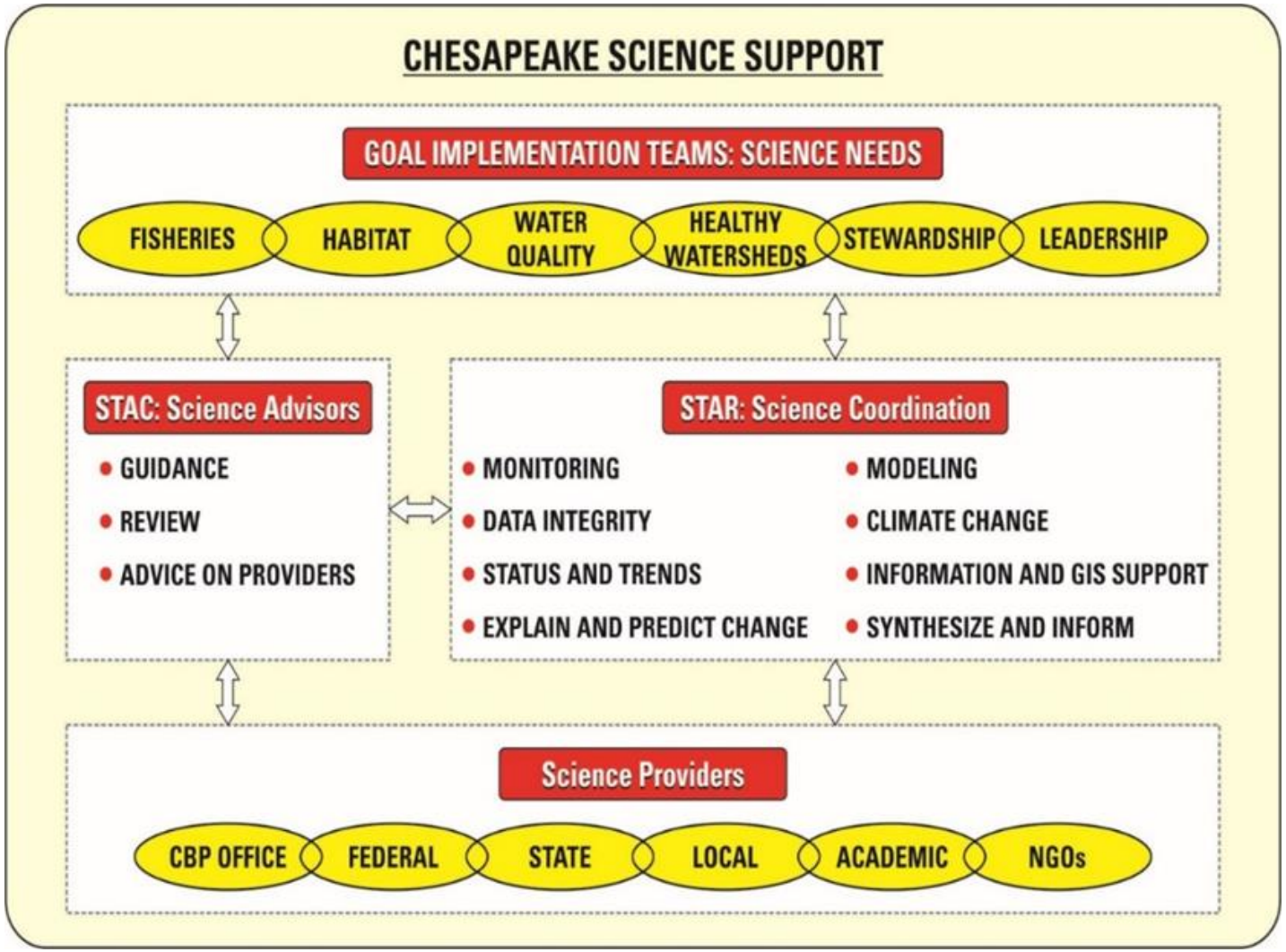
STAR Coordination Quarterly 7/20/2023



STAR Organizational Structure and Leadership

7/20/2023

Scientific, Technical Assessment and Reporting (STAR) Team
Co-Chair – Ken Hyer, USGS
Co-Chair – Bill Dennison, UMCES
Vice-Chair – Kim Van Meter, Penn State
Coordinator – Breck Sullivan, USGS
Monitoring Coordinator – Peter Tango, USGS
Staffer – Alex Gunnerson, CRC
Staffer – August Goldfischer, CRC

