

# Addressing CBP Management Board Request to Prioritize CBP Science Needs: Moving Toward a Strategic Science and Research Framework.

Updated March 5, 2019

## Issue and Request from Management Board:

During the August 2018 with the Management Board (MB) meeting there was discussion about the science needs for climate resiliency, which led to the broader topic of what are the science needs for all the goals and outcomes of the Chesapeake Watershed Agreement. The MB wanted to better understand all the science needs that are being generated from the Strategy Review System (SRS), so they can help prioritize resources. The action from the August MB meeting was: *“The SRS small group will compile into a list the SRS data and science needs requests. This list will be shared with STAR and STAC leadership and the CBP associate directors for input. The Management Board will review the 2017-18 SRS requests to prioritize science and data needs. The Management Board will present their prioritization during the 2019 SRS Biennial meeting”*

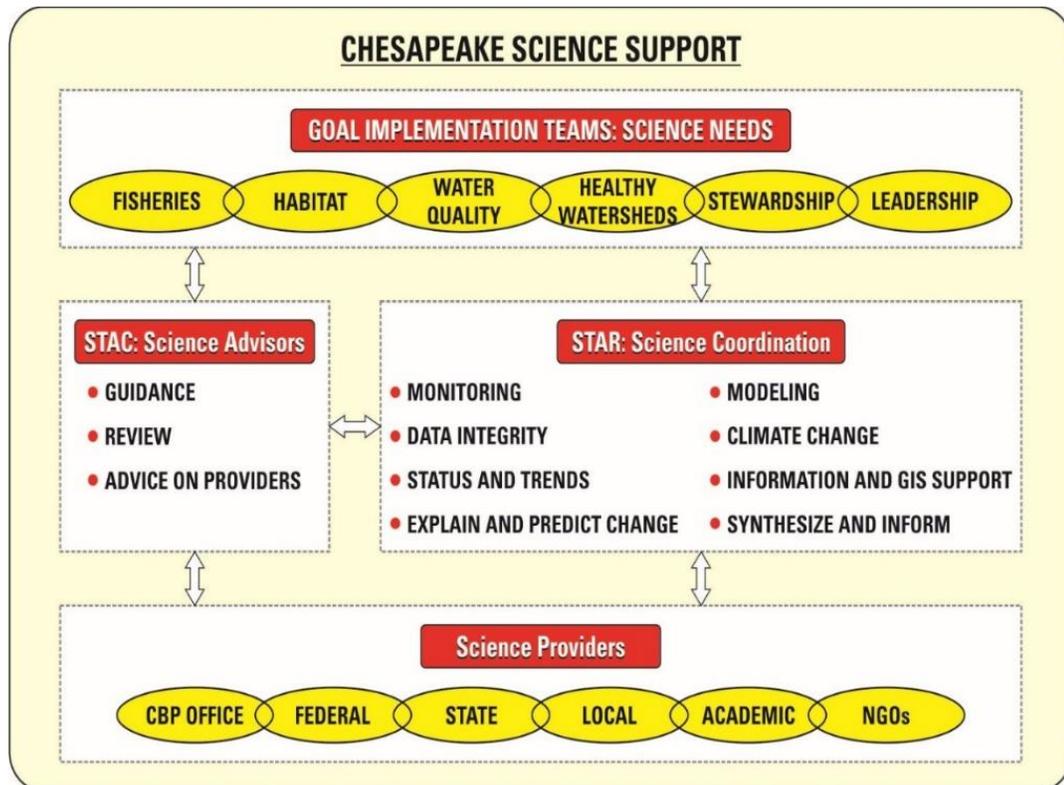


Figure 1. Current structure of science support within the Chesapeake Bay Program

In their initial discussions on addressing the MB request for prioritizing science needs, the GITs, STAR and STAC (figure 1) recognized the need for a broader, more strategic, holistic and on-going assessment of science needs of CBP. Some key issues included:

- The science needs across the CBP and the strategies to address them should be connected to the SRS decision framework.

