BMP Verification, Multiple Models and Modeling Laboratory: Current Status and Reality Checks for the Near Future

BMP Verification

- Accomplishments to date:
  - Draft final BMP verification **principles** being presented to the Partnership's Principals' Staff Committee for review and final adoption on behalf of the larger partnership
  - Partnership's BMP Verification Review **Panel** was selected and convened in late September by the Management Board, with its first face to face meeting on December 6th
  - Draft BMP verification **protocols** being presented to the Partnership's BMP Verification Review Panel on December 6th for review and feedback
  - Draft historical BMP data bases **clean-up procedures** being developed by the Watershed Technical Workgroup
  - Draft basinwide **1619 data sharing agreement** and call for enhanced USDA data collection for ensuring full jurisdictional access to federal cost shared agricultural conservation practices under review by the BMP Verification Committee
  - Draft jurisdiction-specific **procedures for eliminating double counting** of BMP under review by the BMP Verification Committee

- Key role of the BMP Verification Review Panel is to help **ensure consistency** in BMP verification protocols with and across source sectors and habitats

- The Partnership made the early determination that verification protocols for the thousands of practices, treatments, and technologies would not the same as the protocols for certifying credits for trading—there are 85,000 farms, over 2,000 local government entities, over 3,000 non-significant wastewater dischargers…we can not verify all those sources to the same level as required for certification of credits

- BMP verification schedule highlights in the coming year:
  - February 21 BMP Verification Committee meeting to compile and review all the components of a basinwide verification framework
  - March: reviews of basinwide verification framework components by WQGIT and Habitat GIT, STAC, CAC, and LGAC
  - April: Management Board review of the basinwide verification framework components
  - May: Principals' Staff Committee review of basinwide verification framework and adoption on behalf of the larger partnership
  - June: Executive Council meeting's public communication of Partnership's BMP verification program through some formal agreement mechanism
  - Summer: BMP Verification Review Panel initiates reviews of the jurisdictions' proposed BMP verification programs

- How STAC can help?
  - Put time aside on your spring meeting to really dig into the BMP verification framework and the recommended components

- Speak up at the May PSC meeting when the BMP verification framework will be presented to the PSC for review and final adoption

Multiple Models

- The Partnership as a whole has not engaged in the level of dialogue, to this point, to provide a clear sense on how the partnership will proceed forward on this topic

- The Management Board was briefed by Marjy Friedrichs at its November 14th meeting on the outcomes from the April 2012 STAC sponsored Shallow Water Multiple Models Workshop, however, there was only limited discussion at that time

- STAC has requested a response to the report by the Management Board and that response to working its way through the Partnership—another opportunity for multiple model dialogue

- EPA fully understands the potential value of multiple models and supports development of multiple models in the Chesapeake Bay and watershed—the Partnership is not at this place yet

- EPA has been a direct contributor—open source model code, staff resources, and financial resources—to the Chesapeake Community Modeling Program, actively supporting the objective of community models

- EPA is appreciative of STAC's initiative in developing the multiple model issues and for the practical strategy outlined in the report for collaboration between the CBP partners and the scientific community to develop and demonstrate the application of multiple models.

- The proposed cost for the shallow water multiple model effort outlined in the report ranges from $300,000/year (3 shallow water model teams at $100k each) to $1.5 million (6 shallow water model teams at $250k/year)—this is a significant investment for the partnership

- The cost of the proposed multiple model effort in shallow water is high relative to the average CBP budget investment of about $150,000/year for the past 3 years of the U.S. Army Corps of Engineers 50/50 cost share for supporting the Chesapeake Bay Water Quality Sediment Transport Model

- EPA does not have a final 2013 fiscal year budget (and may not until the spring time)—some funding decisions on major grants and cooperative agreements are being made based on a reduced level of FY2012 spending, but the reminder of funding decisions are essentially on hold pending a final budget

- Once the Federal 2013 fiscal year budget is decided, then final decisions can be made on possible FY 2013 funds for the multiple shallow water model study laid out along the lines in the workshop report

- Additional investments in modeling at this level would likely result in tradeoffs of decreased program implementation funds and the Chesapeake Bay Program partnership, not EPA alone, will have to make these difficult fiscal decisions

- The develop of a new shallow water model has the great potential to contribute to the Midpoint Assessment and will provide a real, working application of and opportunity for further assessment of multiple models for management in the Chesapeake Bay Program

- Beyond the fiscal resources needed, the other issue is timing—the Principals' Staff Committee is considering a schedule for the Midpoint Assessment which includes operation versions of new/enhanced models by September 2016, calibration completed by December 2017, and model testing, assessment of model certainty and scope for using the modeling tools within the WIP and milestone process by June 2017 (see "Guiding Principles: The 2017 Chesapeake Bay TMDL Midpoint Assessment" document)

- EPA would need to compete these funds through a RFP process which can take up to six months from start to award of federal funds through a cooperative agreement—this process can only start once there is a funding commitment

- How can STAC help?
    - Look for opportunities to bring the proposed per shallow water modeling team costs down
    - Help identify other potential funders for this work
    - Help EPA in identifying reviewers for the proposals generated through a possible RFP process
    - Proceed forward with plans for the second multiple models workshop
    - Help articulate the use of multiple models can take a number of forms
    - Clone Maryj and really work the CBP partnership circuit with your multiple models messages—you have long convinced the immediate circle of colleagues; need your help in bringing on board a much wider array of partners

Modeling Laboratory

- The Modeling Laboratory Action Team is working on a proposal to put forth to the CBP partnership by this coming summer

- Given the Action Team's internal discussions and agreement to maintain the current 'model operations' capabilities within the Partnership's Chesapeake Bay Program Office, the challenge will be seeking and raising the long term investments in building a sustained modeling 'research and development' capacity within the Chesapeake Bay community

- Current budget realities, at least within the Partnership's EPA Chesapeake Bay budget, mean that to make new investments, we must make decisions to disinvest in other partner priorities

- Funding has increased over the 27 year history of the Partnership—from $4 million in 1985 to over $50 million in 2012—and so has the investment in state and local implementation, monitoring, modeling, and more

- Currently, the $50 million budget currently fully invested in supporting the partnership's priorities
    - $30 million or 60 percent of the budget devoted to implementation grants to jurisdictions and local partners
        - $20.3 million in implementation grants to the jurisdictions
        - $10 million in small watershed and innovative nutrient and sediment reduction grants
    - Over $4 million invested in monitoring network grants to jurisdictions, river basin commissions, USGS, universities (tidal water quality, watershed, SAV aerial survey, data analysis and interpretation)
    - Several million dollar investment in universities (e.g., UMCES, Penn State, VIMS, UMD, VA Tech) river basin commissions (e.g., ICPRB), non-governmental organizations (e.g, ACB, CSN, CWP), and partner federal agencies (e.g., USGS, NPS, USFWS) for technical and programmatic staff supporting the partnership
    - And the list goes on…

- Making the investment in a modeling research capability within the Partnership would require a new source of funding beyond the EPA Chesapeake Bay funds which are fully accounted for working to meet the priority needs of the partnership and partners

- Reminder, when the Partnership formed, we did not have a baywide and watershed wide monitoring networks in place—we do now; we did not have a suite of modeling tools now working on their four, fifth and even sixth generation, we do now