Scientific and Technical Advisory Committee (STAC)
June 13-14, 2017 Quarterly Meeting Minutes
Crowne Plaza Hotel – Annapolis, MD

Tuesday, June 13 Minutes

Attendance (W: Webinar)

Members: Joshua Behr, Brian Benham, Donna Bilkovic, John Karl (JK) Bohlke, Kathleen Boomer, Christopher Brosch, Katherine Bunting-Howarth (W), Alix Dowling Fink, Zachary Easton, Lara Fowler, Carl Friedrichs (W), Maria Herrmann, Carl Hershner, Jason Hubbart, Thomas Ihde, Susan Julius (W), Hamid Karimi, Mark Luckenbach, Chanceé Lundy, Andrew Miller, Mark Monaco, David Newburn, David Sample, Kurt Stephenson, Lisa Wainger, Denice Wardrop (W), Gene Yagow

Guests: Rich Batiuk, Walter Boynton, Greg Busch (W), Dinorah Dalmasy (W), Lou Etgen, Emily Freeman, Clint Gill (W), Bob Hirsch (W), Taylor Hollady, Lew Linker (W), Melissa Merritt, Denise Reed, Kristin Saunders, Gary Shenk, Ed Sherwood, Peter Tango, Stephen Weisberg, Qian Zhang

Administration: Bill Ball, Rachel Dixon, Melissa Fagan, Elaine Hinrichs

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

Wainger called the meeting to order at 10:00 am. STAC members and guests introduced themselves. Wainger announced that STAC's Executive Board (EB) nominated Lara Fowler (PSU) to serve on the board, and requested a motion to approve Fowler's appointment; motion approved. Wainger announced the reappointment of at-large STAC member Kurt Stephenson (VT). Wainger requested a motion to approve the March 2017 quarterly meeting minutes and April 2017 EB meeting minutes. STAC members approved both documents.

DECISION: **Wainger** requested a motion to approve the appointment of Fowler to STAC's EB. Result: Motion carried.

DECISION: **Wainger** requested a motion to approve the March 2017 quarterly meeting minutes and April 2017 EB meeting minutes. Result: Motion carried.

Updates from Executive Council Meeting and Introduction of June Theme – *Lisa Wainger (STAC Chair – UMCES)*

Wainger provided an update from the annual meeting of the Chesapeake Executive Council (EC), which consists of the governors of the six watershed states, the mayor of the District of Columbia (DC), the chair of the Chesapeake Bay Commission (CBC), and the administrator of the U.S. Environmental Protection Agency (EPA). The priority of this year's meeting, held on June 8, was to share information on the effectiveness of the Chesapeake Bay Program (CBP)

partnership and evidence for continued funding and participation. Wainger shared an example of STAC effectiveness with the EC: the success of the STAC workshop report "Re-plumbing the Chesapeake Watershed: Improving Roadside Ditch Management to Meet Total Maximum Daily Load (TMDL) Water Quality Goals". Wainger noted that Maryland Governor Larry Hogan was elected as the new EC Chair and asked STAC members to contact her if they have any questions regarding this year's EC meeting. Wainger then gave an overview of the June STAC quarterly meeting agenda and introduced the meeting theme: comparing large waterbody restoration approaches.

ACTION: STAC members should contact Wainger with any questions regarding the EC meeting held on June 8, 2017.

Chesapeake Bay Restoration: Successes, Lessons Learned, and Remaining Challenges – *Walter Boynton (UMCES)*

