

April 2016

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Recent STAC News

March 2016 STAC Quarterly Meeting

March 15-16, 2016

Crowne Plaza Hotel – Annapolis, MD

STAC Chair, Lisa Wainger (UMCES) began the March 2016 STAC quarterly meeting with an overview of the theme for the two day meeting. The theme “humans influencing habitats,” drove the majority of discussions on day one. Presentations from Don Weller and Denise Breitburg (SERC) focused on shoreline hardening and its impacts on habitat. Jana Davis (CBT) presented the potential effectiveness of shoreline hardening and Pam Mason (VIMS) discussed what drives management decisions protecting shorelines. STAC members also participated in a discussion with U.S. EPA, Region 3 Administrator, Shawn Garvin regarding the long-term outlook for the Chesapeake Bay. STAC approved a technical review entitled “Evaluating boat wake wave impacts on shoreline erosion and potential policy solutions” proposed by the Chesapeake Bay Commission (CBC). STAC will begin support for this review on June 1st.

At the end of day one, STAC members discussed the results of the initial request for proposal (RFP) scores. Five of the proposals received funding, with the understanding that additional funds would be secured for the fifth workshop if they did not exist in STAC’s budget. Although the sixth proposal (Dairy Farms) was not approved for funding, STAC staff provided the proposers a list of recommendations and the opportunity to resubmit the request during the FY17 process.

STAC agreed to support the following five workshops in FY16:

- An Analytical Framework for Aligning Chesapeake Bay Program Monitoring Efforts to Support Climate Change
- Chesapeake Bay Program Modeling Beyond 2018: A Proactive Visioning Workshop
- Legacy Sediment, Riparian Corridors, and Total Maximum Daily Loads
- Quantifying Ecosystem Services and Co-Benefits of Nutrient and Sediment Reducing Best Management Practices (BMPs)
- Understanding and Explaining 30+ Years of Water Clarity Trends in the Bay's Tidal Waters

On the second day, members participated in a group discussion of STAC activities from the past few months. This was an opportunity for STAC members to discuss outcomes, next steps, and initial findings with the activity leads. Lastly, STAC members brainstormed ways to further improve STAC's effectiveness through communication tools. STAC will likely develop improved communication plans for delivering activity products to relevant audiences.

The agenda, meeting materials, and presentations can be accessed on the [March quarterly meeting page](#).

Upcoming STAC Quarterly Meetings

- **2016 STAC Quarterly Meeting Dates**
 - June 7-8th
 - September 13-14th
 - December 6-7th

Recent STAC Workshops

The Development of Climate Projections for Use in CBP Assessments

March 7-8, 2016

Westin Hotel – Annapolis, MD

The Climate Change workshop brought together a group of experts to discuss various climate models, scenarios, downscaling techniques, and historical observation data to consider in establishing a framework for climate analysis in the CBP. The framework will guide the CBP in its efforts to consider climate change projections in its modeling efforts. The workshop addressed questions about climate variables of most concern, various approaches, climate characteristics, and climate change scenarios. Steering committee members included: Lew Linker (CBP-EPA), Mark Bennett (CBP-USGS), Ray Najjar (PSU), Susan Julius (EPA-ORD), Zoe Johnson (CBP-NOAA), Molly Mitchell (VIMS), and Dave Montali (WV DEP).

As a result of this workshop, participating climate researchers agreed to convene at a later date to reach an agreement on: key variables, a suite of global climate models to apply, downscaling techniques to apply, potential evapotranspiration (PET) models to apply, processes to evaluate outputs of all of the above, and a range of scenarios to run. In addition, participating wetlands and sea level rise (SLR) researchers plan to reach an agreement on: SLR estimates to apply, how to best go about simulating the effect of SLR on wetlands, and range of SLR scenarios to run. At the workshop, the CBPO Modeling Team and Johnson agreed to meet in spring 2016 to draft a proposed climate change assessment framework based on workshop proceedings. The framework will be shared with the STAC climate change review panel and

evaluated during the summer 2016 Climate Change Peer Review. Finally, the workshop steering committee is in the process of drafting a workshop summary that will be distributed in a few months. Click [here](#) for a more detailed list of suggested conclusions and next steps from the workshop.

For access to the agenda and presentations, click [here](#).