EPA Science Branch – Kaylyn Gootman, EPA
GIS Team Lead – John Wolf, USGS
Data Center – Brian Burch, EPA

Workgroups

Climate Resiliency (CRWG)	Criteria Assessment Protocol (CAP)	Data Integrity (DIWG)	Integrated Monitoring Networks (IMN)	Integrated Trends Analysis Team (ITAT)	Modeling Workgroup (MWG)	Status & Trends (STWG)
Mark Bennet & Jackie Specht USGS & MD DNR Julie Reichert-Nguyen NOAA Jamileh Soueidan CRC	Peter Tango USGS August Goldfischer CRC	Cindy Johnson VA DEQ Durga Ghosh EPA August Goldfischer CRC	Peter Tango USGS August Goldfischer CRC	Breck Sullivan & Kaylyn Gootman** USGS & EPA Alex Gunnerson CRC	Mark Bennet & Dave Montali USGS & Tetra Tech Lew Linker EPA Alex Gunnerson CRC	Katheryn Barnhart & Doug Bell** EPA Alex Gunnerson CRC

Bay Oxygen Research Group (BORG)	Hypoxia Collaborative	Nontidal Network (NTN)	Chesapeake Monitoring Cooperative (CMC)
Peter Tango USGS August Goldfischer CRC	Peter Tango & Bruce Vogt USGS & NOAA Bailey Robertory & August Goldfischer CRC	Peter Tango USGS August Goldfischer CRC	Liz Chudoba Alliance for the Chesapeake Bay

Key: Workgroup
Chair *Coordinator*** *Staffer*
**ITAT and STWG have two co-coordinators.

STAR

Statement of Purpose: *Increase collaboration* among science providers *to provide monitoring, modeling, and analysis* needed to update, explain, and communicate ecosystem condition and change *to support the Chesapeake Bay Program Goal Teams*.

Key 2023 Efforts

- Promote collaborative efforts to better understand how management approaches can benefit multiple CBP outcomes, with a focus on habitats and living resources. Share tools and approaches in an accessible manner while providing a platform for discussion.
- Engage STAR workgroups and a larger breadth of science providers for meeting CBP science needs by increasing science capacity through programs such as MOUs and informal partnerships.
- Support the science component of the Beyond 2025 effort.

CBPO GIS Team

Statement of Purpose: Provide (1) geospatial analysis support associated with the Chesapeake Bay Watershed Agreement and (2) geographic science research to support Themes 3 and 4(b) of the Chesapeake Science Strategy.

Key 2023 Efforts

- Updated high-resolution 2017 land use and 2013-2017 land use change products
- Updated the Chesapeake Healthy Watersheds Assessment 2.0
- Developed metrics for the State of Chesapeake Forests 2.0
- Published an Impervious Surface and Impervious Change Indicator
- Provided geospatial review for proposed GIT funding projects and other GIT and workgroup activities
- Provide geospatial support for geographic targeting associated with Cross-GIT and other efforts potentially aligned with new funding opportunities
- Participated in development of Chesapeake Data

CBPO Data Center

Statement of Purpose: The CBP Data Center will continue to enhance data systems and tools to more effectively manage, share, and access data. The Data Center will continue its core function to manage information to support the needs of CBP. The data center will have to expand partnerships with other providers to effectively manage and share information needed by the CBP to address the outcomes in the 2014 Chesapeake Bay Watershed Agreement