Boynton's talk addressed five main points related to Chesapeake Bay restoration: 1) basic ideas of ecosystem enrichment and restoration are scientifically solid; 2) substantial reductions of nitrogen (N) and phosphorus (P) loads result in improved water quality and better habitat conditions; 3) estuaries' degradation and restoration pathways are unpredictable and not yet fully understood; 4) restoration trends have been observed in both small and large Chesapeake ecosystems; and 5) major challenges remain. Boynton began his presentation with information on the history of the Chesapeake Bay region, including a timeline of major events related to science, management, and politics in Chesapeake Bay history from the 1950s to today. Additionally, Boynton shared some key lessons learned to date during the restoration effort, including: 1) nutrient loads and estuaries' responses to loads vary greatly globally; 2) N versus P limitation is important in some estuaries, and the Bay needs a dual nutrient reduction strategy; 3) science must sort out the multiple hypotheses are often associated with environmental issues; 4) the main cause of submerged aquatic vegetation (SAV) decline is due to enhanced algal growth and increased turbidity; 5) response to shallow estuarine algal biomass to nutrient loads occurs within several years; and 6) multiple physical, biological, and chemical factors are involved in determining hypoxia and other Bay processes. Boynton described some examples of complex patterns in ecosystem responses to nutrient degradation and remediation that are in need of greater understanding, while highlighting a few restoration successes – specifically, declining N deposition concentrations and total N loads from all major tributaries across the watershed and the decline of late summer anoxia in the Bay's mainstem. Boynton concluded by identifying six key restoration challenges moving forward: 1) water clarity; 2) nutrient inputs; 3) patterns of population and impervious surface growth in the watershed; 4) climate change; 5) monitoring and analysis (needs to be rigorous and adaptive); and 6) fine-tuning nutrient loading rates for ecosystem-based fisheries management

Tampa Bay: Environmental Issues, Restoration, & Sustaining its Recovery – *Ed Sherwood (Tampa Bay Estuary Program)*

Sherwood provided STAC with an overview of efforts to restore Tampa Bay, an urban estuary on the west coast of Florida. In the 1970s-80s, poorly-treated domestic and industrial point sources and stormwater lead to pollution, loss of subtidal and emergent wetlands, and a phytoplankton and macroalgae dominated system in Tampa Bay, with citizens demanding legislative action. The Tampa Bay Estuary Program (TBEP), a regional partnership of counties, cities, the Florida Department of Environmental Protection (FDEP), and the US EPA, was formed in 1991 to develop and implement a science-based management and restoration plan. TBEP defined a resource-based goal of protecting and restoring seagrass levels by developing a N management strategy: reduce N loads to reduce chlorophyll to increase water clarity and thus increase seagrass cover. TBEP developed management targets using monitoring data beginning in the 1970s to empirically model the relationships between N, chlorophyll-a, and light at target seagrass depths. Since seagrass was improving by the mid-1990s, TBEP adaptively established a new goal and formed agreements with the private sector in 1998, agreeing to reduce N loads to the collective goal and report load reductions. In the years since, voluntary actions have become regulatory requirements with the establishment of a TMDL. The recovery strategy for Tampa Bay has been successful despite continue population growth, with improved water quality and seagrass coverage that now exceeds the recovery goal. Sherwood identified several future challenges for Tampa Bay's recovery, including development and population growth, sea level rise (SLR) and climate change. Sherwood concluded by sharing key elements for Tampa Bay's recovery and future resilience: 1) long-term monitoring; 2) target resources identified by both public and scientists as "worthwhile" indicators; 3) science-based numeric targets; 4) multiple tools of regulation, public/private collaborative, and citizen actions; 5) a recognized "honest broker" to assess progress; 6) ongoing assessment and adjustment; and 7) linking to regional economic valuations and climate change mitigation benefits.

Chesapeake Research Consortium (CRC) Staffer Presentations
– Emily Freeman (CRC) – Enhance Partnering, Leadership and Management Goal Implementation Team Staffer
– Melissa Merritt (CRC) – Scientific Technical Assessment and Reporting (STAR) Team Staffer

The 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 CBP partnership committees, Goal Implementation Teams (GITs) and workgroups and not only gain a professional foundation for their careers, but individualized career development opportunities. Freeman provided an update on current activities of the Enhance Partnering, Leadership and Management GIT (GIT 6), Budget and Finance Workgroup, and Local Leadership Workgroup, as well as her own work and plans for graduate school and beyond. Merritt provided an update on activities of the Scientific Technical Assessment and Reporting (STAR) Team and various workgroups within STAR, as well as information on her past work, current projects, and future plans.