Other Activity Updates

STAC Fiscal Year 2015 (FY2015) Workshops

Planning for two additional STAC workshops has been underway for several months.

- 1) *Integrating and Leveraging Monitoring Networks to Support the Assessment of Outcomes in the New Bay Agreement* – April 12-13, 2016
- 2) *Comparison of Shallow Water Models for Use in Supporting Chesapeake Bay Management Decision-making* – April 20-21, 2016

For additional information about the workshops above, contact Rachel Dixon at dixonra@si.edu or visit the [STAC workshop webpage](#).

STAC Reports

Each STAC activity must result in the completion of a written report. These reports are developed by the steering committees, published by STAC, and submitted to the CBP to advise management and restoration decisions.

STAC distributed the workshop report entitled *Re-plumbing the Chesapeake Bay Watershed: Improving Roadside Ditch Management to Meet TMDL Water Quality Goals* on March 7, 2016. The report is a product of a 2014 workshop focused on improving roadside ditch management to meet TMDL goals, reduce flooding, and buffer impacts. Click [here](#) to access the full report.

Upcoming reports:

STAC staff is in the process of finalizing two workshop reports. Below is a list of reports that STAC plans to distribute in the coming weeks.

- 1) *Evaluating Proprietary BMPs: Is it time for a State, Regional, or National Program?*
- 2) *Comparison of Shallow Water Models for Use in Supporting Chesapeake Bay Management Decision-making.*

Update on STAC Peer Reviews

STAC is currently sponsoring two reviews and planning for approximately six additional reviews. Details of those reviews are listed below:

1) *Microbeads/Microplastics in the Chesapeake Bay*

At the request of the Chesapeake Bay Commission (CBC), STAC sponsored a technical review panel to identify (1) sources of microplastics in the Chesapeake Bay, (2) known impacts of microplastics on aquatic life and human health, (3) data gaps, and (4) policy actions to reduce microplastics. The report is

awaiting final review by the STAC Executive Secretary, the last review before it will be distributed to the CBC and CBP. Finally, the review panel is in the process of deciding next steps for expanding the scope of the review, working towards a better standard and approach to defining environmentally responsible biodegradation.

2) *Chesapeake Bay Water Quality Criteria Addendum*

The CBP's Criteria Assessment Protocol Workgroup (CAP WG), under the Scientific, Technical Assessment and Reporting Team (STAR), requested a STAC review of the technical report "Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and Its Tidal Tributaries 2015 Technical Addendum." The review panel, consists of the following members: Marjy Friedrichs (STAC Lead-VIMS), Mary Christman (U of FL), Ken Moore (VIMS), Malcolm Scully (WHOI), Jian Shen (VIMS), and Steve Weisberg (SCCWRP). The review panel met via webinar on March 11th to discuss initial findings/recommendations for the addendum. A summary of main points and the initial reviews were sent to the CAP WG. The review is scheduled to be completed in April 2016.

Click [here](#) for access to specific information about this review.

Additionally, STAC is working closely with CBP representatives to plan for the upcoming CBP Partnership requested STAC-sponsored independent scientific peer reviews. The remaining review requests are expected in the coming months. These STAC reviews will help inform the Partnership's 2017 Mid-Point Assessment.

1. *Proposed revised James River chlorophyll a water quality criteria*
2. *Application of WRTDS to watershed WQ trend analysis and explanation s and General Additive Models (GAMs) to estuarine WQ trend analysis and explanations*
3. *Chesapeake Bay Scenario Builder*
4. *Phase 6 Chesapeake Bay Watershed Model*
5. *Chesapeake Bay Water Quality/Sediment Transport Model (WQSTM)*
6. *Approach being taken to factor climate change considerations into the 2017 Chesapeake Bay TMDL Midpoint Assessment*

For additional information regarding the reviews above, contact Natalie Gardner at gardnern@si.edu or visit the [STAC review webpage](#).

