Chesapeake Bay Program
Management Board
May 14, 2020

Program Update

CBPO Calendar

May 15	Stream Health Workgroup meeting (seeking Co-Chair)
May 18	Climate Resiliency Workgroup conference call
May 20	GIT Funding Idea Sharing and Q&A meeting
May 21	Citizens Advisory Committee quarterly meeting
May 22	Principals' Staff Committee meeting
May 26	WQGIT conference call
May 27	Maintain Healthy Watersheds GIT meeting
May 28	Scientific, Technical Assessment and Reporting (STAR) meeting
June 2	GIT Funding Technical Lead Training
June 3	GIT Chairs and Leadership meeting
June 4	Local Government Advisory Committee (LGAC) webinar
June 10	Toxic Containments Workgroup meeting
June 11	Management Board meeting
August 18	Executive Council meeting

Updates

Water Quality Standards and River Flow Indicators Data Posted on ChesapeakeProgress

On May 13, a press release outlining the results the Water Quality Standards Attainment indicator for the years 2016-2018 and the River Flow and Load indicator for 2018 was posed on the partnership website. An estimated 38% of the Chesapeake Bay and its tidal tributaries met clean water standards for clarity, oxygen and algae growth between 2016 and 2018. This score is lower than the record high 42% from the previous reporting period, but is still the fifth highest estimate of water quality standards attainment since 1985. This four percentage point decrease is due in large part to a decline in dissolved oxygen in the open waters of the Bay, those areas beyond the shoreline and shallows. At the same time, the U.S. Geological Survey (USGS) reports that between October 2017 and September 2018, river flow to the Bay measured an above-average 70.5 billion gallons per day, the highest recorded amount since 2011. This relatively small decline in water quality standards attainment, during a period that included near record rainfall for much of the Bay watershed, is an indication that the partnership's collective management actions are working.

For more information: see ChesapeakeProgress at https://www.chesapeakeprogress.com/clean-water/water-quality; and a copy of the press release at: https://www.chesapeakebay.net/news/blog/chesapeake_bay_water_quality_declines_by_four_percent

EPA Releases Draft Evaluations of Two-Year Milestone to Bay Jurisdictions and Federal Agencies

On April 30, EPA sent its draft evaluations of the progress toward meeting their 2025 planning targets for reducing nitrogen, phosphorus and sediment to the seven Chesapeake Bay states, the District of

Columbia and federal agencies. The draft evaluations assess progress in meeting the 2018-2019 milestones and assess how the 2020-2021 two-year milestone commitments will help to meet the 2025 goals. The jurisdictions and agencies have the opportunity to revise their milestones and submit a final version to EPA by June 1, 2020. Final milestones will be posted on the jurisdictions' websites and EPA will provide its final evaluations of the final two-year milestones no later than July 29.
Contact: Lucinda Power, power.lucinda@epa.gov

EPA Checking on Potential COVID-19 Bay Restoration Impacts – On April 24, EPA Regional Administrator Cosmo Servidio and CBPO Director Dana Aunkst sent emails to the Bay states, the District of Columbia and federal agencies requesting information on any partnership-related deadlines or time frames the jurisdictions or agencies may have difficulty meeting due to COVID-19 impacts. The emails stated that if there are such issues, EPA will provide whatever assistance it can to avoid delays. In the emails, EPA reaffirmed its full commitment to the 2025 goals of the Bay TMDL as well as other goals in the Chesapeake Watershed Agreement and stated that it still expects to meet all deadlines to which it has committed for the work of the Chesapeake Bay Program partnership.
Contact: Dana Aunkst, aunkst.dana@epa.gov

Inaugural Arundel Rivers Report Highlights Increases in SAV and Overall Health
A 2019 report card, issued by the newly formed Arundel Rivers Federation, draws attention to a recent surge in underwater grasses, the success of a sanctuary oyster reef, and improved water clarity. The Federation provides a regional view about the health of the South, West and Rhode rivers on Maryland's Western Shore of the Chesapeake Bay. The organization was formed in January 2019 when the West & Rhode Riverkeeper joined forces with the South River Federation to form a single organization with a shared research strategy. Specific highlights include: Water clarity in the Rhode River held steady and dissolved oxygen, bacteria, pH and temperature scores all improved; water clarity, bacteria, temperature and pH levels all improved in the South River, while the dissolved oxygen score slightly fell; and in the West River, bacteria, temperature, pH and dissolved oxygen scores improved, while water clarity decreased.
For more information: https://www.chesapeakebay.net/news/blog/2019-Arundel-Rivers-Report-Card

Advisory Committee Updates

Local Government Advisory Committee

The purpose of the LGAC is to advise the Executive Council on how to effectively implement projects and engage the support of local governments to achieve the goals of the Bay Agreement.