Restoration in the Gulf of Mexico: Strategies for Moving Forward – *Denise Reed (The Water Institute of the Gulf)*

Reed shared how science investments have been used to guide ecosystem restoration in the Gulf of Mexico and coastal Louisiana; the *Deepwater Horizon* oil spill in 2010 spurred a regional recovery effort by bringing billions of dollars to the Gulf region to provide funding for science and restoration initiatives. The federal Resource and Ecosystem Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States (RESTORE) Act of 2012 created the Gulf Coast Ecosystem Restoration Council, an independent federal entity composed of Gulf State Governors and select U.S. Cabinet representatives. The Council's 2013 Comprehensive Plan for the Gulf had general goals related to habitat, water quality and quantity, living resources, community resilience, and the Gulf economy, but the 2016 Update provides specific, strategic guidance for holistic, large-scale restoration. In addition to impacts from the *Deepwater Horizon* oil spill, the low-lying Louisiana delta faces long-term issues of land loss and land degradation, primarily from wetland conversion to open water. Coastal planning efforts in Louisiana began in the early 1980s and intensified after Hurricane Katrina in 2005, with the recognition that restoration of natural coastal systems is linked to continued community viability. In 2017, a coastal master plan developed by a collaborative interdisciplinary team update focuses on providing for the future rather than just restoring to previous conditions. Reed pointed out the incorporation of high sea level rise scenarios to plan for an uncertain future as an important note in this state-mandated, legislative process. Reed explained that the RESTORE Act has filled a gap by providing specific funding opportunities for coastal Louisiana research. After detailing the coastal monitoring program, Reed presented modeling results comparing the future environmental conditions with and without action over the next 50 years. Reed concluded by discussing some challenges and lessons learned, which include the lack of a formal mechanism for cross-discipline and cross-institution discussion, the lack of opportunity to synthesize outside of modeling, the need to link modeling and monitoring, and using the five-year master plan update cycle as an adaptive management framework.

Southern California Bight Restoration – *Stephen Weisberg (Southern California Coastal Water Research Project)*

Weisberg, Executive Director of the Southern California Coastal Water Research Project (SCCWRP), presented an overview of SCCWRP and its science investments to guide management in the Southern California Bight region. Founded in 1969, SCCWRP is a regional Joint Powers Agency composed of county, state, and federal member agencies that aims to provide unbiased scientific information for water quality management and policy. 95% of SCCWRP 's projects are done in partnership, which provides a key step toward scientific consensus and helps share ideas and the funding burden. SCCWRP studies the Southern California coastal ocean region, which has distinct wet and dry seasons, separate wastewater and stormwater systems, and smaller, steeper watersheds than the Chesapeake Bay. Unlike the Chesapeake, hypoxia and nutrients are not major water quality management issues in the region. Historically, the focus has been on traditional toxic contaminants and beach water quality, but management has lowered toxic inputs by more than 95% according to regional

monitoring and state monitoring resources have helped solve dry weather beach problems (although wet weather challenges remain). Now the Commission is most interested in more research on the unknowns of climate change, emerging contaminants, and harmful algal blooms, and pursuing novel management initiatives. Weisberg detailed how SCCWRP is researching the manager-identified priority climate change topics of acidification, increases in water temperature, sea level rise, and changes in rainfall and stream flow patterns. Weisberg concluded by discussing challenges and key lessons learned, which include 1) the importance of the formal connection between scientists and the management community, 2) the need for scientific consensus for action, and 3) partnership is key and thus needs to extend beyond scientists and managers to include non-governmental organizations as a larger part of the conversation.