Independent Evaluator

The Principal's Staff Committee held a meeting on March 16th featuring a presentation regarding the "***Independent Evaluator and Chesapeake Bay Accountability and Recovery Act (CBARA) Report Funding.***" This discussion sought a decision on: 1) Approval of a recommendation for a plan to establish an Independent Evaluator function for the CBP, and 2) Approval of a method for reporting funding as required under CBARA. Three options for establishing an independent evaluator were presented and discussed, as well as current legislation in Virginia that would partially fund it. The PSC is seeking final approval of an approach by the May 2016 PSC meeting. The STAC Executive Board (EB) is planning to discuss STAC's input on the upcoming call on April 22nd. STAC members should anticipate a draft recommendations document being shared in the coming weeks. Click to view the [CBARA Presentation](#) and [Independent Evaluator Options Paper](#) presented at the PSC meeting.

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

STAR held a [meeting March 24th](#) discussing two-year workplans and watershed trends. In addition, the summary of recent STAC activities, presented at the March quarterly meeting, was presented by Peter Tango (USGS). Several of these STAC activities involved a range of STAR workgroups and action teams for 2016 and early 2017

The Status and Trends Workgroup (previously the Indicators Workgroup) will host a meeting on April 7th, 2016. The workgroup has reformed now that Laura Free (EPA) accepted the position of Indicators Coordinator. The workgroup will use the [Indicators Framework](#) to evaluate how existing indicators support needs under the new Agreement, and identify gaps, as well as ensure there are updated indicators for all of our Partnership products.

The Modeling Team is working to provide a Beta 2 version of the Watershed Model by incorporating recommendations provided by STAC pertaining to both a better understanding of the Conowingo Reservoir and a multi-model ensemble approach to incorporating anticipated effects of climate change.

The Integrated Trends Analysis Team is planning to host a meeting in May to discuss shoreline trends, and the GAMs method for tidal trends is currently in development.

In collaboration with the Integrated Networks Workgroup (INWG), STAR leadership is coordinating with STAC on the final agenda and planning for the “Integrating and Leveraging Monitoring Networks to Support the Assessment of Outcomes in the New Bay Agreement” workshop scheduled for April 12-13, 2016. This workshop will take place at the University of Maryland Center for Environmental Science (UMCES) Horn Point Lab in Cambridge, Maryland. The workshop will focus on the Choptank River as a microcosm for the Bay system, and will focus on the barriers and opportunities for integrating monitoring efforts for several inter-related outcomes (fisheries, SAV, water quality, stream health, and toxic contaminants). Some of the major items that will be explored include: (1) supporting adaptive management, (2) aligning monitoring program objectives, (3) modifying network designs, and (4) assessing compatibility of sampling and analytical techniques.

Finally, the next STAR meeting is scheduled for April 28th. At this meeting, a review and approval of revisions to the Analytical Methods for the Chesapeake Bay Water Quality Monitoring Programs will take place, as well as a presentation on the Comparison of Mid-Atlantic Tributary Assessment Coalition (Riverkeeper) methods to CBP Protocols.

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)

The Fisheries GIT held an Executive Committee [meeting on March 28th](#) and discussed some of the following topics: next steps to follow up on the Oyster Summit, discussion of public comments received on the workplans (final workplans will be posted in late April), and a review of the current and planned efforts related to blue crabs.

STAC Member, Tom Ihde (ERT/NOAA) and Fisheries GIT Coordinator, Bruce Vogt (NOAA) will discuss the forage management strategy and the recent forage indicator work at the Management Board (MB) meeting on April 14th.

Lastly, the Fish Habitat Action Team received funding from the CBP to expand a previous project with Tetra Tech. The project will synthesize information on fish habitat threats and stressors to early life-stages for lesser studied species. This project directly supports actions outlined in the Fisheries GIT workplans.

More information on the Fisheries GIT can be provided by Bruce Vogt (NOAA) at bruce.vogt@noaa.gov or on the [Sustainable Fisheries GIT webpage](#).

Habitat Goal Implementation Team (GIT 2)

The Habitat GIT announced that the spring 2016 Habitat Goal Implementation Team meeting will take place May 3-4th at the Smithsonian Conservation Biology Institute in Front Royal, VA. A meeting agenda is in development and will be distributed in mid-April. The meeting will focus on agencies/organizations habitat restoration/protection priorities and how best to align existing efforts, leverage funding sources, and apply science tools to achieve actions laid out in the 2016-2017 workplans.

