



Scientific and Technical Advisory Committee
June 7, 2016 Quarterly Meeting Minutes
O'Callaghan Hotel - Annapolis, MD

Tuesday, June 7th Minutes

Attendance: (T: Telecommute)

Members: Joshua Behr, Donna Bilkovic, Kathleen Boomer, Christopher Brosch, Katherine Bunting-Howarth (Alternate), Amy Collick, Alix Dowling Fink (T), Zachary Easton, Lara Fowler, Carl Friedrichs (T), Marjy Friedrichs (T), Kirk Havens, Maria Herrmann, Carl Hershner, Robert Hirsch, Jason Hubbard, Thomas Ihde, Susan Julius, Peter Kleinman (T), Mark Luckenbach, Chancee Lundy (T), Andrew Miller, Mark Monaco, Steve Newbold, Marc Ribauda (T), David Sample (T), Adel Shirmohammadi, Kurt Stephenson, Lisa Wainger, Denice Wardrop (T), Gene Yagow, Weixing Zhu (T)

Guests: Greg Barranco, Cairn Bisland (T), Olivia Devereux (T), Mindy Ehrich (T), Rachel Felver, Kimberly Gazenski, Lindsey Gordon, Raleigh Hood, Zoe Johnson, Nicki Kasi, Jeni Keisman, Vikram Pattarkine (T), Daniel Pendick, Scott Phillips, Michael Runge, Kristin Saunders, Kara Skipper (T), Stephanie Smith, Jeff Sweeney (T), Peter Tango, Nick White, David Wood

Administration: Bill Ball, Rachel Dixon, Melissa Fagan, Natalie Gardner, Renee Kelly

Call to Order – Lisa Wainger (STAC Chair - UMCES)

Wainger called the meeting to order shortly after 9:00am. New STAC Gubernatorial Appointees, Dr. Jason Hubbard (WVU) and Chris Brosch (DDA), provided brief introductions to the membership. Wainger announced that STAC's Executive Board (EB) recommended Martin Lowenfish (USDA-NRCS) as the replacement for former federal appointee, Kurt Gottschalk (USFS). In addition, in light of the end of Bob Hirsch's (USGS) STAC term in December 2016, Hirsch and Scott Phillips (USGS) nominated John Karl (J.K.) Bohlke (USGS) as Hirsch's replacement. Hirsch provided a brief overview of Bohlke's expertise and background. Wainger requested a motion to approve the two STAC member recommendations; there were no objections. STAC staff and Wainger will draft letters to Chesapeake Bay Program (CBP) Director, Nicholas DiPasquale (EPA) recommending the appointment of Lowenfish and Bohlke to fill two federal appointee STAC vacancies. Finally, Wainger requested a motion to approve the March 2016 quarterly meeting minutes and April/May 2016 EB meeting minutes; motion approved. Wainger announced the EB decision to approve the transfer of \$3000 from STAC's FY16 review budget to the FY16 workshop budget to support the fifth workshop for FY16. STAC members approved the transfer.

VOTE: **Wainger** requested a motion to approve the recommendation of Lowenfish and Bohlke to serve as federal appointees on STAC. Result: Motion carried.

ACTION: STAC staff and Wainger will draft letters to DiPasquale recommending Lowenfish and Bohlke's appointments to STAC.

VOTE: Wainger requested a motion to approve the March 2016 quarterly meeting minutes and April/May 2016 EB meeting minutes. Result: Motion carried.

VOTE: Wainger requested approval to transfer \$3000 out of the STAC FY16 review budget and into the FY16 workshop budget to support the fifth workshop for FY16. Result: Motion carried.

Recap of STAC March Quarterly Meeting/Overview of June Quarterly Meeting – Lisa Wainger (UMCES)

Wainger highlighted key discussions and outcomes from the March quarterly meeting, noting the efforts made to focus quarterly meetings on STAC identified priority needs. STAC Staff, Rachel Dixon (CRC) provided STAC members with a status update of FY16 workshops. Wainger then reviewed the June agenda and introduced the meeting theme. The theme focused on moving the goals of the Bay Agreement forward and ensuring that the right science is addressed while those goals are being met. Wainger also mentioned that the September quarterly meeting would focus on "water quality trends".

Open Forum: Recent STAC Sponsored Workshops and Management Board Presentations

A number of STAC activities took place between the March and June quarterly meetings. STAC activity leads provided a brief overview of their activity. This was an opportunity for other STAC members to discuss outcomes, next steps, and initial findings.