- LGAC will conduct its next quarterly meeting via webinar June 4 due to concerns over Covid-19. This meeting will be an opportunity for Members to discuss the impacts of COVID-19 on their communities and explore means to continue to support Bay restoration in innovative manners. Members will also discuss priorities for 2020 and consider annual recommendations to the Chesapeake Executive Council. Additional topics on the agenda include planning for the September Local Government Forum on building local community resilience against climate. This Forum will be jointly developed and implemented by LGAC and the CBP Climate Resiliency Workgroup..

- LGAC still seeks New York representative.

Questions about LGAC should be directed to LGAC Coordinator Jennifer Starr at jstarr@allianceforthebay.org. To be added to the Interested Parties list, please contact LGAC Staff at lgac@allianceforthebay.org.

Citizens' Advisory Committee

The Citizens Advisory Committee (CAC) is charged with responsibility for representing residents and stakeholders of the Chesapeake Bay watershed in the restoration effort and advising the Chesapeake Bay Program Partnership on all aspects of restoration.

- Next meeting: The CAC will hold their next meeting on May 21st using a virtual format in lieu of their scheduled day and half meeting planned in Richmond, VA on May 21-22, 2020. Members plan to discuss impacts on Watershed restoration amid the COVID-19 health crisis and their annual recommendations to the Chesapeake Bay Executive Council.

- Leadership: CAC officers are Matt Ehrhart (PA), Chair and Julie Lawson (DC), Vice-Chair.

To be added to CAC's Interested Parties List, please contact: Adam Bray abray@allianceforthebay.org for program questions, contact Jessica Blackburn jblackburn@allianceforthebay.org

Scientific and Technical Advisory Committee (STAC)

The Scientific and Technical Advisory Committee (STAC) provides scientific and technical guidance to the Chesapeake Bay Program on measures to restore and protect the Chesapeake Bay.

For any inquiries, or to be added to STAC's Interested Parties list, contact STAC Coordinator, Annabelle Harvey (harveya@cheapeake.org)

STAC Response to COVID-19: Challenges and Opportunities:

While COVID-19 restrictions will prevent STAC from meeting in person in the near future, STAC Staff and members have been exploring the advantages of virtual meetings, workshops, and project planning. Virtual meetings present unique challenges, as well as new opportunities to engage with STAC and the CBP Partnership. Web conferencing services provide interactive digital tools such as polling, instant 'reactions', file sharing, and 'breakout groups'. With STAC members from all over the Bay region, virtual meetings will bring together science and technical experts while reducing STAC's carbon footprint. Last year, STAC members traveled an estimated 33,000 miles to attend quarterly meetings and workshops. If we assume all STAC members have average to medium cars with 21 mpg fuel economy, STAC business emitted as much as four typical passenger vehicles in 2019. This past March, the STAC quarterly meeting was remote due to social distancing measures. Working from a conference room on the Smithsonian Environmental Campus with a small number of CRC and CBP partner staff, our March meeting emissions costs were 3.4% of last year's total emissions.

STAC Staff continues to conduct extensive research on web conferencing services and strategies in order to maintain the productivity of the committee, and we look forward to continuing our work to bring the latest science to the Chesapeake Bay management community.

Quarterly Meetings:

STAC will host its first meeting of FY2020 on June 11th over web conferencing services. This meeting will focus on reviewing draft products for the STAC effort "Achieving Water Quality Goals in the Chesapeake Bay: An Evaluation of System Response". STAC will also receive a report-out from the workshop Incorporating Freshwater Mussels in the Chesapeake Bay Program Partnership, updates on the SRS process, and prepare the STAC letter to the CBP Executive Council.

STAC 2020 Remaining Quarterly Meeting Dates

All dates are subject to change in response to COVID-19 and time needed to complete the SGA effort.

September 15-16, 2020
December 14-15, 2020

Workshops:

FY2019 STAC Workshops have all concluded. The workshop titled Satellite Image Integration for the Chesapeake Bay SAV Monitoring Program has cancelled its final fourth session. The report will be based on the findings from the previous three sessions of the workshop, with intentions to provide updates after Summer 2020 initial collection of test satellite imagery

FY2020 STAC Workshops: Approved Proposals

STAC released an RFP for FY2020 workshops in December 2019 and received 3 proposals. During the March quarterly meeting STAC members reviewed the initial scores and comments, and voted to approve the 3 proposals. Planning for FY2020 workshops will begin June 1, 2020.

1. *Understanding Genetics for Successful Conservation and Restoration of Resilient Chesapeake Bay Brook Trout Populations*
2. *Advancing Regenerative Agriculture: Exploring Barriers and Incentives to BMP Adoption*
3. *Overcoming the Hurdle: Addressing BMP Implementation Through a Social Science Lens*

In May of 2020, STAC received an additional proposal that will be considered for approval at the June STAC Quarterly Meeting.

4. Assessing the Water Quality, Habitat, and Social Benefits to Green Riprap

Upcoming Reports:

STAC is working to finalize the following five reports. Information regarding workshops held prior to January 2018 can be found on the STAC archived workshop homepage.