In addition, the 72nd Annual Northeast Association of Fish & Wildlife Agencies (NEAFWA) Conference will be held April 3-6, 2016 at the Westin Annapolis Hotel. On the first day of the NEAFWA conference, North Atlantic Landscape Conservation Cooperative staff will lead a workshop providing a hands-on introduction to information and tools developed by LCCs in the Northeast Region. [Registration](#) is now open.

Last, the Conservation Fund, a program focused on environmental conservation through environmental partnerships, is hosting a course focused on “Balancing Nature and Commerce in Rural Communities and Landscapes” at the National Conservation Training Center on May 3-5, 2016. During this 3-day course, community-based teams will focus on the economics, community character, natural resources, and partnership building skills necessary for creating sustainable communities.

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 Water Quality GIT held meetings on [March 14th](#) and [March 28th](#). On the 14th, topics of discussion included: supporting the development of a data visualization tool to assist with the review of the Phase 6 Model and beta versions, approval of a new schedule for developing the agriculture components of the Phase 6 Model, and approval of the proposed Phase 6 Model relative land use loading rates for the tree canopy over pervious land use, and the tree canopy over impervious land use.

Topics of the March 28th meeting included: approval of the Street Sweeping and Storm Drain Cleaning BMP Expert Panel's final report and recommendations, review of the STAC Climate Change workshop, update on the options discussed by the Urban Stormwater Workgroup for how to estimate fertilizer nutrient application rates in the urban sector, updates on effort to collect and review land use data for the Phase 6 Model and a discussion of the Local Area Targets Task Force.

In addition, the MB discussed delays in the BMP review and approval process. The MB drafted a memo to the Water Quality GIT recommending some process improvements. Most of the recommendations involve reinforcing adherence to the already established protocols. The MB plans to take the memo up for action at the upcoming April 14th MB meeting. The suggested recommendations will help ensure the BMP expert panel recommendations are included in the final Phase 6 model calibration. STAC members received an email on March 24th containing the status of current and upcoming BMP Expert Panels in the CBP Partnership.

For more information regarding the Water Quality GIT, 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 held a [meeting on March 29th](#). Meeting topics included: an update on the current status of the workplans and summary of the comments received during the public input period, a presentation of the FY14 GIT project entitled "Identifying Additional Healthy Watersheds in West Virginia", a discussion of methodology used for updating the healthy waters and watersheds list for each state, priorities for moving forward with the Healthy Watersheds GIT workplans, and a discussion of local engagement activities at the Bay Program and how to link in GIT priorities and coordinate with these efforts.

For more information regarding the Healthy Watersheds GIT, please contact Tuana Phillips (CRC) at Phillips.tuana@epa.gov or visit the [HW GIT webpage](#).

Fostering Stewardship Goal Implementation Team (GIT 5)

The Citizen Stewardship Workgroup met on [March 1st](#) to discuss preliminary results from the field test of the Citizen Stewardship index as well as discussing the goals and directions for the workgroup. During this meeting the group decided to form a subgroup to organize the communications and outreach surrounding the index results.

The Mid-Atlantic Environmental Literacy Cabinet Meeting will be April 20th at the Chesapeake Bay Foundation's Philip Merrill Environmental Center in Annapolis. The meeting will include state education superintendents and is designed to help states explore how they can assist local education agencies in creating and sustaining high-quality environmental literacy programming as part of their ongoing

education reforms to meet commitments under the 2014 Chesapeake Bay Watershed Agreement. STAC members should contact Shannon Sprague (NOAA) at Shannon.sprague@noaa.gov for more information.

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 6)

The Enhancing Partnering, Leadership and Management GIT held a [meeting on March 1st](#). During the meeting Mike Foreman (VA Department of Conservation and Recreation) announced that he will step down from Chair after the goal team's April 5th meeting. Efforts are underway to nominate a new Chair and then affirm the nomination of the new Chair from the MB.

Also, since the MB endorsed the formation of a new Budget and Finance Workgroup, the Enhancing Partnering, Leadership, and Management GIT is working to identify potential members and leadership roles for that group. The workgroup is looking for individuals with the skills or interest in: finance and innovative environmental finance, knowledge of funding sources, economics and measures of merit, financial reporting, and knowledge of Federal, State and Local government budgeting and procurement processes. STAC members who are interested should contact Greg Allen (EPA) at allen.greg@epa.gov.