Panel Discussion – *Ed Sherwood (Tampa Bay Estuary Program), Denise Reed (The Water Institute of the Gulf), and Stephen Weisberg (Southern California Coastal Water Research Project)*

Wainger began the discussion by asking the panel what is and is not working well for them with connecting science and management. Sherwood and Reed respectively mentioned challenges related to small operating budgets and a lack of flexibility for research. Weisberg explained that SCCWRP has reached the conclusion with their Commission that limiting outside funds to 25% of their budget is helpful in that the outside funding allows the SCCWRP to start research projects but the limits force SCCWRP to be responsive to managers and have partnerships. Weisberg also described how SCCWRP's responsibility for developing, standardizing, and training others in cutting-edge methods has been crucial in helping connect management and science. Panel members discussed how the success of their organization is influenced by competition (or lack thereof) from other organizations doing similar work in the region, and collaboration and consultation with representatives from organizations outside their region. Meeting participants brought up questions about consensus for discussion by panel members. Weisberg shared that SCCWRP member agencies base actions on consensus among the scientific community, instead of consensus among the agencies themselves, and that their technical review committees of outside scientists usually reach consensus when considering the management application. A STAC member expressed concern about the drive toward consensus, citing the potential to pursue regrettable management actions if our gaps in understanding are not articulated through different hypotheses about how a system works. Panel members recognized that full consensus on an issue is not always possible, but resolving as much as possible then presenting management with a best current answer with information on uncertainty can be a viable solution, especially when management decisions are urgent. Panel members concluded by discussing their monitoring programs, particularly strategies and challenges for sustaining monitoring, and the degree of connection between monitoring and modeling. For the Water Institute of the Gulf, managers are starting to realize the large value of monitoring and the need for targeted data collection or periodic surveys in addition to long-term status and trends monitoring. Reed discussed their 5-year adaptive management cycle and the essential need to compare monitoring results with a quantified articulation of predicted response from the model in order to use monitoring for adaptive management.

Debrief on Results of Phase 6 Model Calibration – *Gary Shenk (USGS/CBPO)*

Shenk presented a brief history of the Chesapeake Bay Watershed Model (CBWM) and its development. STAC has provided guidance on the CBWM through a number of reviews and workshops over the years; STAC has encouraged the inclusion of multiple models, phosphorus, complex reservoir dynamics, and fine-scale process, but water quality managers needed a more transparent and easier to understand decision-support tool to engage local partners. The Phase 6 CBWM model structure, according to Shenk, attempts to balance complexity and simplicity by incorporating outputs from other models as simple coefficients to produce a time-averaged steady state model. The draft Phase 6 documentation with calibration data was released on June 1, 2017, and the STAC peer review of Phase 6 is complete, except for review of two remaining questions on climate change and Conowingo Reservoir infill. Shenk demonstrated how Phase 6 is compared against observations using a temporal hourly simulation of hydrology and a temporal nutrient model. Recent results on observed N, P, and sediment loads show improved calibration overall. Draft Phase 6 geographic efficiencies also show improvement from Phase 5 for nitrate, N, P, and particularly sediment. Shenk concluded by outlining the tentative schedule for release of the final Phase 6 CBWM and draft and final Watershed Implementation Plan (WIP) Planning Targets, which depends on results of the ongoing CBP Partnership "fatal flaw" model review.

Group Discussion: Proposal for New Voting Methods and Looking Ahead for STAC

STAC members discussed upcoming member vacancies and potential new methods for filling At-Large vacancies. STAC will have two At-Large member vacancies and one Federal appointment vacancy STAC by September 2017. STAC will have another Federal appointment vacancy in December 2017, when Marc Ribaudo (USDA-ERS) retires, but Ribaudo is open to continuing to serve as an At-Large member if selected. STAC members discussed the current At-Large member election process and potential revisions to formalize nominations and strategically fill expertise gaps on STAC. STAC members identified several areas of needed expertise: toxic contaminants, agricultural engineering, biota and living resources, hydrodynamic modeling, ecological modeling, decision-science and natural resource management, stormwater and BMP analysis (urban BMP validation), and social science, education, and outreach (related to human behavior change and consideration of co-benefits). STAC members also suggested filling vacancies considering STAC representation of institutions and geographic areas in the watershed. Since STAC Coordinator, Rachel Dixon (CRC) needs to confirm whether STAC needs a motion in order to change nomination and voting procedures for STAC At-Large member vacancies, STAC's tentative new voting process will be to first call for expertise categories, agree on priority expertise categories, then nominate and vote on nominees. Dixon asked STAC members to send comments and suggestions on needed categories of expertise or specific expertise to her or STAC Staff, Elaine Hinrichs (CRC). STAC members then discussed potential changes to STAC structure. Some STAC members supported the idea of having one webinar meeting a year preferably in the winter months when travel is typically more difficult. STAC felt the March 2017 webinar meeting was effective and that it was easier to engage when all participants were on the phone compared to the isolating