1. Linking Wetland Workplan Goals to Enhance Capacity, Increase Implementation (FY2015)
2. Assessing Uncertainty in the CBP Modeling System (FY2015)
3. Comparison of Shallow Water Models for Use in Supporting Chesapeake Bay Management Decision-making (FY2015)
4. An Analytical Framework for Aligning Chesapeake Bay Program Monitoring Efforts to Support Climate Change (FY2016)

5. Chesapeake Bay Program Climate Change Modeling 2.0 (FY2018)
6. Linking In-Field and Edge-of-Field Water Management to Soil and Watershed Health (FY2019)
7. Incorporating Freshwater Mussels in the Chesapeake Bay Program Partnership (FY2019)
8. Satellite Image Integration for the Chesapeake Bay SAV Monitoring Program (FY2019)

STAC Science Synthesis Update

Quantifying the impacts of past and future climate and eutrophication on the dynamics of dissolved oxygen in the shallow waters of Chesapeake Bay

Jeremy Testa
University of Maryland Center for Environmental Science
Chesapeake Biological Laboratory

We have primarily focused on the analyses suggested following our Synthesis Team/Steering Committee meeting on January 13-14 2020. This includes statistical analysis (CART, GAM) to determine climate and biogeochemical controls on daily oxygen depletion metrics, (b) computing metrics of ecosystem metabolism (e.g. primary production, respiration) from each station's oxygen time series, and (c) assembling and collating the data necessary to perform these analyses. We worked with Breck Sullivan and CBP staff to assemble the climatic data we need to associate changes in dissolved oxygen with climate variables. Using the North American Land Data Assimilation System (NLDAS), we obtained spatially-resolved precipitation, air temperature, and wind speed data that will help us discern how climate variables associated with dissolved oxygen variability. In addition, we obtained estimates of photosynthetically active radiation (PAR) from the European Centre for Medium-Range Weather Forecasts system (using ERA5). The ERA5 product provides spatially-resolved estimates of PAR in the Chesapeake Bay region, which we can use to understand how daily changes in PAR impact the photosynthesis-respiration cycle and hypoxia vulnerability. We are validating ERA5 PAR estimates with several local PAR records (Jug Bay NERR, Chesapeake Biological Laboratory, Horn point Laboratory) to ground truth the product, and initial comparisons are favorable

We have performed a wide variety of analysis of shallow water dissolved oxygen data to quantify hypoxia duration, tidal impacts on oxygen variability, and climatic and biological controls on oxygen variability. Below, we highlight three of these ongoing efforts.
(a) Wind-induced air-sea exchanges and biological control on dissolved oxygen: We have begun a series of analyses at test locations to understand and quantify interactions between climatic and biological variables in controlling oxygen surplus and declines. Wind-speed is well-known to control air-sea exchanges of oxygen, where high wind speeds lead to high air-water gas exchange, which pushes dissolved oxygen to equilibrium with the atmosphere. Under air-saturated conditions, oxygen is sufficient for habitat for most organisms. Using the Chesapeake Biological Laboratory pier as a test location, we computed the oxygen excess (defined as the observed O2 minus the air-saturated O2) and found that the oxygen excess was strongly related to wind speed on 15-minute to weekly time scales. At low wind speeds, which are common at this location, oxygen tends to deviate from air-saturation substantially, and daily excesses in oxygen (supersaturation) are associated with high chlorophyll (Figure 2, bottom right), indicating that high productivity actually increases oxygen in the shallow, well-mixed sites. We will apply this method across all other stations to identify patterns of productivity that relate to high and low oxygen extremes.
(b) We have also used a numerical approach to remove the tidal signal (M2 – primary lunar, S1 – primary solar) from diurnal oxygen data, allowing us to isolate oxygen changes associated with biological and physical responses to external forces. We have applied this approach to three test

stations before applying it Bay wide.
(c) We have also developed CART models that statistically identify significantly different groups of oxygen conditions associated with different magnitudes of controlling variables (Figure 4). We have applied this approach to three test stations thus far, and used tide-corrected oxygen conditions, measured (raw) oxygen concentrations, and daily computed hours of hypoxia as independent measures of oxygen. These models provide a single framework to determine the most significant controlling factors (e.g., PAR, temperature, precipitation) at a given station. For example, a test of this approach in Monie Bay reveals that water temperature and salinity are the primary controls on DO saturation (after tidal correction), especially when considering a three day lag (PAR is important without lags). Here, DO saturation is lower (tide-corrected residual DO saturation = -1.21%) at water temperatures above 20.8 degrees C and at higher salinity. Additional work will help to apply this approach across all stations and to interpret the mechanisms behind these statistical results.

Products to date and future activities: We have generated a substantial collection of numerical analysis tools that quantify biological and climatic control on dissolved oxygen in shallow waters. We have applied these tools to a subset of stations and will soon apply these tools across all ConMon stations in Maryland. We continue to collaborate with CBP staff to share tools and co-organize research to analyze the shallow water data toward better understanding habitat and criteria attainment and how they have/will change under recent and future conditions. After a break during the COVID-19-related changes in work structures, we will resume communication with our steering committee in May 2020.