Key 2023 Efforts

1. Data exploration work/supporting ChesapeakeData launch
2. Multi-cloud exploration (specifically Azure, and where it can benefit our work)
3. Ensuring adequate IT support and infrastructure through contracts and grants to support CBP’s mission

Climate Resiliency Workgroup

Chair: Mark Bennett, USGS and Jackie Specht, Maryland DNR
Coordinator: Julie Reichert-Nguyen, NOAA
Staffer: Jamileh Soueidan, CRC
Support: August Goldfischer & Alex Gunnerson, CRC

Chesapeake Bay Watershed Agreement

Goal: *Climate Resiliency*

Outcome: *Monitoring & Assessment*

Continually monitor and assess the trends and likely impacts of changing climatic and sea level conditions on the Chesapeake Bay ecosystem, including the effectiveness of restoration and protection policies, programs and projects.

Outcome: Adaptation

Continually pursue, design, and construct restoration and protection projects to enhance the resiliency of Bay and aquatic ecosystems from the impacts of coastal erosion, coastal flooding, more intense and more frequent storms and sea-level rise.

Key 2023 Efforts

- Climate Change Indicators –
  - Nearly complete with updating Total Annual Precipitation and Average Air Temperature Indicators
  - With STWG Support/Coordination, CRWG is working with the LUWG and the WWG to develop a sea-level rise and tidal wetland impact indicator

- Rising Water Temperature STAC Workshop Effort-
  - Full report recently released
  - Coordinating with STAR and Watershed leads to compile list of science needs from the workshop effort
  - Communicating the Tidal report findings to internal and external partners (e.g., NOAA Fisheries webinar series, Fish GIT, WQGIT, Stewardship WG, LGAC, Fish Habitat Action Team, National Estuarine Program, Chesapeake Watershed Forum, Restoring America's Estuaries
  - Supporting the Extreme Stressors- Development of a Marine Heatwave Alert System; NOAA Climate Intern, Emily O'Keefe, is researching different definitions of marine heatwaves to determine which would be appropriate to utilize in the Chesapeake Bay and incorporating living resource threshold considerations into the analyses

Key 2023 Efforts

- GIT Funded Marsh Adaptation Project
  - Assisted contractor with outreach to external partners working in the marsh adaptation space in Maryland and Virginia
  - Assisted with development of mapping exercise to determine regional focus areas; August Steering Committee meeting will be reviewing potential focus areas as identified through first phase of the mapping exercise
  - Upcoming activity includes: selecting focus areas and develop and host workshop to identify collaborative large-scale marsh adaptation projects within focus areas

- Quantifying Resilience Effectiveness of Nature-Based Strategies
  - Hosted workgroup meeting with presentations on partner efforts (TNC/MD DNR, EPA ORD, UMCES) focused on defining and quantifying resilience effectiveness of nature-based strategies
  - Currently working with partners to develop potential project ideas and connect them with current and upcoming funding opportunities

Criteria Assessment Protocol (CAP)

Statement of Purpose: Prioritize and resolve water quality criteria assessment protocol questions from the partnership.

Key 2023 Efforts

- Continuing engagement with partners to sustain and enhance monitoring.
- Lead STAC Workshop series: Advancing Monitoring Approaches.
- Understand the impact of climate change on criteria assessment.

Data Integrity Workgroup (DIWG)

Statement of Purpose: Implement the Coordinated Split Sample program, blind audit and reference sample programs to assess water quality data comparability and data accuracy; Investigate potential analytical issues; Determine corrective actions to resolve data discrepancies; Explore new technologies for water quality analyses; Standardize field and laboratory techniques among agencies and nontraditional partners.

Key 2023 Efforts:

- Development of a crosswalk for current analytes reported to the Bay Program and laboratory specific methods and instruments used for analyses. This is expected to assist recruitment of additional labs and providing them information necessary to evaluate their capability to conform to defined project goals.
- Integration of new methods with defined quality objectives for use by non-traditional partners given the nature and resources at disposal for volunteer groups.
- In addition to the primary focus on external performance assessments, DI workgroup reviews will include field and laboratory precision and accuracy indicators.