Peter Tango (USGS) opened with a recap of the April 'Monitoring Networks' workshop and identified overarching outcomes. Marjy Friedrichs (VIMS) presented an overview of the April 'Shallow Water' workshop's outcomes and next steps. Friedrichs also announced that the EB approved a request to combine the FY14 and FY15 Shallow Water workshop reports into a final product. Next, Tom Ihde (ERT) gave an update on a follow-up activity for the November 2014 Forage workshop. Ihde discussed the positive response received from the Management Board (MB) after a recent presentation of the Forage workshop outcomes. During this discussion, the FY16 Goal Implementation Team (GIT) projects were discussed. Ihde mentioned that these projects are an opportunity for STAC members to get involved with GIT leadership on particular topics of interest. STAC Coordinator, Natalie Gardner (CRC) distributed the GIT "Project Request for Ideas" document for the FY16 GIT Projects. STAC members are encouraged to work with GIT leadership on any of these projects. If interested, STAC members should contact GIT leadership (chairs, coordinators, and staffers) for more information. July 15th is the deadline for GIT leaders to submit their top three project proposals. Finally, Kathy Boomer (PSU) presented a review of the presentation made to the MB on the Roadside Ditch workshop report. Boomer also reviewed next steps from this activity and implications for the FY16 'Visioning' workshop.

ACTION: Gardner distributed the GIT “Project Request for Ideas” document for the FY16 GIT Projects during the quarterly meeting. If interested, **STAC members** should contact GIT leadership for more information. July 15th is the deadline for GIT leadership to submit their top three project proposals.

Principals’ Staff Committee (PSC) Discussion: Independent Evaluator (IE) and Variable Bay Responses to Total Maximum Daily Load (TMDL) – Lisa Wainger (UMCES)

Wainger reviewed STAC’s role regarding the Executive Council (EC) and PSC. The Chesapeake Bay Accountability and Recovery Act (CBARA) calls for an IE of the CBP, and STAC weighed in on the three options considered for conducting evaluations. In order to avoid apparent conflict of interest, STAC recommended the National Research Council of the National Academy of Sciences (NRC-NAS) take on this task. During the May 26th PSC meeting, members discussed all recommendations for the establishment of the IE. The PSC did not reach consensus; however, the NAS was the preferred option. NAS has experience reviewing similar programs. The first report is due to Congress 180 days from the establishment of the IE. Due to the short timeframe, it was agreed that the first report would be a review of previous audits and evaluations done on CBP by NAS. The charge to NAS must officially come from the EC, but is generally developed by the PSC. STAC and some of the GITs should expect to be consulted prior to this charge.

Update on Midpoint Review Questions/Progress – STAC Executive Secretary, Bill Ball (CRC)

Ball presented an update of the timeline and status of the ongoing STAC-sponsored independent peer reviews, primarily focusing on the Criteria Addendum, Scenario Builder, and James River reviews. Ball also presented the associated draft review questions for the Scenario Builder and James River reviews in anticipation of the formal ask from the CBP. While reviewing the questions, Ball reminded members of the different tiers of questions that STAC requested, and to keep the process efficient and provide productive revisions/advice, especially once the documentation has been read. STAC members recommended edits to wording in the Scenario Builder questions.. STAC members were then presented the draft James River questions and allowed a comment period. Ball requested that any STAC member interested in becoming a lead/reviewer on any of the upcoming Midpoint Assessment STAC reviews should email STAC Coordinator, Natalie Gardner (CRC) or himself. After discussion of the status updates and draft questions, Ball asked STAC members to review all the documentation pertaining to the upcoming reviews. Ball asked that members provide: (1) approval of the Scenario Builder and James River review draft questions, (2) any suggested expertise needs and specific names/affiliations for the review panel, (3) feedback on timelines, and (4) feedback on questions/appropriateness of the review.

ACTION: STAC members who are interested in becoming a STAC lead/reviewer for any of the upcoming STAC reviews should email Gardner at gardnern@si.edu or Ball at ballw@si.edu.

ACTION: STAC members have been asked to review all documentation pertaining to the upcoming reviews. Following review, please provide: (1) approval of the draft questions, (2) any suggested expertise needs and specific names/affiliations for the review panel, (3) feedback on timelines, and (4) feedback on questions/appropriateness of the review. Please contact Gardner or Ball with any of the above requests.