Goal Implementation Team, STAR and Communication Workgroup Updates

Indicators
The following indicators were updated since the April Management Board meeting.

Indicator	*Statement of Status/Progress*	*Link*
Water Quality Standards Attainment	An estimated 38% of the Chesapeake Bay and its tidal tributaries met water quality standards during the 2016-2018 assessment period. This score is lower than the record high of 42% during the 2015-2017 assessment period but is still the fifth highest estimate of water quality standards attainment since 1985. A decline in open water dissolved oxygen in a large area of the Bay impacted the attainment results. Open water habitat in a large area of the Bay failed to meet its standards in this period which had a big effect on lowering the indicator score. However, dissolved oxygen conditions in deep water habitat and surface chlorophyll *a* measures improved from the 2015-2017 assessment period which may indicate increasing resilience in the Bay ecosystem. Nonetheless, water quality measures remain far below the 100%	https://www.chesapeakeprogress.com/clean-water/water-quality

	attainment necessary to fully support survival, growth and reproduction of its living resources, and 62% of tidal waters are estimated to be impaired during the 2016-2018 assessment period.	
Pollution Loads and River Flow	Bay water quality is influenced by nutrient and sediment loads delivered from the watershed, which are influenced by land use, land management and river flow. Between October 2017 and September 2018, river flow to the Bay measured an above-average 70.5 billion gallons per day. Generally, when the watershed receives more rain and river flows increase, the water carries more sediment and nutrient pollution than usual. Greater flows increase pollution loads received by the Bay. This remained true from October 2017 to September 2018 as approximately 423 million pounds of nitrogen, 42.1 million pounds of phosphorus and 15,689 million pounds of sediment reached the Bay: a 66%, 181% and 262% increase from the previous year, respectively. These higher nutrient levels feed algae blooms and result in larger dead zones than drier years. The highly variable weather-dependent changes in the amounts of nitrogen, phosphorus and sediment entering the Bay from its watershed from year to year increases the importance of analyzing trends over time to understand whether the health of the Bay tidal waters is improving or declining.	https://www.chesapeakeprogress.com/clean-water/water-quality

Indicators that are likely to be updated before or close to the next Management Board meeting include:

- Oysters - update with 2019 data
- SAV – update with preliminary 2019 data and post final 2018 data
- Reducing Pollution Indicator - update with 2019 Progress Run data

Contact: Katheryn Barnhart, Barnhart.Katheryn@epa.gov

Fisheries Goal Implementation Team

The Sustainable Fisheries GIT focuses on advancing ecosystem-based fisheries management by using science to make informed fishery management decisions that cross state boundaries.

- Telemetry array: As part of an ongoing effort to establish a Chesapeake Bay mainstem telemetry array, tentative plans are in place to maintain three acoustic receiver gates to track species movements at the Bay mouth (maintained by partners in the lower Bay with NOAA support), Cedar Point (maintained by University of Maryland Chesapeake Biological Lab) and Bay bridge (maintained by Maryland DNR). The resulting database would be housed by the Mid-Atlantic Acoustic Telemetry Observation System (MATOS) via Smithsonian Environmental Research Center. An EPA Innovation grant proposal was put forward that would fund purchasing of needed acoustic receivers for the Bay bridge gate, allowing researchers to connect biological species movement data with physical water quality data and habitat conditions.

- Catfish: The Invasive Catfish Management Strategy is under review by the Fisheries GIT Executive Committee and expected to be approved as final in May. Remaining questions to be addressed include whether to develop a workplan outlining specific actions for jurisdictions and partners to take, if the strategy sufficiently addresses flathead catfish issues (blue catfish are the more widespread species of interest for recreational and commercial fishing), how to evaluate effectiveness of actions, and the acceptance of recommended management approaches by jurisdictions that are ultimately responsible for development

- Summer GIT meeting: The Fisheries GIT summer meeting, typically planned for June, is on hold and expected to be rescheduled around September. A decision will be made in the late summer based on current public health recommendations. The summer meeting traditionally focuses on blue crab management with results of the winter dredge survey. Discussions by the jurisdictions (MDNR, VMRC, and PRFC) continue as blue crab data are analyzed and the annual Advisory Report is prepared for public release.

Contact: Bruce Vogt; bruce.vogt@noaa.gov

Habitat Goal Implementation Team

The Habitat GIT works to restore a network of land and water habitats to afford a range of public benefits and to support priority species.

- The Habitat Goal Team held its spring meeting virtually on May 6th and 7th, 2020. The first day of the meeting was dedicated to discussing social science and behavior change and how they relate to the habitat restoration work being done throughout the watershed. The second day focused on updates from the SAV, Wetland, and Black Duck workgroups on recent work, updates to management strategies and work plans, and planned work and project ideas.

- The updated SAV Management Strategy and Workplan have been approved by the Habitat Goal Team. The workgroup has submitted these documents for public and signatory review.