- Needs should be assessed strategically and updated as CBP outcomes are reviewed by the MB every two years.
- Long-term fundamental science and research needs should be assessed in conjunction with the operational short-term needs associated with the outcomes and goals of the Program. Short-term needs tend to be on the operational side of GIT work plans and included development of indicators, analysis of existing information, GIS support, applications of models. Longer-term needs often relate to filling fundamental gaps in knowledge and understanding, and include monitoring of trends, development of new models, and research to better understand complex issues.
- There are opportunities to better engage the science providers who can address these needs, especially fundamental gaps in research, monitoring, and modeling.

### Recommended approach – develop a Strategic Science and Research Framework:

The GITs, STAR and STAC have worked together to develop an approach to address the MB request that will identify, and help prioritize, both short- and longer-term science needs. The approach will result in a Strategic Science and Research Framework that will be an on-going, repeatable process that supports the SRS decision framework. The results will be used to help focus existing science resources, and leverage the research enterprise, to more effectively provide science to advance Chesapeake restoration and conservation efforts and decision making. To develop the science and research framework and to address the immediate concerns of the MB, the following steps are proposed:

- Update understanding of currently identified science needs: Combine science needs from these efforts: (1) science items identified for each CBP outcome through the decision framework used in the SRS process, (2) GIT input on science needs that have been given to STAR, and (3) previous recommendations from STAC workshops that address operational and fundamental research needs.
- Conduct a resource assessment: Inventory how needs are currently being addressed by different science providers. The inventory will include looking at resources provided directly by the CBP and additional efforts by federal, state, and academic partners. The CBP funded efforts include support from the modeling, monitoring, and GIS teams, GIT grants, and cooperative agreements with states, federal agencies, and academic institutions. Additional efforts include agencies or academic institutions that directly fund Bay-related research and monitoring efforts.
- Prioritize GIT science needs that require more resources: The GITs will identify, and provide relative priorities, of operational and fundamental science needs that require additional resources. Operational needs examples are development of indicators, GIS support, data gathering, and analysis of existing information. Examples of fundamental needs might include advances in monitoring and research to address an outcome.
- Further identify and incorporate long-term fundamental research needs: In addition to the GIT needs, there are additional fundamental science needs that need to be brought forward. Examples include advances in monitoring and research to address a variety of knowledge gaps with implications for Bay management (e.g., predicting human behavior and incorporating characterized uncertainty/risk toward making more robust decisions). STAC will continue its effort to identify critical science needs and potential emerging issues through its various proactive and reactive efforts (e.g., workshops, reviews, and whitepapers).
- Develop a Strategic Science and Research Framework that supports the SRS process. The framework would provide a strategic approach to:
  - Continue to update the operational and fundamental science needs identified for CBP outcomes through the SRS process, and their quarterly reviews.
  - Assess existing efforts by science providers to address the existing and new needs
  - Identify, and prioritize knowledge gaps that need to be addressed.

- Recommend approaches for CBP and partner resources to address operational and fundamental science needs and knowledge gaps. The recommendations would be considered by the MB and CBP partnership for evolving the necessary resources (CBP teams, grants, contracts) and identifying opportunities for other potential science providers to align efforts or explore other funding to address the gaps.
- The results from the framework would be updated for each SRS biennial meeting.

### Applying the Recommendations of the Strategic Science and Research Framework.

The recommendations from the Strategic Science and Research Framework can be used for multiple purposes by the CBP and its partners:

**Management Board and the agencies they represent:** MB can suggest how the collective resources of CBP (grants, contracts by EPA) for monitoring and modeling should evolve. Agencies represented on the MB can identify their own resources to address science priorities (since many agencies have technical capabilities).

**Goal Implementation Teams and Workgroups:** Members can identify how the agencies they represent can evolve efforts to address science priorities of the GIT team or its workgroups. GITs can use the science priorities to identify topics for Goal Team RFPs.

**CBP Office:** Evolve EPA grants and contracts to address science needs. Evolve focus of CBPO modeling, monitoring, and GIS teams.

**STAR:** Update activities of STAR and its workgroups to address operational and fundamental science priorities to support Goal Teams. Help evolve directions for Citizens Monitoring Cooperative.

