
**Chesapeake Bay Program
Science and Technical Advisory Committee
Technical Review of the Chesapeake Bay Program's Monitoring
Program: Lessons Learned from the Monitoring Re-Alignment
Process**

Authors: Dr. Denice Heller Wardrop-Chesapeake Bay Program Science and Technical Advisory Committee and Kent Thorton-FTN & Associates



12 October 2009

Background

The Chesapeake Bay Program (CBP) Science and Technical Advisory Committee (STAC) has been involved in a review and realignment of the CBP monitoring program since March 2008. The STAC formulated a process to:

1. Identify the priority management endpoints being used by senior managers in decision-making and assessing progress toward attaining CBP goals;
2. Re-examine, and if necessary re-align, the monitoring information needed to support decision-making regarding these management endpoints; and
3. Establish protocols for the disinvesting and reinvesting of monitoring program resources, if re-alignment is necessary, and, through adaptive management, periodically repeating this review process.

The technical review was conducted in two phases. The first phase involved the identification and confirmation of management endpoints. The second phase involved realigning the tidal/non-tidal monitoring program to provide information that would inform decisions and track progress in achieving these management endpoints. The technical review process and outcomes were documented in several STAC reports (STAC 2009 a-d).

A Monitoring Realignment Action Team Summit was held on 7 October 2009 to report the results of the monitoring disinvestment and reinvestment activities and present the proposed realigned monitoring program that will be submitted to the CBP Management Board on 10 November 2009. In addition to the realignment discussions, a Lessons Learned session was also conducted during the Summit. This White Paper provides a summary of the STAC lessons learned as part of the monitoring program technical review. The lessons learned were identified for both phases: Management endpoints; and Monitoring realignment. These lessons learned are presented below and reflect the STAC perspective only. A similar lessons learned exercise with the managers would be informative.

Management Endpoints

The STAC lessons learned through discussions with CBP senior managers on the management endpoints and priority issues during two workshops are listed below. These lessons learned are not listed in order of importance and reflect the STAC perspective only:

- It is possible, with sufficient notice and tenacity, to schedule meetings with senior managers in the CBP. Getting commitments of a critical mass of senior managers was instrumental in getting commitments from other senior managers to attend.
- Identifying the important management endpoints and decisions was critical for the technical review process. Senior managers are serious in their desire to make effective management decisions using monitoring information, but they typically are not asked for their priority management endpoints or critical environmental issues related to managing the Chesapeake Bay watershed.

-
-
- Engaging the senior managers was necessary to ensure programmatic changes would occur in realigning the monitoring program. Understanding the information needs of senior managers permitted a scientific focus on indicators that related directly to management endpoints and decisions.
 - Senior managers communicated the importance of being able to demonstrate immediate benefits and early successes to the public and stakeholder groups from these management decisions.
 - Shorter, more frequent interactions with senior managers are preferred over less frequent, but longer meetings. The urgency of information needs and critical issues can change quickly within the political arena, so scientists need to reaffirm management priorities at each of these meetings.
 - Scientists need to determine where the senior managers obtain their information, how they use it in making decisions, and how often they refresh that information for decision-making.
 - Senior managers operate in a whirlwind of issues, of which the Bay is one. It is an important issue, but it is only one of many pressing environmental issues they are managing, so communication with senior managers must be succinct, relevant, clear, and understandable. Where possible, both negative and positive management implications of the monitoring information need to be communicated.
 - Scientists need to more clearly articulate their findings. These findings are most useful when they are presented as a synthesis of scientific information and consensus among Bay scientists. Managing manager expectations is a critical part of this communication process.
 - In addition to providing information on early successes, it must be continually reinforced that lags in the response of the estuary are expected. There are multiple time and space scale lags in the system and improvements in the tidal portion of the Bay will take time.
 - 2-year assessments of progress are going to become the norm. Managers are going to be asked for outcomes and measures of success on 2-yr increments. Bay scientists need to help select appropriate metrics and measures of both outcomes and outputs that show progress over 2-year intervals. It will also be important to provide realistic expectations for these 2-year intervals. (See the bullet point above on multiple time-space scales).

Monitoring Realignment

The STAC lessons learned through the process of disinvesting and reinvesting of the tidal and non-tidal monitoring program are listed below. As above, these are not listed in order of importance and reflect the perspective of STAC scientists only:

- Bay scientists do care about the Bay. Their concerns include social and economic consequences as well as environmental consequences.
- Scientists can provide timely, quality management-relevant results, within budget when high priority issues are raised. The realignment process occurred over a six month period.

-
-
- The weekly conference calls and integrating virtual meetings with face to face were critical in sustaining the commitment to the monitoring realignment process and meeting schedules and milestones.
 - Monitoring data are being used by Bay scientists for publications, but underlying management implications are not always captured and conveyed to senior managers to use in decision-making. Case studies can help managers see the broader implications of management actions.
 - Synthesis is critical. A synthesis center would be an excellent way for interdisciplinary results to emerge from Bay monitoring (tidal + non-tidal). The Monitoring Realignment helped drive home the value of the interactions among tidal and nontidal scientists. However, synthesis is not free – it requires time, money, and personnel and it is a difficult process.
 - Ad hoc interactions among scientists can get things done in the short-term, but this is not a viable approach for synthesis activities.
 - Scientists need to identify, explain, and clearly communicate not only the management relevance of the monitoring results, but also the important, missing information that could fundamentally change management decisions.
 - Shorter, more frequent meetings among scientists are as important as shorter, more frequent meetings with senior managers. Scientists need these meetings to synthesize information and prepare meaningful findings and outcomes for senior managers.
 - With 2-year milestones and assessment increments, a proactive perspective is needed to be forward thinking about new monitoring approaches and indicators that quickly indicate the outcomes of management decisions.
 - While the realignment focused on the monitoring program and the interactions among the watershed and tidal monitoring efforts, similar discussions need to look at the interaction of the monitoring program with the habitat restoration, ecosystem-based fisheries management, and other Bay action goal areas. Going through the realignment process provided valuable insight for Bay scientists into many other on-going studies, issues, and opportunities for collaboration with other scientists and institutions.
 - A balance needs to be reached between the process of providing information on short-term, high priority or crisis issues and a proactive process that gets ahead of the curve to provide information on emerging issues and important, but longer term issues.
 - Senior managers must understand that research is an integral component of monitoring within in the Bay Program. It is this research that is critical in being able to identify, understand, and document success.

Sustaining the Senior Manager – Scientist Interactions

There was consensus among the scientists that sustaining the interactions with senior managers in the CBP is desired and beneficial. There were several suggestions on how these interactions could be sustained:

1. Ask the CBP Management Board to buy-in to more frequent meetings and interactions with Bay scientists. It was suggested the STAC prepare a

proposal with specific request and options for continuing these interactions, which might include:

- a. How these interactions might occur (e.g., through STAC, TSS, Synthesis Center)
 - b. TSS replacing the Monitoring Realignment Action Team
 - c. The role that STAC would play
 - d. The benefits to senior managers from continuing this process, which might include frequent updates on:
 - 1) Status on current issues
 - 2) Emerging issues
 - 3) Effect of gaps/uncertainty on their decisions
2. See if an on-call process can be set up through STAC to answer management questions as they arise, rather than waiting until the next management-scientists meeting.
 3. Ask senior managers to consider funding cycles as part of these on-going interactions.