Independent Evaluator

Water Quality

Goal Implementation Committee Presentation

November 14, 2011

Jeff Horan, Action Team Chair

Independent Evaluator

- Presentation of Partnership's DRAFT formal response to the NRC report, *Achieving Nutrient and Sediment Reduction Goals in the Chesapeake Bay: An Evaluation of Program Strategies and Implementation*

Independent Evaluator

- At the November 2008, EC meeting they requested to increase accountability, “that the Chesapeake Bay Partnership be evaluated by a nationally recognized independent science organization.”
- NRC study released May 4, 2011
- On May 3, 2011, the PSC directed the CBP Partnership to provide a written response to all NAS recommendations within 90 days or by August 4, 2011; the deadline was extended to 180 days (November 4, 2011) by the Management Board. The PSC reconvened the Independent Evaluator Action Team to produce this written response.

Independent Evaluator

- Independent Evaluator Action Team expanded its membership to GIT 6, STAR, and WQ GIT to meet the PSC charge
- Important caveat ➔ intent of formal response is to:
  - close the loop with ourselves as we manage the program
  - be transparent about how the program implemented the NRC SBCs
  - clearly reflect the implementation action steps
  - address the recommendations for the ongoing function of the independent evaluator
  - The NRC panel that produced the report has completed their effort and is disbanded, so the response will not be directed to them, however, it will become part of the public record, just as is the NRC report

Independent Evaluator

- Schedule to meet November 4, deadline
  - September 27 – October 5, MB and Action Team comment period
  - October 6 – 10, revisions
  - October 11 – 18, final comments by Action Team, MB, GITS, STAC, CAC, FOD
  - October 19 – 31, time window for briefing EPA Deputy Administrator and PSC
  - November 4, final Key Challenges and Roadmap Reference Tool submitted to PSC and published to the CBP partners website

Independent Evaluator

- BMP Effectivenes (Monitoring/Tracking/Accountability) in the Chesapeake Bay Watershed
- Adaptive Management of the Chesapeake Bay Program
- Chesapeake Bay Modeling Laboratory
- Ongoing Function of the Independent Evaluator in the Chesapeake Bay Program Partnership

BMP Effectiveness

- Three NRC SBC's on challenges associated with BMP effectiveness
  - Monitoring
  - Tracking
  - Accountability

BMP Effectiveness: Monitoring

- *Targeted Monitoring (SBC6)*
- *Support Adaptive Management (SBC14)*
- *Reliable, accurate implementation documentation (SBC3, SBC4, SBC10)*
- *Consistent reporting across the partnership (SBC2)*
- *Recognize, quantify uncertainties, lag times (SBC13, SBC 18)*

BMP Effectiveness: Monitoring *Recommendations*

- Targeted monitoring has been implemented in FY10 (Showcase watersheds), FY11 ($1M to priority watersheds).
  - A prioritized list exists for additional small watersheds

- Recommendations
  - Incorporate additional, innovative approaches for
    - Assessment (high and low frequency collections)
    - Analysis and synthesis (e.g. Weighted regressions, Hirsch et al. 2010)
  - Specific conservation practices or mixes should be evaluated through rigorous research efforts not watershed monitoring
    - We monitor suites of BMPs, not individual BMPs
  - Continue to seek innovative multiagency strategies to overcome

BMP Effectiveness: Tracking

- *Increase geo-referencing of practices (SBC1)*
- *Improve consistency in accounting (SBC3)*
- *Updates needed for unaccounted BMPs (SBC5)*
- *Guidance needed supporting levels of field verification (SBC7)*
- *Electronic tracking and data transfer systems for improving reporting, reduce accounting burden (SBC8)*

BMP Effectiveness: Tracking *Recommendations*

- Establish guidance for consistent field documentation, verification and tracking
- Build partnerships in study watersheds
  - Implement practices
  - maintain conservation practices,
  - collect data (e.g. NACD with USDA NRCS, USGS-USDA MOU, MD Conservation Tracker)
- Sustain the National Environmental Information Exchange Network (NEIEN)
- Continue to refine, calibrate the watershed model with the best available data.

BMP Effectiveness: Accountability

- *Increase geo-referencing of practices (SBC1)*
- *Improve consistency in accounting (SBC3)*
- *Updates needed for unaccounted BMPs (SBC5)*
- *Guidance needed supporting levels of field verification (SBC7)*
- *Electronic tracking and data transfer systems for improving reporting, reduce accounting burden (SBC8)*
- *Federal Actions are needed to support Adaptive Management (SBC15, SBC16)*

BMP Effectiveness: Accountability *Recommendations*

- Establish guidance for consistent field documentation, verification and tracking across all source sectors
  - Convene panel of experts for guidance
- Sustain the National Environmental Information Exchange Network (NEIEN) approach
  - Develop a process, method for data quality assurance
- Continue to develop Chesapeake Stat to support the accounting framework.

