MINUTES

NEXT MEETING

Date: Thursday April 25th, 2013 10AM – 1PM
Location: Joe Macknis Memorial Conference Room (Fish Shack) CBPO Annapolis, MD
Event Calendar: http://www.chesapeakebay.net/calendar/event/18838/

MINUTES

Welcome Introduction and Updates – Bill Dennison (STAR Chair), Mark Bennett (STAR Vice Chair), Peter Tango (STAR Coordinator)

STAR Leadership gave an introduction and requested updates from the Goal Implementation Teams and STAR WGs.

Communications Discussion – All

STAR discussed communication ideas including upcoming reports, studies, and videos to recommend to the Communications Workgroup.

Discussion and Questions

- Sea Level Rise Summary – Past, Present, and Predicted Impacts of Sea Level Rise in the Chesapeake Bay – USGS
    - o Web Fact Sheet
        - ▪ CBP Blog would be a nice complement.
    - o Proposed Released Date: April 2013
    - o Contact: Scott Phillips

- Fact Sheet on Reproductive Issues in Yellow Perch – FWS, USGS, MDNR
    - o Proposed Released Date: April 2013
    - o Contact: Scott Phillips

- UMCES Report Card
    - o Proposed Released Date: April – May
    - o Contact: Bill Dennison/Caroline Wicks

- Contaminents Report
    - o Karl Blankenship (Bay Journal) will be producing monthly articles.
    - o Might want to have something formal on the CBP website.
    - o Contact: Scott Phillips

- The second CEAP Report on the Chesapeake Bay - USDA
    - o Proposed Released Date: In about a month or two.
    - o Contact: Kelly Shenk

- May 14th, 2013 Media Event in Dover, DE – Department of Agriculture
    - o Monitoring work with respect to agriculture

- o Groundwater monitoring
- o Contact: Peter Tango sent Margaret an email and she will follow up.

- Lessons Learned – UMCES
  - o Proposed Released Date: June 2013
  - o Contact: Liza Hernandez

- Temperature trends in the major rivers of the Chesapeake Bay – USGS Journal Article
  - o Author: Karen Rice
  - o Proposed Released Date: 2 months
  - o Contact: Mark Bennett

- Walter Boyton's Mattawomen Creek Study
  - o Recently accepted into Journal Estuaries and Coasts
  - o Proposed Released Date: Available for circulation, but won't be published for 3-4 months
  - o Contact: Walter Boynton

- Featured collection of Chesapeake Bay TMDL Articles
  - o Journal of American Water Resources Association
  - o Proposed Released Date: August 2013
  - o Contact: Lewis Linker

- Eastern Shore Synthesis Report – USGS
  - o General research on what causes nutrients to move through the eastern shore and factors that affecting trends.
    - ▪ Ward Sanford – Groundwater Model (lag times)
  - o Proposed Released Date: End of the calendar year
  - o Contact: Scott Phillips

Lessons Learned Update – Liza Hernandez and Christina Lyerly
Attachment A

Liza Hernandez and Christina Lyerly briefly summarized the Lessons Learned Report and update STAR on the progress and next steps. The presentation discussed the evolution of the project, the process they are taking to complete the report, and the lessons the report will cover. Liza Hernandez and Christina Lyerly will present the draft final report to STAR at the April 25th, 2013 STAR Meeting. The report will be finalized May 31st, 2013 and published in June.

Discussion and Questions

- **SUGGESTION**: Lesson 4 Graphic
  - o Joel Blomquist presented a conceptual diagram at the joint TMAW/NTWG Meeting that could be useful. Should contact USGS about incorporating the graphic.
    - ▪ Authors: Scott Ator and Judy Denver
    - ▪ Contact: Scott Phillips

- **SUGGESTION**: Lesson on storm water.

Transition to All PQUAL Model in Phase 6 of the Chesapeake Bay Watershed Model – Gary Shenk
Attachment B

The Modeling Team is working on an analysis of AGCHEM nutrient export sensitivities to input loads. The work will document in detail the input-export response of all land uses in all model

land-segments and provide a sound foundation for the development of an all-PQUAL based Phase 6 Watershed Model.

Discussion and Questions

- PQUAL will add to the transparency of the Watershed Model.

