



## Modeling Lab Action Team Meeting

February 21<sup>st</sup>, 2013 10:00AM – 3:00PM

<http://www.chesapeakebay.net/calendar/event/19220/>

### MINUTES

#### ACTION ITEMS

- **NEXT MEETING: The March 2013 MLAT Meeting will be a 2 hour conference call.**
  - Topics: Report Outline
- Mark Bennett will draft an outline to distribute to the group by COB Monday March 11<sup>th</sup>, 2013.
  - MLAT members will contribute to the document until the March MLAT meeting, where MLAT members will discuss the contributions and finalize the outline.
- Mark Bennett will contact and coordinate with the MLAT members from the jurisdictions to continue the discussion on what components of operations and operational development should remain with EPA and which should become part of the Modeling Laboratory.
  - Possible meeting date: Friday March 1<sup>st</sup>, 2013. Mark Bennett will send out a doodle poll to confirm the date and time.
- William Keeling is working on a governance document.

#### TIMELINE

*(Note: The timeline is subject to change)*

##### **MARCH 2013**

MLAT will have a conference call to discuss the report outline and begin to draft the initial report.

##### **MARCH 30<sup>th</sup>, 2013**

DRAFT REPORT – Send out to members for internal review March 30<sup>th</sup>, 2013.

- Members should review the draft report before the April meeting.

##### **APRIL 2013**

The final report and presentation will be reviewed at the April meeting in preparation for the May 16<sup>th</sup>, 2013 Management Board meeting.

##### **MAY 16<sup>th</sup>, 2013**

DRAFT FINAL REPORT – Deliverable before summer 2013 – Draft final report to present to Management Board at May 16<sup>th</sup>, 2013 MB Meeting.

## **Knowledge System for Sustainability (KSS) Meeting**

- Knowledge System for Sustainability (KSS) Meeting will be a 2 day meeting held May 2<sup>nd</sup> and 3<sup>rd</sup>, 2013.
  - Components:
    - Introducing KSS and the CBP.
    - Modeling Laboratory Discussion.
    - How Social Science Can Affect These Types of Issues.
  - MLAT members are invited to the meeting.
  - Location: CBPO

## **Discussion on what components of Operations and Operational Development should remain with EPA and which should become part of the Modeling Lab – All**

Mark Bennett gave an introduction of the topics discussed last meeting:

- Some of the jurisdictions would like a turnkey product developed and operations to be handled by the Modeling Laboratory.
  - Concerns:
    - Possibility less interaction between GITs/Workgroups and Modeling Laboratory since it will be a virtual lab. Currently operations are at the CBPO along with all of the GITs/Workgroups and many of the Modeling Team members are active in the GITs/Workgroups.
    - If operations are part of the Modeling Laboratory, research could be taken over by operations, which is one of the current problems.
- Theo Dillaha – The discussion last meeting was very political.
  - The Modeling Laboratory should help CBPO split the scientific and political aspects.
  - Would like to see the Modeling Laboratory as an outside group to pass judgment and be involved in the entire process.
  - Modeling Laboratory could pull in scientific expertise to bring in new ideas, not just improve the current model (for example, multiple modeling).
  - Need the resources to bring in the best science.
- Marjy Friedrichs – Would not want to use the Estuarine Model (basically a turnkey product) as an example of what to do with the Watershed Model. The Estuarine Hydrodynamic Model has not been substantially updated in too long.
  - Operations should work closely with the Modeling Laboratory. Strong and even improved communication. Maybe this could happen if the Modeling Laboratory were to have some operations, but there must be a clear division between the calibration and research.
- Kevin Sellner