- The Stream Health Workgroup will be meeting virtually on May 15th. At this meeting they plan to discuss potential GIT funding ideas as well as the calculation method of the Chessie BIBI. In

addition, the Stream Health Workgroup is still in need of a co-chair. The HGIT Co-Chairs asked the MB at the last meeting for nominees to serve as Co-Chair of the SHWG.

- The Mid Atlantic Panel on Aquatic Invasive Species met virtually on April 29, 2020. The focus of the meeting was on selecting projects to fund from the 2020 Small Grants program. Approximately $30,000 was available and three projects were selected to fund. The panel also heard updates on previously funded projects and from the National Aquatic Nuisance Species Task Force.

Habitat GIT Contact: Jennifer Greiner, jennifer_greiner@fws.gov

Water Quality Goal Implementation Team

The Water Quality GIT works to evaluate, focus and accelerates the implementation of practices, policies and programs that will restore water quality in the Chesapeake Bay and its tidal tributaries to conditions that support living resources and protect human health.

The WQGIT held a meeting on April 27, 2020. A subset of topics is listed below:

- WQGIT leadership will add COVID- 19 updates / impacts as a standing agenda item for the next few monthly meetings.
- WQGIT approved including CB6 and CB7 Open water as part of the Climate Change Policy allocation options as long as CBF approves after review.
- Prior to the May 26th WQGIT meeting, members should review the climate change documents (see April WQGIT meeting page) and provide feedback to Gary Shenk on the following allocation options:
    - Include responsibility for WWTP loads
    - Reduce watershed loads first and allocate the rest
    - 2025 or 2035
- Lew Linker and Gary Shenk will put together a document that explains the path forward for anticipated changes to the shallow water modeling.
- The Management Board charged the WQGIT with forming a BMP Verification Ad- Hoc action team. These meetings will potentially be held the 2nd Monday of the month. WQGIT members and the Advisory Committees are asked to identify a representative to serve on this ad-hoc action team by COB May 15, 2020. Please send their contact information to Hilary Swartwood (swartwood.hilary@epa.gov).
- WQGIT members should send feedback to Scott Phillips (swphillips@usgs.gov) and Emily Majcher (emajcher@usgs.gov) regarding CBPs draft response to the STAC *Integrating Science and Developing Approaches to Inform Management for Contaminants of Concern in Agricultural and Urban Settings* Report.

The WQGIT will hold a conference call on May 26, 2020. A subset of topics to be discussed includes:

- Challenges during COVID-19
- Climate Change Policy Allocation Options
- GIT Funded Project Submissions

- SRS Review
- Non-urban stream restoration

Contact: Lucinda Power, power.lucinda@epa.gov

Healthy Watersheds Goal Implementation Team

The goal of the Maintain Healthy Watersheds Goal Implementation Team (GIT 4) is to maintain local watershed health across a range of landscape contexts. With this goal, GIT 4 intends to bring attention to the challenge of protecting streams and watersheds that are healthy today. This initiative complements the "dirty waters" approach which focuses on restoring impaired waters.

- Next meeting: The HWGIT will be meeting on Wednesday, May 27, and include a review of the Chesapeake Healthy Watersheds Assessment, share some initial FY20 GIT Funding project ideas, share progress on the Healthy Watersheds Assessment and next steps and revisit our vision, roles and goals as team.

- CHWA: HWGIT coordinator drafted a scope of work for a CHWA visualization project with input from the GIS and web teams and working with related outcomes on using CHWA data to help inform other work. In addition, the HWGIT coordinator and staffer are working on a Healthy Watershed Literature review as well as a project with EPA to help visualize the assessment through story maps.

- Stream Health: There has been some recent collaboration with the Stream Health Workgroup on potential GIT funding projects and working towards better integration and communication in general on how the two groups can support each other. A shared session with the stream health workgroup, USGS and the HWGIT coordinator will be part of the Chesapeake Community Research Symposium (online June 8-10th). A description of our shared session can be found here: https://ccmp2020.chesapeake.org/2020/01/06/approaches-for-maintaining-and-improving-chesapeake-bay-stream-and-watershed-health.

- Finance: The HWGIT Coordinator and staffer closed the Chesapeake Watersheds Conservation Finance Intensive Workshop an FY18 GIT funding project with The Conservation Finance Network, Land Trust Alliance, and the Chesapeake Conservation Partnership, materials will be posted to the web soon.

- R: The Coordinator/Staffer both attended an introductory R training hosted by EPA Region 3 staff, covering the basics of the application which helps improve data management, data analysis, visualizations, and workflow automation.

- Grant proposals: They will also be reviewing grant proposals for the 2020 NFWF Chesapeake Bay Stewardship Fund, providing input and guidance to help maximize opportunities to advance existing goal team efforts.

Contact: Renee Thompson; rthompso@chesapeakebay.net

Foster Stewardship Goal Implementation Team

The Fostering Stewardship GIT promotes individual stewardship, supports environmental education for all ages, and assists citizens, communities and local governments in undertaking initiatives to achieve restoration and conservation in the Chesapeake region. It aims to build public support of restoration efforts and increase citizen engagement and active stewardship.