- This quick response to the concerns of the jurisdictions is impressive. How long has the Modeling Team been considering using PQUAL?
    - The Chesapeake Bay Program Watershed Model is currently a version of HSPF code. Many other organizations that use HSPF use PQUAL because it is simpler. The Chesapeake Bay Program Watershed Model currently uses both PQUAL and AGCHEM depending on the land use. Some of the land uses in the Chesapeake Bay Program Watershed Model are very small areas with very high nutrient loading (ex. afo, cafo, and nursery). These land uses do not work well in AGCHEM and have always been simulated using PQUAL. About half of the land uses representing about 10% of the area have always been simulated using PQUAL.
    - William Keeling, Ross Mandel, and the Modeling Team all suggested this transition independently.
        - Work with them over the next few years to receive support at the jurisdictional level from stakeholders that are not as familiar with how the Watershed Model works and where the idea behind this came from.

- The Phase 6 Model is a planning model for 2017 – 2025, but progress and the two year milestones will be calculated using the Phase 5 Model.
    - Any goal that is set with a particular model will be tracked with the same model.

- The Communications WG would benefit from knowing the internal workings behind this model.
    - Margaret Enloe will work with Gary Shenk on his presentation for the Agriculture Model Workshop, which will be held on May 22nd, 2013.
        - Possible test run of the presentation at the May Communications WG Meeting.

- PQUAL is a data informed model. USGS can help with providing data on concentrations forshallow ground water.

USGS Report: WRTDS – Mark Bennett (USGS)
Attachment C

The USGS has a new method for quantifying trends in nutrient and sediment loads the Weighted Regressions on Time, Discharge, and Season (WRTDS) Model. Mark Bennett presented the results of the WRTDS Model and report (http://pubs.usgs.gov/sir/2012/5244/)

Discussion and Questions

- Does flow weighted and flow normalized mean the same thing?
    - Many use the terms interchangeably, whether they should or shouldn't. The concept is the same. Flow normalized is a technique that is designed to average out the impacts of flow.

- Is there any explanation for these water quality trends displayed through the WRTDS analysis?
    - Factors Affecting Trends is a group that is meeting to conduct this analysis. The next presentation will describe the work plan.
        - Beginning to investigate some theories. For example, in the Rappahannock there was a mass-wasting event, tremendous amount of rainfall in about a 20 hour

period, which resulted in landslides on the Blue Ridge, which is a high phosphorus area. Other theories involve increases in development, therefore increased phosphorus loads.

- If everything was kept equal in a basin and then only nitrogen loads were decreased, there would be an expected increase in delivery of phosphorus because of less processing.

- Mike Langland's study shows a downward trend of inputs to the Conowingo. How does this compare to WRTDS analysis results?
    o These are from the river input stations, but the data is showing the output from Conowingo which includes scour from behind the dam. USGS has also done some flow analysis of Marietta and trends are decreasing.
    o Currently, working on trends in load in the upstream Susquehanna stations specifically the ones close to the reservoir.
    o Beginning a specific study on the Potomac.
    o WRTDS requires heavy data.

- Low flow vs. high flow
    o The timing of when high and low flows occur will greatly affect the nutrient and sediment loads which in turn will vary from basin to basin.

- **ACTION**: New map in the USGS Science Summary, which clarifies what these trends apply to in terms of a basin. This has been a communication issue. The maps will be updated.
    o How will the yields be portrayed?
        ▪ RIM sites will be calculated using WRTDS.
        ▪ All other sites will be calculated using ESTIMATOR.
    o The Susquehanna has many different stations, so in order to help with communication of the information we should consider coloring the smaller watersheds different colors.
    o Must clearly communicate that these trends only include river input monitoring sites. About 2/3 of reductions reported through the Chesapeake Bay Program Watershed Model are point source reductions below these sites, where many of the major cities are located.

- Also calculated trends in flow normalized concentrations with WRTDS and compared to ESTIMATOR in the report.

- For the loads indicators, USGS will be revising the historic data back to 1990 using WRTDS. This year, when the loads indicators are updated for nitrogen phosphorus and sediment, the numbers will be different.