Adaptive Management

- *Neither the EPA nor the Bay jurisdictions exhibit a clear understanding of adaptive management and how it might be applied in pursuit of water quality goals. (SBC12)*
- *Recommendation:*
  - Reaffirm the role of the **Decision Framework Implementation Team** under GIT 6 as the **lead task force** for ensuring that the framework includes as many of the adaptive management principles described in the NAS report as appropriate.

Adaptive Management

- *Successful application of adaptive management in the CBP requires careful assessment of uncertainties relevant to decision making, but the EPA and Bay jurisdictions have not fully analyzed uncertainties inherent in nutrient and sediment reduction efforts and water quality outcomes. (SBC13)*
- Recommendation:
- Use **the decision framework and an annual planning process to identify specific areas of uncertainty and prioritize** the need for reducing high priority uncertainties.
- Encourage the GITs, with oversight provided by the Management Board, to **systematically identify uncertainties and design activities to reduce those uncertainties** that have the highest potential to improve the program's abilities to reach established goals.

Adaptive Management

- *Targeted monitoring efforts by the states and the CBP will be required to support adaptive management. (SBC14)*
- *Recommendation:*
  - Encourage continued implementation of the **decision framework**, which will **prompt regular review** of whether valid monitoring data is **answering the critical questions** that will create greater certainty that future actions will be successful.

Adaptive Management

- *Additional federal actions are needed to fully support adaptive management in the CBP. (SBC15)*
- *Recommendation:*
- Encourage the **jurisdictions to provide analyses**, supported by monitoring and the use of current modeling tools, to **explain why management actions are or are not having intended results** and to **document how the information is used to adjust strategies** for reducing nutrients and sediment.
- EPA should **consider evidence of such analyses in deciding on applying federal actions** as a consequence of not meeting milestone targets.

Adaptive Management

- *Without sufficient flexibility of the regulatory and organizational structure within which CBP nutrient and sediment reduction efforts are undertaken, adaptive management may be problematic. (SBC16)*
- *Recommendation:*
- Request a joint **assessment** from the WQGIT and GIT 6 **of barriers to adaptive management** in the TMDL/Watershed Implementation Plan process.
- **For identified barriers**, CBP will consult with other watershed restoration programs, adaptive management experts and regulatory experts and **propose regulatory and governance changes to reduce** barriers. Recommend that **GIT 6 be responsible for coordinating and tracking changes**.

Modeling Laboratory

- NRC committee recommended establishing a Chesapeake Bay Modeling Laboratory for:
  - Evaluating monitoring data and uncertainty in model simulations
  - Improving model predictive skills
  - Continuously seeking model improvements to accommodate new scientific understanding of the system

- Key features of the approach recommended by the NRC committee and STAC
  - Multiple modeling approaches
  - Open-source models
  - Models applied cooperatively with the scientific community

Modeling Laboratory

- Focus on being adaptive so uncertainty can be appropriately recognized and dealt with and efficiency and accountability are emphasized

- Essential in any redesign of the Bay Program's modeling activities that organizational stovepipes are broken down rather than become more impermeable

- Organizational approaches—including but not limited to a physically consolidated "modeling" laboratory—should be evaluated

Modeling Laboratory Partner Response

- WQGIT, STAC, and STAR were generally in favor of a modeling laboratory in a functional sense
  - Not necessarily as a separate 'bricks and mortar' entity
  - All recognized the extent of implementation was limited by resource constraints

- Positive response indicative of the central role of modeling plays in partnership decision making and need to increase credibility of ongoing Bay modeling efforts

- Such a laboratory would help with:
  - Perception of excessive EPA control over the models
  - Facilitate work on for further addressing model uncertainty

Modeling Laboratory Partner Response

- Part of the motivation for the modeling laboratory is that too much knowledge is invested in too few people

- The NRC committee was clear that a modeling laboratory should have a physical location to facilitate constant communication between modelers
  - Some in the partnership have suggested that a virtual modeling laboratory could achieve the same goals.

- An effort such as this could not reasonably be funded from current Chesapeake Bay Program funding levels, even considering the cost savings from the in-house modeling, without drastic cuts to other major program areas.