experience of attending normal meetings via webinar. Since this was David Sample's (VT) last quarterly meeting, STAC members thanked Sample for his years of service on the committee.

ACTION: Dixon will confirm whether STAC needs a motion in order to change nomination and voting procedures for STAC At-Large member vacancies.

ACTION: STAC members should send comments and suggestions on open expertise needs or categories needed among the committee's membership to STAC Staff.

Wednesday, June 14 Minutes

Attendance: (W: Webinar)

Members: Joshua Behr, Brian Benham, Donna Bilkovic, John Karl (JK) Bohlke, Kathleen Boomer, Christopher Brosch, Katherine Bunting-Howarth (W), Alix Dowling Fink, Zachary Easton, Lara Fowler, Maria Herrmann, Carl Hershner, Jason Hubbart, Thomas Ihde, Hamid Karimi, Peter Kleinman (W), Mark Luckenbach, Andrew Miller, Mark Monaco, Kurt Stephenson, Lisa Wainger, Denice Wardrop (W), Gene Yagow

Guests: Greg Barranco, Rich Batiuk, Carin Bisland, Greg Busch (W), Ginger Ellis (W), Dave Goshorn, Antti Iho, Kristin Saunders, Gary Shenk, Qian Zhang

Administration: Bill Ball, Rachel Dixon, Melissa Fagan, Elaine Hinrichs

Upcoming Key CBP Partnership Decisions: When, How, and What for STAC Involvement
– Rich Batiuk (EPA)

Batiuk provided STAC with information on key upcoming CBP Partnership decisions then discussed engagement opportunities with STAC. For the 2017 Chesapeake Bay TMDL Midpoint Assessment (MPA), Batiuk proposes that STAC could engage on decisions relating to the Phase 6 suite of modeling tools and their inputs, and during the development of Phase III WIPS, and WIP planning targets. Batiuk would like to engage STAC in three sets of ongoing decisions related to Phase III WIP implementation over the next 5-10 years: 1) explaining observed long-term trends, 2) building optimization functionality into the Partnership's suite of decision support tools, and 3) determining programmatic capacity to meet commitments at federal, state, and local scale, and target the most cost-effective, load-reduction-efficient practices. Batiuk also emphasized: 1) re-designs of the SAV aerial and ground surveys in fall 2017; 2) efforts to move forward with quantifying and applying co-benefits of BMPs in local decision-making in 2017-2018; 3) ongoing establishment of indicators for Chesapeake Bay 2014 Watershed Agreement goals and outcomes, and 4) determination of best approaches for new monitoring or data reporting systems. The CBP Partnership could also use STAC interaction in the Biennial Strategy Review System (SRS) process. Citing STAC effectives when it is able to dive deep into a prioritized issue rather spread itself thin, Wainger asked if there are particular