Overview of Proposed STAR Project to Assess and Explain Factors Affecting Trends – Scott Phillips (USGS)
Attachment D

Scott Phillips introduced the proposed analysis of factors affecting trends to STAR and reviewed the general work plan for initial feedback and discussion.

Discussion and Questions

- The Modeling Team is ready to help with this analysis. Watershed Model Documentation points out four major input loads for nitrogen: atmospheric deposition, manure, fertilizer, and point sources. The Modeling Team is currently working to extend the simulation period to 2011 and continue to add every year after.
    o **ACTION**: Amanda Pruzinsky will send the presentation to the Modeling Team.

- o **ACTION**: The Modeling Team will start to put together input trends for the major river input stations that were used in the WTRDS analysis.

- CBP is inititiating a Factors Effecting Trends Weekly Tuesday Meeting scheduled to start at 1PM – "FAT Tuesdays" to coordinate efforts and synthesize ideas supporting progress on explaining FATs.

- **SUGGESTION**: For the work plan, include the specifics on the dates and assign tasks on the TMAW deliverables.

- **SUGGESTION**: Include NOAA's model (? What NOAA model?) in this work plan. The work is being done separately and will not use more resources, but to keep track it would be good to incorporate NOAA's work into this work plan.

- **SUGGESTION**: Mention the work being done on reservoirs.
  - o How many reservoirs are currently used in the calibration?
    - ▪ 40 reservoirs were simulated and 25 – 30 had data that could be calibrated to.
    - ▪ SPARROW uses the National Inventory of Dams.
    - ▪ Include the collaborating work plan from STAR.

- **SUGGESTION**: In the FAT work plan, note connections to other related work plans.

WQGIT Phase 6 Priorities: Nutrients – Mark Dubin

Mark Dubin will update STAR on the WQGIT Phase 6 Priorities that are related to improving nutrient simulation.

Discussion and Questions

- The Agriculture Workgroup submitted a number of recommendations to the WQGIT fall 2012. The Agriculture Workgroup is the lead for three work plans:
  - o Baseline data that is being used in the model for representing agricultural land uses and production
  - o Examining how that baseline data is being incorporated into the model for analysis purposes.
  - o Updating/adding new agricultural BMPs and efficiencies.

- The Agriculture Workgroup proposed to launch a community wide discussion of these topics: May 22nd – 23rd, 2013 Two-Day Workshop at UMD funded through USDA
  - o Invitation only event due to capacity issues: ~130 invitees
    - ▪ Academic, Federal, State and local agencies, Agri-Business Associations, and Agri-Business Companies
  - o Propose of the Workshop:
    - ▪ Providing base information and education to the stakeholders
      - • How the Chesapeake Bay Models work
      - • Data and assumptions
      - • Focused on Scenario Builder
    - ▪ Improve our access to better information
      - • Utilize data that currently exists, and data that may not be currently accessible
      - • Create new data sets where needed
      - • Determine how the data is currently utilized in the analysis process
      - • Determine how the new data sets would affect the analysis.

- Need commitment for long term data collection and validation.
    - Future planning and projections for agriculture land uses and production
        - Working with the American Farmland Trust, industry representatives, Peter Claggett (USGS)
        - Determining interest in the community to potentially establish a method for developing long-range agricultural forecasts
    - Hope to generate a set of recommendations, but must continue to work through the agricultural sectors and the Partnership after the workshop to implement the recommendations.

- Structural Changes in the Agricultural Workgroup:
    - The concept of a new Agricultural Modeling Subcommittee has been approved. The Subcommittee will be under the Agricultural Workshop and will report to the Agricultural Workgroup directly.
        - Focused on Agricultural Modeling, both the existing models and the Phase 6 Model planning.
        - Technical workgroup
        - Chair: Curtis Dell (USDA/NRCS/ARS)
        - Coordinator: Matt Johnston (UMD)

- Four Expert Panels – Working on a timeframe to develop current model recommendations for fall 2013. Next Additional Panel – Manure to Energy Technologies.

- **ACTION**: The Agricultural Workgroup and FAT will have to have regular communication.

- **SUGGESTION**: Consider showing some of the WRTDS Model data during the breakout groups as background information.
    - **ACTION**: Mark Dubin will bring that suggestion to the Workshop Planning Committee.

PARTICIPANTS

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