Bay Oxygen Research Group (BORG)

Statement of Purpose: The Bay Oxygen Research Group assists in developing a new water quality interpolation tool to generate DO estimates across space and through time, improving upon the current spatial interpolation used in the Chesapeake Bay.

Key 2023 Efforts

- Continuing engagement with partners to sustain and enhance monitoring.
- Testing methods for the 4D interpolator and development.

Hypoxia Collaborative

Statement of Purpose: To design and implement a bay-wide high-frequency hypoxia profiling network to improve the monitoring and assessment of the Chesapeake Bay.

Key 2023 Efforts

- Deploy and maintain 3 new, real time hypoxia monitoring stations in the Choptank, mid Bay, and Potomac River and complete the Hypoxia Monitoring Implementation plan.
- Develop and recommend hypoxia sampling designs that enhance the partnership's ability to conduct criteria assessment, integrate new data streams with existing models and the 4D interpolator, and develop fishery management applications.
- Facilitate the production and dissemination of the annual Hypoxia Report.

Nontidal Network Workgroup (NTN)

Statement of Purpose: Manage Chesapeake Bay Program nontidal water quality monitoring networks and coordinate monitoring and assessment with additional networks to address the Chesapeake Bay Watershed Agreement.

Key 2023 Efforts

- Continuing engagement with partners to sustain and enhance monitoring.
- Optimization of nontidal stations.
- Improve historical data through nontidal stations.

Chesapeake Monitoring Cooperative (CMC)

Statement of Purpose: The CMC supports partners, communities, and individuals who want to collect, share, interpret, and use water quality and benthic macroinvertebrate data in order to integrate that data into the Chesapeake Bay Program partnership.

Key 2023 Efforts

- Provide continued support monitoring groups across the watershed and highlight local data uses.
- Develop a prioritization report that catalogues current data uses across jurisdictions and prioritizes future monitoring needs.
- Identify key barriers to entry for underrepresented communities and start to develop tools to overcome those barriers.
- Collect and sub-sample 20-30 benthic samples in under-sampled watersheds.

Integrated Trends Analysis Team (ITAT)

Statement of Purpose: Combine the efforts of the CBP analysts with our partners to identify potential research synergies and collaborations that will enhance our understanding of spatial and temporal patterns in water quality.

Key 2023 Efforts

- Conduct annual analysis of water quality trends at long-term monitoring stations throughout the Bay and tidal tributary waters.
- Preparation of tributary summaries and story maps.
- Share and communicate findings from tributary summaries and story maps with stakeholders.

Modeling Workgroup

Statement of Purpose: The Modeling Workgroup has a responsibility to the Chesapeake Bay Program Partnership to provide state-of-the-art decision-support modeling tools that are built through community and participatory principles. The responsible planning and management of resources to provide the best available decision-support modeling tools requires the Modeling Workgroup members and participants to adhere to these core values: integration, innovation, independence, and inclusiveness.

Key 2023 Efforts

- Complete building of watershed model structure and continue to improve watershed models
- Continue the interim development phase of the Main Bay Model and Multiple Tributary Models
- Collaborate with partners to support co-benefit modeling projects, like striped bass, SAV, human health (*vibrio vulnificus*) and others

Status and Trends Workgroup (STWG)

Statement of Purpose: Ensure the integrity of the Indicators Framework by fostering cross-outcome collaboration on adaptively managing and tracking progress towards the achievement of goals and outcomes.

Key 2023 Efforts

- Streamline the process of indicator development through information sharing and providing additional capacity for identifying new indicator development opportunities
- Update indicators to Chesapeake Progress and staff the indicators management process.
- Identify influencing factors and their relationship with indicators and outcome success.
- Inform beyond 2025 discussions around using outcome language that reflects capacity to measure progress