science gaps or questions that STAC could assist with in the SRS adaptive management framework. Lara Fowler (PSU) suggested that STAC could assist further with the topic of BMP co-benefits, investigated at the STAC 'Quantifying Ecosystem Services' workshop held in March 2017. Batiuk agreed and told STAC that he would like the workshop chairs to report out and discuss possibilities for help moving co-benefits forward at a STAC meeting. STAC members and Batiuk members discussed the timeline for remaining Conowingo infill decisions, which are primarily policy issues related to allocation of responsibility for loads and potential reservoir dredging, and discomfort with particular science that has been highlighted in policy. Batiuk then described the process and timeline by which jurisdictions will take decision-making to the local scale, and STAC members mentioned that economic incentives may not be targeted to the local scale. Kathleen Boomer (TNC) emphasized the need for STAC to stay engaged and help address issues of uncertainty to help guide the CBP Partnership. Christopher Brosch (DDA) encouraged STAC members to review STAC activity reports delivered on CBP models, then share any fatal flaws with smaller states that lack strong engagement of the scientific community and help communicate needs. Batiuk concluded the discussion with a request to join the next STAC EB call to discuss opportunities for STAC involvement in CBP Partnership upcoming decisions and next steps.

ACTION: Batiuk will follow up with STAC Staff and Wainger regarding his request to join the next STAC EB call to discuss opportunities for STAC involvement in upcoming CBP Partnership decision making processes.

Chesapeake Bay Program Biennial Strategy Review System (SRS) – *Dave Goshorn (MD DNR)*

Goshorn presented an overview of the current status of the SRS, a systemic adaptive management process being developed and implemented by the CBP Partnership that uses the approved Decision Framework to evaluate and modify goals and actions every two years. The Management Board (MB) is at the center of the SRS process, responsible for making decisions on goals and actions for each of the 31 CBP outcomes. STAR is working to help prepare GITs before they present to the MB; guidance documents developed by the CBP help ensure consistency in reporting across different outcomes. Goshorn described the two-year timeline cycle for the SRS, which began with the first two-day Biennial Review Meeting in February 2017 and is followed by quarterly MB meetings focused on progress review for cohorts of categorized outcomes. The first quarterly progress review MB meeting, held on May 11, 2017, featured six outcomes related to healthy watersheds. Thus far in the process, the CBP Partnership has learned that 1) outcome groups are at different points in the process, and 2) the MB needs more time for deliberation, greater specificity of requests and options, and to better understand and accept their role in order to effectively manage adaptively. At the June MB meeting, the MB will discuss the process and their role, review comments from the first quarterly SRS meeting and identify improvements, and revisit suggested modifications with the hope of taking action. Goshorn explained that the CBP will continue adjusting the SRS process in preparation for the next quarterly SRS meeting on August 10, 2017, and asked for STAC continued engagement in the SRS. Wainger reminded STAC that the STAC Chair serves as a liaison to the MB, and that STAC members Kirk Havens (VIMS), Carl Hershner (VIMS), and

Denice Wardrop (PSU) have been deeply involved in guiding SRS development and implementation. STAC members and Goshorn then discussed specific opportunities for STAC guidance in the SRS process going forward, such as 1) assisting the development of monitoring processes by determining what is currently available in ongoing research program, 2) providing input on outcome groups' projections over time of expected responses and uncertainty around those responses, and 3) helping revising objectives and add outcomes.

Group Discussion: Adaptive Management of Midpoint Assessment, SRS, and GIT Interactions

STAC, CBP Cross Program Coordinator, Kristin Saunders (UMCES), and other CBP representatives discussed how STAC can become more involved in the GITs and SRS process and stay connected during rapid decisions of adaptive management. Saunders began the discussion with five suggestions on areas for STAC involvement beyond the MPA and Phase III WIPs: 1) STAC members can plan for SRS progress reviews meetings on outcome cohorts related to their expertise; 2) STAC members can review outcome groups' presentations and analysis for science gaps and provide input as groups revise their workplans; 3) STAC can identify and remind the CBP of lurking issues in need of attention; 4) STAC can stay connected with STAR's activities related to SRS and help steer work; and 5) STAC Chair can remind MB to adaptively manage. Meeting participants discussed various methods of STAC engagement with CBP groups that were and were not effective in the past, and STAC Staff agreed to send the SRS biennial calendar to STAC in advance of each quarterly SRS meeting. Wainger noted that STAC needs to give people information when they are ready to hear it, and recommended that STAC use times when the MB might be receptive to feedback, like the release of a STAC report or a law change, to push recommendations.