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

New Investment Model for Green Infrastructure to Help Protect Chesapeake Bay!



On March 7th, Prudential Financial announced it will be investing \$1.7 million towards a new pilot collaboration between The Nature Conservancy and Encourage Capital called District Stormwater LLC (DS). The announcement was made at a White House event hosted by the Council on Environmental Quality. This new venture will reduce/prevent runoff of polluted stormwater from the nation's capital into the nearby Potomac and Anacostia rivers. Click [here](#) to read the full article.

STAC Communications Advice from the Communications Workgroup

After the March 2016 STAC quarterly meeting, members may have left wondering what the next steps from improving STAC's communications tools would be. Catherine Krikstan (Web Content Specialist and Vice Chair of the Communications Workgroup) and Stephanie Smith (Web Content Manager and Coordinator for the Communications Workgroup) offered insight on best practices for any communications tool or strategy.



Krikstan (left) holds a B.A. in English from St. Mary's College of Maryland and a Master in Journalism from the University of Maryland. Krikstan joined the CBP in 2012, after a season-long stint as a full-time farmer and work as a Chesapeake Conservation Corps Volunteer, to pursue her passion for "promoting environmental stewardship and supporting outreach" in a web focused environment. Krikstan strives to make "science simple, straightforward, and easy to understand while using the principles of content strategy to better communicate progress toward the Chesapeake Bay Watershed Agreement." Smith

(right) a native of the Midwest, earned a degree in English from Purdue University and a Master of Sustainable Systems degree from the University of Michigan. Smith shares equal passion for "continually expanding her knowledge of design principles, communications strategy and web content best practices to create useful, easy-to-understand products." After completing her degree in Michigan, she moved to the East Coast and joined the CBP in 2014.

Echoing the discussion at the March meeting, Krikstan and Smith provided feedback regarding best practices for developing communications strategies. Smith mentioned that, twice a year at the CBP, she pulls together the analytics from the blog, e-newsletters, and social media. This data is presented to the Communications Workgroup and interested parties. Over time, successful communication strategies became apparent: audiences enjoy visual storytelling (with photos and videos), "good news" stories of health and restoration successes, and personal connections showing individuals or organizations working to support the Chesapeake Bay. Although these strategies have already proven to be successful communications channels for the CBP, Krikstan and Smith stressed the importance for STAC to first identify their target audience per each product.

Before you choose the right communications channel, you have to know who you're trying to reach. Who is your target audience? What do they need to know? How do they want to obtain this information? Once you know which channels your audience prefers to use, you can evaluate these channels to determine which offer a high return for the amount of effort you can afford. Experiment with one new channel at a time, and make a concerted effort to track the effectiveness of your work before you move on to something else.

Furthermore, according to Krikstan and Smith, the greatest communication challenges for many CBP groups (and most likely STAC as well) is explaining technical information in a clear, concise, and accurate way. A common and daunting task is deciding which messages should be communicated, where, when, and how. STAC already does a great job developing main points through workshop reports and other activities, but knowing which points to communicate to the audiences will always remain a challenge. Krikstan and Smith's primary advice for STAC was, "Know your audience! And don't build, create, or publish something just because you can. User research can help you learn who your audience is, what your audience needs, and what tools can help you meet those needs." As an initial tool for building a communications plan, STAC members should learn more about [user research basics](#) from [Usability.gov](#).

To take their advice one step further, Krikstan and Smith were asked to diagnose some communication barriers on the STAC website. Their initial feedback was that STAC should determine, "why people are visiting the website and whether they can find the information they need when they arrive." When STAC decides to implement new communication tools, such as social media pages, there are a variety of ways to track similar effectiveness. Measuring effectiveness of communications tools involves keeping track of

efforts and the return on investment for these efforts. Fortunately, a number of new tools can be paired with analytical tools (like Google Analytics for website) or come with their own built-in analytics features, which can make it easier for STAC to track and measure effectiveness.

One of the goals of the Communications Workgroup is to provide expert communications advice to partners (including STAC). Communications Workgroup meetings serve as a forum to discuss news and information and ensure partners are aware of CBP messaging and priorities. STAC is encouraged to invite Smith and Krikstan to future meetings when input from the Communications Workgroup is needed, and are invited to join and Communications Workgroup meetings to share important messages.