- Chesapeake Conservation Partnership
    - The Chesapeake Conservation Partnership and GIT 5 Leadership have been working with partners to revise the 2020-2021 Logic & Action Plan.
    - The workgroup continues to add Chesapeake Conservation Success Stories to it's new platform success.chesapeakeconservation.org. Management Board Members can email Olivia Wisner (wisnero@chesapeake.org) if they have a Conservation Success Story that they'd like to be developed.

- Citizen Stewardship Team
    - In response to its Quarterly Progress Meeting in February, the Citizen Stewardship Team has been working to draft its 2020-2021 Logic and Action Plan. The updated Logic and Action plan will be available for public comment on Chesapeake Decisions starting May 12th.
    - Workgroup Chairs Kacey Wetzel and Suzanne Etgen have been working closely with Amy Handen (EPA) to brainstorm ways to integrate social science into the Chesapeake Bay Program.
    - The Stewardship workgroup has continued work on the web-based tool to house and promote the use of the stewardship index data set. This project (generously supported by GIT funding) will ensure the development of a hub for social science tools and information for the Chesapeake Bay Program

- Education Workgroup
    - The Education Workgroup has prepared Narrative Analyses and Presentations for the Student, Environmental Literacy Planning, and Sustainable Schools Outcomes in preparation for the Quarterly Progress Meeting with the Management Board on May 14th.
    - The Outdoor Learning Network Initiative (OLNI) was launched in September, 2019 to increase sustained and systematic Environmental Literacy instruction in underserved districts. The first local networks include (1) Berkely, Jefferson and Morgan Counties, WV, and (2) Lancaster County, PA. The OLNI project is advised by the Education Workgroup and consistent with Stewardship GIT goals. This effort continues during the current health crisis through virtual meetings with school staff and partners.
    - The Education Workgroup continues to analyze data from the biennial Environmental Literacy Indicator Tool (ELIT) survey. This data is crucial for assessing the needs and directing resources for planning student environmental literacy activities and sustainable schools.

- Public Access Planning Team

- In response to the feedback received during the workgroups Quarterly Progress Meeting in February, the Public Access Team is drafting the 2020-2021 Logic and Action Plan. The updated Logic and Action plan will be available for public comment on Chesapeake Decisions starting May 12th.

Diversity Workgroup

- The Diversity Workgroup recently held a series of calls to discuss and confirm actions in the Diversity 2020-2021 Logic & Action Plan. The near final Logic & Action Plan will go out for public comment this month before it is finalized in June.

- The workgroup is also pursuing a path forward for formal endorsement of the CBP Diversity, Equity, Inclusion, and Justice (DEIJ) Strategy. The workgroup is currently working with the Management Board and others to develop and adopt a DEIJ Statement for the CBP, one of the priority recommendations in the DEIJ Strategy.

- In addition, workgroup leaders have begun discussing ideas for a project proposal to be included in this year's 2020 Goal Implementation Team Funding.

Diversity workgroup contact: Francesca King; king.francesca@epa.gov

Contact: Olivia Wisner; olivia_wisner@nps.gov

Enhance Partnering, Leadership and Management Goal Implementation Team

The goal of the Enhance Partnering, Leadership and Management GIT is to continually improve the governance and management of the CBP Partnership.

Chesapeake Bay Program Strategy Review System

ChesapeakeDecisions was launched in July 2019 in support of the Strategy Review System (SRS). ChesapeakeDecisions is a tool that promotes transparency and guides the Chesapeake Bay Program's Goal Implementation Teams (GITs) and Management Board members through the Strategy Review System; a structured process that applies adaptive management to our work toward the *Chesapeake Bay Watershed Agreement*. All SRS documents, including schedules and materials relating to the Quarterly Progress Meetings, can be found on ChesapeakeDecisions.

The Next-Generation Stewards Cohort is currently going through the SRS process. Their Quarterly Progress Meeting will take place on May 14, 2020. Clean Water cohort will be the next cohort to undergo the process, starting in June 2020.

Contact: Doreen Vetter, vetter.doreen@epa.gov

Quarterly GIT 6 Meeting – Spring 2020

The GIT 6 Spring 2020 Quarterly Meeting took place on March 18, 2020 as a conference call. Agenda topics included: Organizational Analysis updates, Strategy Review System (SRS) process and facilitation updates, PSC-approved Governance Document language revisions, next steps toward documenting PSC-approved Outcome language revisions, and workgroup updates. The CBP Governance Document has been revised to include the PSC-approved language for the E.C. Directives Process and is posted online.
Contact: Dave Goshorn, david.goshorn@maryland.gov

FY 2019 GIT Funding

GIT 6 kicked-off the FY20 GIT Funding cycle with the Chesapeake Bay Trust in late April and released the Call for Ideas (Request for Ideas). GIT 6 and the Trust are planning a Project Idea Sharing and Q&A session on May 20 and Technical Lead training on June 2. Contact: Greg Allen, allen.greg@epa.gov or Chantal Madray, madray.chantal@epa.gov