CRC Staffer Presentations – David Wood (CRC) and Lindsey Gordon (CRC)

CRC's Environmental Management Career Development Program provides early career professionals with a stepping stone to a future career in the fields of environmental science, policy and management, and outreach and education. Staffers provide technical and administrative support to the various Chesapeake Bay Program (CBP) partnership committees, GITs and workgroups and not only gain a solid professional foundation from which to build their careers, but also individualized development and career exploration opportunities. Wood and Gordon provided an update on current Water Quality GIT activities as well as their own work and future plans.

Using Methods of Decision Analysis to Aid Federal Agencies – Michael Runge (USGS – Patuxent Wildlife Center)

Runge's presentation provided an overview on how federal agencies use decision science (tools) to solve multi-criteria problems. Runge presented the case study of Glen Canyon Dam, located in the Grand Canyon, to describe a situation where decision science was applied to a multi-faceted problem.

The Glen Canyon Dam completely changed the hydrology of the Colorado River, jeopardizing the existence of the humpback chub. The Department of Interior (DOI) wanted to implement a new Environmental Impact Statement (EIS) to define the impacts that the dam was having on the environment and its stakeholders, specifically the humpback chub. Runge was asked to use Multi-Criteria Decision Analysis (MCDA) to frame and analyze a best decision for operating the dam to protect the humpback chub while considering all aspects of the issue (e.g., hydro-electricity, water consumption, cultural preservation, fly-fishing industry). A key priority of MCDA is to look at alternatives and decide which one would produce the best outcome. Runge presented the infographic of the modeling framework and consequence table (performance metric) used for this particular multi-faceted problem. This particular case used both formal methods and comprehensive methods of decision analysis to come to a decision. Formal methods helped to: structure the entire analysis, articulate objectives and performance metrics, develop alternatives, explicitly express uncertainty, elicit values-preferences from stakeholders, integrate the science and policy elements, and analyze the effects of uncertainty.

Throughout the discussion, Runge mainly focused on organizing the process of decision analysis. Runge presented a flow chart showing the outline used for setting up the decision analysis

framework used in the Glen Canyon Dam case study. The framework followed these steps: 1) problem framing – the nature of the issue and who the decision makers are, 2) elicit objectives, 3) develop alternative solutions, 4) evaluate consequences with a decision-model, 5) identify the preferred alternative, and 6) implement action. Runge explained that the most important aspect of the process is determining who the decision maker actually is. Although humans typically begin solving a problem with alternatives, identifying a decision maker should be a priority. Runge mentioned that this approach could easily be used in Chesapeake Bay models. STAC members agreed and provided a few examples where it is already used. In addition, Wainger noted that there is also a need for incentives to get decision makers to act. Many of the solutions with Bay issues come from individuals and local governments and should be included in the decision analysis approach.

Prioritizing Efforts and Cross-GIT Collaboration/Enhancing Capacity – Lara Fowler (PSU) and Cross-Program Coordinator, Kristin Saunders (UMCES)

This presentation focused on the January 2016 ‘Enhancing Capacity’ workshop and the collective goals within the CBP and how they can be met. The Chesapeake Bay GITs and their related workgroups have significant goals and outcomes, yet limited time and resources in which to meet them. Fowler wanted to continue the discussion of lingering questions from the Enhancing Capacity workshop including: What is the role of the GITs and workgroups in meeting the goals and outcomes?; How can various efforts be brought together to enhance the capacity to collectively address these critical goals and outcomes?; How can STAC help support the hard work by the GITs and workgroups?; and identify whose job it is to make sure the goals are met. Fowler is concerned that important partners in meeting these goals and outcomes are getting burnt out. There is a real need to support the GITs.

The Enhancing Capacity workshop partnered with the Wetlands workgroup to identify: key obstacles, potential opportunities for addressing the obstacles, prioritizing and linking workgroup actions to achieve desired outcomes, identifying ways to enhance capacity and identify next steps. Specifically, the workshop identified ways to enhance the capacity of the Wetland workgroup to meet their goals via two-year workplans and demonstrate a pilot process on how other workgroups might similarly enhance their ability to meet and implement their overall goals. In addition, there were a number of overall challenges identified during the workshop, including: each workgroup has its own big goal, there are insufficient resources to get there, funding allocation, lack of coordination and communication between workgroups, and the burnout factor. Fowler also presented potential opportunities including conducting an inventory on who is doing what, where, and presenting the results to the workgroups for guidance.