- The calibrated model could be viewed as a gold standard. Must have clear communication of changes to the model. Revisions that will be made to the model must be discussed at the Modeling WG meetings and communicated to jurisdiction liaisons.
    - How often are changes requested?
      - Gary Shenk
        - All of the large changes to the model were vetted through the WGs.
        - Almost all of the “small” revisions that were made were requested by VA and MD.
  - Agree that the operations should work closely with the Modeling Laboratory, but thinks that the Modeling Team should stay under the Chesapeake Bay Program.
- Mark Bennett (USGS) – Either way there needs to be a change in the current modeling structure and communication.
  - Ted Tesler (PA) – The jurisdictions rely on the operations component to be available and reliable. The numeric results from the model will be critical to the jurisdictions (i.e. milestones).
  - Dave Montali (WV) – Currently, personal experience is only dealing with model output and how that affects WV. Does not have a strong opinion either way.
  - Lewis Linker – The work and decisions related to the models comes directly from the Modeling WG and jurisdictions. Calibration and operation of the model is not directed by EPA Region 3 or any other EPA body other than specific people around the table (i.e. Lewis Linker and Gary Shenk). The management and timing is controlled by EPA (i.e. TDML and Milestones).
    - Currently, the system has flexibility to change the model if needed and consistent staff and funding.
  - Gary Shenk – Currently there are already discussions about outside calibration help, BMP panels using modeling laboratories to run scenarios. MLAT could help formalize these efforts.
  - Lewis Linker – The chairs of the Modeling WG and WQGIT are passing to state leadership. This will hopefully set a new tone and direction.
    - Kevin Sellner – Still need a formal structure for communication.
  - Gary Shenk – There may be a split in the report:
    - Modeling Laboratory Recommendations.
    - Things that CBP could improve in the current modeling process regardless of whether or not it moves forward and creates a Modeling Laboratory.

Mark Bennett

- Options:
  - No funding – Still need changes in the process.
  - Funding – The meaningful ways that the funding could be spent.
    - What is the highest priority?
      - Research? – If this is the case, might not want to include the calibration in the Modeling Laboratory.
      - Process? – If this is the case, then moving the calibration to the Modeling Laboratory might be necessary.  
Kevin Sellner
      - MLAT was formed to address the NRC recommendations.
      - Should emphasize research and development
- Theo Dillaha – Calibration and validation is production. The Modeling Laboratory should be validating the science behind the model.
- Marjy Friedrichs – We need to consider whether the Modeling Laboratory should fund new academic research or fund the incorporation of recently completed research into the current CBP Models.
  - The first step should be to include research that has already been done, which is less costly.
- Dave Montali – Would MLAT evaluate the current and other calibration methods even if they were not doing the calibration?
  - Theo Dillaha – There are some concerns about this. If they were evaluating the science behind the model and reviewing the calibration, they are no longer the outside expertise because they are evaluating their own work.
- Theo Dillaha – There is currently a lack of documentation of the CBP Models.
  - Gary Shenk – For the 2008 review, documentation was not complete until 2010. The Modeling Team was pushed to put everything in the model that they possibly could, but with the available resources it is impossible to do everything and give efficient time for review.
    - Theo Dillaha – The Modeling Laboratory could provide some of the resources.
    - Gary Shenk – We can dream of the perfect process, but the requirements are constantly changing.
- Gary Shenk
  - There are a couple steps to the Calibration Process (in order):
    - 5 years – Determining the hydrodynamic process, land sediments process, and land nutrients process.

- STAC and Modeling WG review.
  - Month of computer time.
- Developing the calibration process and running the calibration are two different processes. The Modeling Laboratory could/should be involved in developing the calibration process, but does not necessarily need to be involved in the actual calibration.
- Ted Tesler – The calibration seems like operations.
- Kevin Sellner
  - Modeling Laboratory could formalize the inclusion of outside research.
  - Communication between the jurisdictions and the modelers must improve.
  - Continuous documentation process
    - Currently, the Modeling Team documents work, but could improve the timeliness.
- Gary Shenk – MDE used to have people in our office to learn about the models, etc. If the jurisdictions want to put people in the office to improve communication and understanding, they are more than welcome to.
- Mark Bennett – Participation from the jurisdictions has seemed to decrease over the years.
- Ted Tesler – PA is interested in understanding the current model and how these decisions were made. PA would also like to be involved in the future development.
- William Keeling – Part of the problem is that the jurisdictions have not been asked to approve any changes to the model since 5.2
- William Keeling – VA would like more independence from EPA, availability of the modeling components to the jurisdictions (not just the WSM – need Scenario Builder, Hydrodynamic Model, etc.), and involving academics. How this could be accomplished is not set in stone.
  - Gary Shenk – The jurisdictions may feel like EPA has control of changes to the model, but the understanding is not the same at EPA. Need to improve the process to make sure that everyone understands who has the control.
- Kevin Sellner
  - May need increased staff to make the model code portability and useable (training).
  - Create a formal process for changes to the model and improve communication to help change the perception of the control of changes.