Budget and Finance Workgroup

The Budget and Finance Workgroup (BFWG) Quarterly Meeting took place on April 29, 2020 as a conference call. Agenda topics included budget impacts as a result of COVID-19, Finance Forum feedback and next steps, and GIT Funding. Contact: Jim Edward (Co-Chair), edward.james@epa.gov; Dr. Elliott Campbell (Co-Chair), elliott.campbell@maryland.gov

Local Leadership Workgroup

The next Local Leadership Workgroup (LLWG) Quarterly Meeting will take place on May 12, 2020 as a conference call and joint meeting with the Communications Workgroup. Agenda topics will include Chesapeake Bay Awareness Week, GIT Funding project updates, and workplan updates. The workgroup is working toward developing cross-outcome watershed educational materials for elected officials through a FY19 GIT-funded project and is excited to start sharing these, and other vetted resources, via workshops, panels and roundtable discussions in collaboration with trusted sources.
Contact: Laura Cattell Noll (Coordinator), lnoll@allianceforthebay.org; Matt Pennington (Chair), MPennington@region9wv.com

GIT 6 Contact: Chantal Madray, madray.chantal@epa.gov

Scientific, Technical Assessment, and Reporting Team

The purpose of STAR (Scientific, Technical Analysis and Reporting) is to facilitate productive deployment of scientific resources, to provide timely, quality information to managers, and to expand communication between workgroups.

Climate Resiliency Workgroup

The Climate Resiliency Workgroup coordinator and staffers participated in the kickoff meeting for the FY19 GIT-Funded project, "Building a Bay-Wide Scorecard to Track Climate Resilience for Watershed Communities" with the RAND Corporation (grant awardee) and the Virginia Institute of Marine Science (subcontractor), on May 1, 2020. This project focuses on developing a scorecard that will allow watershed communities (inland and coastal) to track progress toward implementing climate adaptation efforts, the success of those efforts, as well as bring awareness of management actions to implement in the future. Representatives from the CBP Local Engagement Team, Local Government Advisory Committee, and STAR are participating on the advisory team to assist the Climate Resiliency Workgroup connect the project outcomes at the local level and structure the scorecard for decision-making. Additionally, the Climate Resiliency Workgroup met on April 20,2020 where the CBP Modeling Workgroup updated the workgroup on the proposed allocation method options to address climate change risk in the Chesapeake Watershed and tidal waters and presented Phase 6 climate modeling results. The next Climate Resiliency Workgroup meeting is on May 18, 2020 where invited speakers will

share data sources that could support the development of potential climate indicators related to stream condition and bay water temperatures. The workgroup will also be discussing climate resilience-related GIT-Funded ideas for FY20.

STAR

During the April STAR Meeting, STAR members provided feedback on a series of proposed new indicators for the University of Maryland Center for Environmental Sciences 2019 Chesapeake Bay and Watershed Report Card that evaluate the health of the watershed. A representative from the Student Environment Literacy, Environment Literacy Planning, and Sustainable Schools outcomes provided their SRS Quarterly Progress presentation planned for the May Management Board meeting. Participants at the STAR meeting provided constructive feedback on each presentation. STAC representatives also provided an update on their internal evaluation effort entitled Achieving Water Quality Goals in the Chesapeake Bay: An Evaluation of System Response. STAC plans to put together draft sections of documentation in Fall 2020. Finally, STAR members brainstormed possible proposal ideas for 2020 GIT Funding and STAR will follow up with each GIT lead on potential proposal ideas based on the science needs list. Next STAR meeting will be held on May 28th.

Modeling Workgroup

Modeling WG continues to develop a climate risk assessment of the Open-Water DO water quality standard and to develop potential approaches to allocate climate change risk nutrient loads as directed by the WQGIT. Next Modeling WG conf call will be held on May 21st.

The Integrated Trends Analysis Team (ITAT)

- Between April and June 2019, ITAT organizers will work with STAR to establish future priorities and activities based on outcomes from the SRS process.
- Monthly ITAT jurisdiction webinars on research findings relevant to Chesapeake Bay management continue. The purpose of these webinars is to communicate management-relevant research findings to the CBP Partnership's natural resource managers. December 2018 – March 2019 presentation topics included:
    - Agricultural Conservation Practice Implementation in the Chesapeake Bay Watershed Supported by the U.S. Department of Agriculture (Dean Hively, USGS)
    - A pilot implementation of high frequency nutrient monitoring to assess effects of large storms (Lora Harris, UMCES)
    - Assessing urban BMP function, performance, and delivery of co-benefits to stream ecosystems (Rosemary Fanelli, USGS)

Contact Jeni Keisman (jkeisman@usgs.gov) for more information.