Saunders introduced herself as the Cross-Program Coordinator, whose position was created as one of the solutions for enhancing coordination between the GITs and workgroups. Saunders, who previously chaired a GIT, has already performed duties on the implementation side. Saunders surveyed the GITs and uncovered a few key issues. Of particular interest was the request from GITs to make connections, enhance understanding, and communication between different agencies/groups working on the same issues. The GITs also want help making information available, transparent, and understandable to people on the ground who are actually doing the implementation. Saunders mentioned that meeting agendas have already begun to

change in order to satisfy these needs, and that activities like the February STAC Optimization workshop, which continued a conversation on how co-benefits and ecosystem services are optimized, are working to make those connections.. In addition, the next STAC quarterly meeting is scheduled to focus on water quality trends, but Saunders encouraged STAC to also think about the other disciplines. This type of thinking might supply more help to the GITs. Saunders asked that each STAC member think about what or who they know that can provide solutions to the remaining questions that the GITs and workgroups have.

Group Discussion: Using Decision Science

STAC members continued the conversation with a discussion of next steps. One suggestion was that STAC's role should also focus on promoting work on the technical side, as well as human resources. Boomer mentioned the abundance of models available that can help support the GITs. Saunders agreed that models can be useful, but should be given different names to avoid any negative stigma. Models can be exceptional support tools for enhancing collaboration, but STAC needs to improve communication between these tools and decision makers. Another suggestion from the group was to plan more in-person meetings to increase collaboration, and Saunders agreed that meetings can be planned to strategically cross-paths and increase communication. Wainger asked if there is an opportunity to integrate some of the decision science processes into workshops and reviews. The February STAC Uncertainty workshop could have benefited from incorporating this type of framework, helping determine which decisions were a priority. STAC was encouraged to identify decision makers first in order to make science relevant.

Finally, STAC discussed some processes already in place where STAC provides scientific guidance and review of CBP activities to the Scientific, Technical Assessment and Reporting (STAR) team. Runge, although supportive of those processes, feared that this process does not clearly show people how their work is impacting CBP activities. Saunders and Fowler will continue to work through these issues. STAC should prepare to be involved when scientific guidance is needed to support the GITs.

Work Session and Report-Out

STAC members used time at the end of the meeting to meet in various working groups, including FY16 workshop steering committees and upcoming STAC activities. Six groups met separately with the following topics: 1) Modeling Beyond 2018: A Proactive Visioning Workshop, 2) Understanding and Exploring 30+ Years of Water Clarity Trends Workshop, 3) Aligning Monitoring Efforts with Climate Change Workshop, 4) EC Report Outline, 5) Legacy Sediment Workshop, and 6) Development of a Task Group to focus on Living Resources and Benefits.

Groups reconvened to provide report-outs. Raleigh Hood (UMCES), Peter Claggett (USGS), Andrew Miller (UMBC), and Zoe Johnson (CBP) presented on behalf of the work session groups that began planning for FY16 workshops. Report-outs summarized initial conversations on scope, logistics, pre-workshop presentation developments, and any draft agenda developments. Planning for these workshops will continue with planning calls following the meeting. Gene

Yagow (VT) presented the outline that the EC group prepared as a draft for Wainger to use while creating the EC annual report from STAC - a short document highlighting important STAC successes and important topics that the EC should have on their radar. The key issues suggested for inclusion in this year's annual report included: emphasis on the need to adhere to the adaptive management process, the Food-Energy-Water Nexus, the STAC Microplastics review, and a need for focus on living resources. STAC members offered more suggestions and discussions for the report. Additional revisions or suggestions should be emailed to Wainger. Finally, Tom Ihde (VIMS) presented ideas for the development of a task group to specifically model issues other than water quality. This group could help the workgroups with needs beyond water quality issues and models. Ihde proposed that a workshop be used to scope the goals of this potential group and determine where it would fit within the CBP. The meeting concluded with a brief review of action items from the meeting and topics to consider for the September meeting.

ACTION: **Wainger** will use the results of the EC group's report-out as an outline for drafting the STAC annual report to the EC. STAC members should email Wainger at wainger@umces.edu with more suggestions or revisions to the outline made during the quarterly meeting.