- Recently, the jurisdictions have become chairs of the decision making WGs and GITs: Russ Baxter – WQGIT and Lee Currey and Dave Montali – Modeling WG
  - Voting at the Modeling WG? – Aim for consensus, but would decide based on majority. The jurisdictions are allowed 2 members.
- Mark Bennett – Regardless of the funding. MLAT will recommend that changes to the process must be made.
- Some of the jurisdictions believe there is a need for more independence from EPA/more chances for jurisdictional input.
- Lewis Linker – Water Quality and Sediment Transport Models are available now.
  - Marjy Friedrichs – High learning curve with regards to being able to understand the unusual format of CH3D output.
- **ACTION:** Mark Bennett will contact and coordinate with the MLAT members from the jurisdictions to continue the discussion on what components of operations and operational development should remain with EPA and which should become part of the Modeling Laboratory.
  - Possible meeting date: Friday March 1<sup>st</sup>, 2013. Mark Bennett will send out a doodle poll to confirm the date and time.

#### **Further discussion on Governance in the context of the morning discussion – All**

- Mark Bennett – Following the last meetings discussion, how does this group feel about having the Modeling WG as the governing body?
- Dave Montali – Review current membership and include decision makers as necessary.
- Kevin Sellner – Need to determine the tasks of the Modeling Laboratory.
- Gary Shenk – Modeling WG would require input from the WQGIT and Management Board.
- Mark Bennett – Must emphasize that the Modeling WG should have the power to make discussions, but want inputs from the GITs. Would be easier to have the GITs at the meetings and submit their priorities. Yearly work plan to the Management Board. Need to determine who and how the priorities will be prioritized.
- Dave Montali – Time boundary considerations need to be considered.
  - Mark Bennett – There will be short and long term goals.

- Dave Montali – The current structure of the Modeling WG will have to change and the membership must be reviewed.
  - Mark Bennett – In the past, the Modeling WG had voting and non-voting members. The decision was then sent to the WQGIT.
  - Lewis Linker – Currently, there are members and participants.
  - Mark Bennett – After the decisions are made, the Modeling WG would bring the yearly plan to the Management Board.

### **Budget discussion – All**

- The Management Board wants an estimate of the cost associated with the Modeling Laboratory.
- For an example, if the Modeling Laboratory were to work on four topics (i.e. Estuarine Modeling, Shallow Water/Living Resource Modeling, Scenario Builder, and WSM) the budget could look like this:
  - R&D Budget: 1.5 – 6 million range.
    - Minimum of \$300,000 for each of the four topics (3 people working on each topic at \$100,000 each) = \$1.2 million.
    - \$200,000 for Administrator of the Modeling Laboratory
    - \$100,000 for Modeling Laboratory Liaison/Support Person.
    - There must be a minimum of 5 years of funding for the establishment of a Modeling Laboratory to be worth the trouble.
- Lewis Linker – Current administration and operations could continue to be funded through the CBP and most of the Modeling Laboratory funding would go to research.
- Kevin Sellner – The Modeling Laboratory should have a diverse “team” of people that can be accessed for different topics.
- Gary Shenk – Should present the budget as a range instead of minimum.
- Marjy Friedrichs – For the shallow water multiple modeling pilot project, the minimum cost is relatively low for the establishment of two new shallow water Bay models and the comparison of these new models with the Bay model: \$300,000 – 1.5 million.
  - Noticed that the higher number sometimes put funders off even though this was a range of costs.
- Kevin Sellner – Possibility of external funds once the Modeling Laboratory is established.

### **Discussion of the Report**

- Mark Bennett will draft an outline to distribute to the group by COB Monday March 11<sup>th</sup>, 2013.
  - MLAT members will contribute to the document until the March MLAT meeting, where MLAT members will discuss the contributions and finalize the outline.

Lewis Linker – Possible rough outline:

- Part 1: Charge, background, reasoning, and guiding principles
- Part 2: Structure, function (improving the current CBP Modeling Process)
- Part 3: Governance and budget.

## **PARTICIPANTS**

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