Modeling Laboratory Recommendations

- Commit to proceed forward with more in-depth evaluation of the recommendation for establishing a Chesapeake Bay Modeling Laboratory and other alternatives to achieve the recommendations of the NRC committee

- Establish an action team charged with responsibility for developing a more definitive set of implementation options

- Appoint action team members with well recognized expertise in modeling, monitoring data and management decision making representing multiple perspectives

Modeling Laboratory Recommendations

- The action team's charge would include:
  - Evaluation of other existing modeling laboratories, including those cited by the NRC committee
  - Consideration of the range of options for what would constitute a Chesapeake Bay modeling laboratory
  - Development of options and recommendations
  - Assessment of the range of financial investments and funding mechanisms

- Request the action team to report back to the Principals' Staff Committee and Management Board on its findings, options, and recommendations within nine months

Ongoing Function of the IE

- On May 10, 2011, the PSC asked the Independent Evaluator Action Team “to recommend the next steps to the PSC on the ongoing function of the Independent Evaluator; the Team should consider that there is a place on the program's organizational chart and whether a more broad scope is needed and the Action Team is to do this in the context of their written response to the NAS report.”

Ongoing Function of the IE

- Citizens Advisory Committee (CAC) Recommendations
- Program Accountability and Accelerating Implementation to PSC (June 19, 2008)
- CAC Accountability Meeting with CBPO/CPR/CAC/ACB/MD DNR (July 31, 2008)
- Center for Progressive Reform (CPR) Memo to PSC on Independent Evaluator for the Bay Program – Initial Draft (August 18, 2008)
- MD DNR, Dawson presentation to PSC on CBP Accountability (September 2008)
- Executive Council decision on the Independent Evaluator (December 2008)
- White paper *Creating an Independent Evaluator for the Chesapeake Bay Program* (April 2009)
- Executive Order 13508 indentified the need for ongoing independent reporting and evaluation (May 2009)
- Request of PSC to Action Team to make recommendation on the ongoing function of the Independent Evaluator (May 2011)
- GIT 6 proposal (August 2011)

Ongoing Evaluation of the IE: Recommendation

- Establish the independent evaluator office
  - Strong Charter, dedicated staff of evaluators
  - Purview over all CBP partnership activities
  - Staffed by EPA
  - Manage an annual evaluation process
    - Interacts with other evaluation/audit organizations, stakeholders, program managers, advisory committees, and MB, PSC and EC
    - Identifies gaps between ongoing/planned evaluations, identifies evaluation needs to support adaptive management, internal vs. external evaluation
    - Prepares an annual evaluation work plan
  - Conduct or contract for internal evaluations
  - Obtain EC approval for external reviews

Ongoing Function of the IE

- Pennsylvania offered a minority opinion, with no support from the Action Team members, as follows.
  - "The decision of the PSC to charge the Chesapeake Bay Program Partnership to evaluate whether an Independent Evaluator function would enhance program performance was made prior to the development of an adaptive management process for Bay Program management. With the PSC endorsement of the document," Enabling Effective Adaptive Management in the Chesapeake Bay Program," and the Decision Framework, the Program now has an adaptive management decision framework which will allow the Program to accomplish internal program evaluations. PA DEP supports using this approach over the establishment of an Independent Evaluator function. Any financial resources necessary to support an Independent Evaluator function should instead be directed to the watershed jurisdictions to support implementation of the Chesapeake Watershed Implementation Plans."

Independent Evaluator

ACTION TEAM MEMBERS

Anne Swanson, Chesapeake Bay Commission
Anthony Moore, VA
Don Boesch, UMCES
Carl Herschner, VIMS
Carin Bisland, CBP-EPA/GIT 6
Diane Davis, DC
Doug Lipton, UMD Sea Grant
Greg Allen, CBP-EPA/GIT 6
John Schneider, DE
Jeff Horan, MD (Action Team Chair)
Jennifer Pauer, WV
Jennifer Volk, DE
Julie Winters, CBP-EPA (Action Team Coordinator)
Katherine Antos, CBP-EPA/WQ GIT
Larry Merrill, EPA/WQ GIT
Mike Foreman, VA/GIT 6
Mark Bennet, USGS/STAF
Nikki Tinsley, CAC
Pat Buckley, PA
Peter Tango, USGS/STAR
Richard Batiuk, CBP-EPA
Russ Perkinson, VA/WQ GIT
Michael Mason, EPA/GIT 6
Victoria Kilbert, CRC