ACTION: STAC Staff will send the CBP Biennial SRS meeting calendar to STAC members in advance of each quarterly SRS meeting of the CBP MB.

Optimal Phosphorus Abatement – *Antti Iho (Natural Resources Institute Finland (Luke))*

Iho presented on the importance of the metric in optimizing P abatement, as empathized by his work with interdisciplinary scientists on combined ecological and economic models to optimize over spatial and temporal scales to achieve water quality goals for minimal costs. P-mediated eutrophication affects the Chesapeake Bay, Lake Erie, and the Baltic Sea, where P is considered the limiting nutrient in the coastal areas. The different forms of P affect eutrophication differently. Literature synthesis results that indicate conservation measures that reduce particulate phosphorus (PP) tend to increase soluble reactive phosphorus (SRP) loading considerably, and substantial increases in SRP loading to Lake Erie are likely due to land use changes to no-till and conservation tillage. The impact of this SRP-PP trade-off on the efficiency of conservation measures depend on the percent bioavailability of PP. Iho shared an analysis on the costs and effects of three abatement measures (no-till, manure hauling, and waste-water treatment plant (WWTP) upgrades), which showed that the suite of actions for cutting down eutrophying P loading with the least costs depends on the bioavailability of PP, which may be different than current, implicit assumptions. Iho then discussed the idea of summing

up P fractions as phosphate equivalents to use as a metric, and concluded with a brief discussion of the challenges of dynamic optimization and water protection.

Update on STAC Reviews for the Midpoint Assessment – *Rachel Dixon (STAC Coordinator – CRC) and Bill Ball (STAC Executive Secretary – CRC)*

Dixon provided STAC with update on the status of STAC-sponsored reviews for the MPA. Three reviews have been completed since the MPA reviews began in Fiscal Year 2015, four reviews are currently in progress, and the last MPA review request was recently received. Documentation for the last two questions on climate change and Conowingo infill for the Phase 6 CBWM review was received from the CBP on June 1, 2017. A draft Phase 6 CBWM review report was provided to the CBP Modeling Workgroup in January 2016. The Chesapeake Bay Water Quality/Sediment Transport Model (WQSTM) Review panel met with CBP representatives on June 5-6, 2017, and is working with the Modeling Workgroup to gather additional sensitivity simulations and scenario runs after final model calibration. Challenges have included the evolving MPA schedule and Phase 6 Model approval process, time constraints, the limiting scope of the responsive review format, scheduling difficulties with large panels, and managing conflicts of interest. The MPA reviews have helped STAC connect to ongoing CBP Partnership decision-making and created opportunities for additional proactive workshops or reviews to dig into deeper issues or long term ideas. Wainger proposed that leads include an outline of future suggested reviews or activities when presenting the outcomes of that activity to the STAC membership, and Dixon suggested organizing presentations by leads on the results of STAC-sponsored reviews in September. Dixon asked STAC members to contact herself and Ball as soon as possible if they are interested in serving the panel for the pending last MPA review: Chesapeake Bay Program Partnership's Climate Change Assessment Framework and Programmatic Integration and Response Efforts**.**

ACTION: Wainger will request that STAC activity leads outline future suggested reviews or activities when presenting on the outcomes of that activity to the STAC membership. **Wainger and STAC Staff** will explore organizing presentations by review leads on the results of STAC-sponsored reviews for the MPA at the September 2017 quarterly meeting.

ACTION: STAC members interested in serving on the review panel for the pending STAC review of the approach being taken to factor climate change considerations into the 2017 MPA should contact Dixon at dixonr@chesapeake.org and Ball at ballw@chesapeake.org.

Future STAC Meetings

Wainger concluded the meeting by asking STAC members to email topics and suggestions for the September 2017 quarterly meeting to her or Hinrichs.

ACTION: STAC members should email agenda topics and suggestions for the September 2017 quarterly meeting to Hinrichs at hinrichse@chesapeake.org and Wainger at wainger@umces.edu.