Integrated Monitoring Network

The NTN WG held a conference call on January 29, 2020. Budget priorities were discussed for sustaining the long-term network operations, at-risk station support for Conococheague Creek, MD – a site with over 100 years of monitoring information in our watershed that could be discontinued without funding beyond the present FY, and multi-agency interest in siting a water quality monitoring site on Chiques Creek, Lancaster County PA where NRCS is setting plans in motion for significant stream BMP implementation. Assessment of water quality change from high density BMP implementation activity is

of interest across the CBP partnership making the location an important potential monitoring site to add to the NTN if long-term funding can be identified. Susquehanna River sampling report, NTN audit plans and plans for a summer face-to-face NTN meeting rounded out meeting discussions. Tentative agenda items for the summer face-to-face meeting include 1) an update on status and trends across the watershed – explaining linkages between the watershed and bay, 2) remote sensing advances in water quality assessments, 3) NGWOS – the Delaware basin and possibilities for the Chesapeake, and 4) opportunities for integration into citizen science/nontraditional partner data collection on macroinvertebrates at long-term water quality monitoring sites.

STAR Contact: Cuiyin Wu; cwu@chesapeakebay.net

Communications Workgroup

The Communications Workgroup provides strategic planning and expert advice to support the communication needs of the Chesapeake Bay Program partners, and spur public action through consistent messaging, expanded media coverage, use of multimedia and online tools, comprehensive branding and promotion, outreach to stakeholders, and coordinated internal and external communications.

Communications Workgroup:

The Communications Workgroup held its monthly meeting on May 12. This was a joint meeting with the Local Leadership Workgroup (LLWG). We discussed the local engagement needs and resources assessment, an ongoing GIT-funded project the LLWG is leading to create educational materials for local leaders, and this year's Chesapeake Bay Awareness Week. We also coordinated shared messaging around American Wetlands Month and World Migratory Bird Day (May 9).

Communications Office and Web Team:

We are happy to announce our new Web Content Specialist, Jake Solyst, joined us on April 27. Jake has several years of content production and social media experience. He holds a B.A. in Mass Communication from and is enrolled in a Professional Writing M.S. program at Towson University. You can reach Jake at jsolyst@chesapeakebay.net.

We will also be welcoming two summer interns to the Communications Office beginning on June 1— Myra McAdory, a graduate student at the University of Delaware, in communications and Carlin Stiehl, a graduate student at Ohio University, in multimedia.

On Wednesday, May 13, the Communications Office released the annual update to the Water Quality Standards (WQS) Attainment indicator. The WQS indicator is measured through water clarity (underwater grass observation), chlorophyll *a* (a measure of algae growth) and dissolved oxygen. Data from the most recent assessment period, 2016-2018, showed that the water quality of the Bay fell from a record-high 42% to 38%.

Last month, we published the latest in a series of climate vignettes. The video focuses on the connection between climate change and agriculture by highlighting Schrack Farms in Clinton County, Pennsylvania. Schrack Farms, which is part of the No-Till Alliance, also was an early adopter of a methane biodigester to generate electricity and reduce emissions. These vignettes will later form a larger Bay 101 video on climate resiliency across the watershed.

The Communications Office published the following blogs in April

- Ten Chesapeake species with unique nicknames: These creative names will bring some joy to your day
- For bees and other wildlife, a stretch of sand is a land of plenty: Biologists visit a forgotten landscape that offers valuable habitat
- Uncover nature's secrets from your own backyard: From observing wildlife to identifying plants, community science offers options for all
- A garden for healing patients and the river: In Baltimore, a hospital's green space aids recovery and filters stormwater pollution
- Wooded wetlands host amphibians aplenty: The wood frog is an early-season visitor to vernal pools
- Planting buffers for the future: Multifunctional buffers are a win-win for the environment and economy
- Access to green space makes social distancing a little easier: At the same local park, the landscape changes every day if you look closely
- Eight springtime wildflowers you can eat: These tasty plants may be growing in your own backyard
- Taking the wide view shows we're all connected: Large and small moments help us understand our environmental impact
- Eight ways to explore the Chesapeake Bay from home: Can't get outside? Here are eight ways to access the Bay from the comfort of your couch
- With help from a massive metal grinder, a dairy makes energy from food waste: Reinford Farms in central Pennsylvania finds many uses for its methane digester
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Communications Contact: Rebecca Chillrud; rchillrud@chesapeakebay.net

Recent Meetings and Events

April 7-8	Modeling Workgroup quarterly review
April 9	Management Board meeting
April 16	Agriculture Workgroup conference call
April 20	Climate Resiliency Workgroup conference call
April 21	Wetlands Workgroup conference call
April 23	Scientific, Technical Assessment and Reporting (STAR) conference call (Next Generation Stewards SRS cohort practice presentations)
April 27	Water Quality GIT conference call
April 29	Budget and Finance Workgroup conference call
May 6	Forestry Workgroup conference call
May 6	Habitat Goal Team Spring 2020 virtual meeting
May 7-8	Chesapeake Bay Commission quarterly meeting
May 12	Local Leadership Workgroup conference call
May 14	Management Board meeting (Next Generation Stewards Quarterly Progress Meeting)