**STAC:** Inform STAC's focus for proactive and reactive efforts (e.g., workshops, reviews, and whitepapers). Individual members (or their institutions) can consider evolving their research directions or bring forward current findings to inform management decisions.

**Science Providers:** Current science providers can evolve their work to match CBP needs. Additional science providers can be identified based on their knowledge or experience with identified needs.

### Current Team Members:

As requested by the MB, a team has been created to carry out the process. The team includes members from STAR, STAC, and the Goal Teams. During each monthly STAR meeting, the team will engage the user community on moving the process forward. The team includes:

**STAR:** Scott Phillips (STAR Co-chair); Emily Trentacoste (STAR Co-Coordinator), Cuiyin Wi and Breck Sullivan (STAR staffers); Gary Shenk (CBP Modeling team), Peter Tango (CBP monitoring team).

**STAC:** Bill Ball - [ballw@chesapeake.org](mailto:ballw@chesapeake.org), Mark Monaco - [mark.monaco@noaa.gov](mailto:mark.monaco@noaa.gov), Tom Ihde - [Thomas.Ihde@morgan.edu](mailto:Thomas.Ihde@morgan.edu), Carl Hershner - [carl@vims.edu](mailto:carl@vims.edu), Kirk Havens - [kirk@vims.edu](mailto:kirk@vims.edu), Kurt Stephenson - [kurts@vt.edu](mailto:kurts@vt.edu)

**Goal Teams:** Coordinators/staffers from each GIT.

**SRS team:** Kristin Saunders (Cross Program Coordinator and SRS representative) and Laurel Abowd (MB Staffer)

## Target dates:

### 2018:

- **September:** MB request discussed with STAR and with SRS leaders.
- **October 31 Goal Team chairs meeting:** Chairs provided input on science prioritization.
- **Oct-Nov: Goal team updates of their science needs.**
- **Dec STAC meeting:** Presented MB request and got feedback from STAC. They suggested a more strategic process to identify both operational and fundamental science needs that is integrated with the SRS process. Identified STAC members to help with the effort.
- **Dec STAR meeting:** STAC presented their perspectives and discussed with Goal Teams and STAR. Collectively it was recommended to develop a strategic science and research framework that supports the SRS process.

### 2019:

- **During Jan:** Lack of progress due to partial shutdown of federal government.
- **Feb:** Refine Goal Team science needs and begin to integrate needs/recommendations from previous STAC workshops. Begin initial resource assessment to document how needs are being addressed by different science providers, which include CBPO staff resources, EPA contracts, federal and state partner programs, and academic research. Initial focus would be on CBPO staff resources and grants. Begin to identify science gaps.
- **Feb 14:** Introduce the concept of a “strategic science and research framework” to the MB and get feedback.
- **Feb 28 STAR meeting.** Refine concept of the “strategic science and research framework” based on feedback from MB. Prepare to present at the SRS March meeting. Update on science needs and initial assessment of CBPO resources, identify some major gaps that need to be addressed.
- **March 13-14 SRS meeting:** Get feedback on the concept of, and proposed approach for, developing and maintaining a Strategic Science and Research Framework. Get preliminary feedback on the initial list of science gaps as identified to date by the GITs."
- **March-May:** Integrate science needs based on STAC workshop with GIT needs. Monthly interaction at the STAR meetings
- **June:** share integrated list of science needs with STAR and STAC. Discuss how to identify and integrate longer-term science needs
- **July-August:** Conduct more comprehensive resource assessment of how multiple science providers are addressing existing integrated science needs. Monthly interaction at the STAR meetings.
- **August-Sept:** Identify opportunities to evolve CBP and science providers efforts to address existing integrated science. This will occur during monthly STAR meetings
- **Fall:** Present opportunities and recommendations for evolving science to MB and Goal Teams. Take actions as opportunities arise.
- **Fall:** Institute process for Strategic Science and Research Framework.

### 2020-21

- **2020-2021:** Repeat process as outcomes are reviewed by MB, be ready to provide updated results from the Strategic Science and Research Framework for 2021 SRS biennial meeting.

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