South River Science Team

August 19, 2015

Minutes

Yesterday, August 18, ROPs, Human Exposure and Monitoring task teams met. There was also a discussion and demonstration of various models. Today's meeting is a summary of meetings yesterday, with a couple of additional items.

Outreach/Communications/Stakeholders: Mike Liberati, DuPont

- Remedial Advisory Panel (RAP) for AOC-4 (DEQ RCRA process)
  - met February 25th
  - There are 12 panel members from the community and are facilitated by Dave Hirschman.
- Landowner meetings
  - Working with City of Waynesboro initially to reach preliminary design elements for BMAs.
  - There will be a meeting with the City September 2nd to discuss access agreements.
- Promotores
  - Attended Summer Health Fair and Hispanic Festival and made 150-200 contacts.
  - Promotores Jr. Program is starting at Spotswood High and hoping to reboot program at Waynesboro High in spring.
  - Factsheets 1, 2, 5 and 6 translated into Spanish and printed.
  - Training for Arabic and Kurdish interpreters and speakers held in June. Low turnout. Hoping to try again, but offering other services to entice attendance such as resume writing workshop may be a good incentive.
  - New class of Promotores started. Mercury training held on Saturday, August 15.
- Media, Website, Other
  - Newsletter now called "Update" and is under review. New format is single, two page article on relevant topic. "Update" under review is focusing on BMA strategies.
  - Don Kain and Mike Liberati were interviewed for a series on WMRA radio called "Clean Virginia". This was part 5 and titled "The Legacy of Mercury". It aired June 24th, 2015 and is available for listening at wmra.org.
  - Website updates include English and Spanish Promotores pages, "What is SRST" page, and Spanish factsheets. SRST meeting presentations and final regulatory documents are also posted.
- Public Notification on BMA design
  - Mike L. asked about conducting public meeting on BMA design, when and where. Suggested maybe hold when plan is at 30% design level. Michael Barnes commented that City Council approval means presenting at public meeting to City Council.

ROPs: Robert Brent, JMU and Nancy Grosso, DuPont

- Several ongoing ROPs projects. A few were discussed at meeting. For full list, see presentation.
- Floodplain Pilot Phase 2
    - Purpose is to validate effectiveness and look for unintended consequences of using carbon amendments in floodplain soils.
    - Worm cages have been deployed and aged and worms have been added.
    - Will be measuring growth of worms, survival, reproduction and mercury concentrations.
    - Answers to questions asked at meeting:
        - Geochemistry parameters being recorded both inside and outside chambers.
        - Consolidated soils representative of floodplain soils (~ 15 ppm)
        - Looking for input on Phase III Pilot of adding biochar to larger floodplain area.
- Bank Management Area (BMA) design
    - Change in terminology influenced by new soil data and stakeholder input.
    - Sketches shown at meeting of select BMAs (sewage treatment plant and Constitution Park)
    - Diagrams of BMA soil cores mercury concentrations shown.
    - Restoration Design of primary and secondary banks.
    - Discussion:
        - Continue working with stakeholders on BMA design.
        - A question was asked about what methods would be used to avoid release of bank soils to river during construction. There is no practical way to keep all sediments from river. Goal is to work from top of bank and try to stay out of the river. Otherwise, there are standard methods for reducing sediment release into river while doing bank construction. Each bank will be case by case scenario.
        - A question was asked on how will biochar be used in bank design?
            - More benefit in excavation to intercept bank leaching
            - Less effective just on top of soil
        - Goal to have 30% design by September
        - City of Waynesboro possibly interested in purchasing Allied Concrete property which includes the Oxbow, some river bottom and stream bank.
        - City of Waynesboro working with DuPont towards solution on BMA design.
- Discussion about Suggestions for October Meeting:
    - Robert asked if there were any suggestions of what SRST members would like to see at October meeting regarding ROPs task team. Suggestions included the following:
        - More on construction projects (BMAs)
        - An opportunity to see materials to be used for public consumption, such as 30% design plans of BMAs.

- Presentation on Mike, Ralph and Vince's trip to the Titawassee River in Michigan where Anchor is currently working on remediating stream banks that have been contaminated with dioxins and other pollutants.
- Conceptual visual of what BMAs will look like in 20 years.
- Long-term operation and maintenance of BMAs
- There was a discussion about creating a video to explain BMA work which then led into talk about using social media.

Human Exposure Task Team: Tim Bingman, DuPont

- Draft fact sheet on consumption of beef, poultry, milk and eggs from animals raised on the South River floodplain was sent out to the review team and comments received. The comments received from different groups/individuals lined up well together. These included:
  - Addressing both adults and children
  - Get rid of "fluff" and get to the results quicker
  - Show results in both graphic and table form
- The Exposure Task Team has been focused on human exposure especially through consumption of possibly contaminated food. After completion of latest factsheet, most possible exposure routes will have been evaluated.
- The final draft of HHRA (human health risk assessment), as required by RCRA, has been submitted to DEQ and waiting for approval. DuPont hopes to meet with DEQ in Sept/Oct to discuss final HHRA.

Monitoring, Modeling and SRST Charter: Ralph Stahl, DuPont

- Monitoring
  - Added additional habitat monitoring to short term monitoring plan to address stakeholder concerns which doubles effort in plan. Modifications have been sent to DEQ for review.
  - DuPont will be seeking DEQ approval to modify fish sampling plan. DuPont wants to change to all non-lethal sampling and drop MeHg analysis for every tissue sample.
- Modeling: Ralph discussed the 3 models that were demonstrated the day before to the Modeling Task Team.
  - John Greene presented his statistics based model based on all the data collected. With the model John is able to make predictions such as if 100% of mercury loading from river bank is stopped (first two miles of river) then there will be a 65% reduction in THg and 75% reduction in MeHg 2 miles downstream and you would need 11 samples to show that reduction.
  - Wayne Landis's Relative Risk Model tying together Eco and Human risk models (not RCRA) together. Will be posted on Western Washington website. Student working on model will be finished in the spring.
  - Christy Foran's Enhanced Adaptive Management model was discussed. Her model takes outputs and criteria and shows progress but does not make decisions.

    - DuPont's future goal is for AECOM to take over the RRM and Adaptive Management models once they are completed.
- Other items discussed:
    - Creating a logic/flow process for using models
    - A need to review final criteria for Enhanced Adaptive Management model.
    - DGIF will be doing another creel survey in 2016
    - Working on database.
    - Dupont will be testing out a real time Hg analyzer at BMA sites. Instrument is actually measuring TSS which is correlated to Hg concentrations.
    - Ralph asked members to look over SRST charter and think about if it needs revision. Last revision was in 2009. Existing charter was sent to the SRST distribution, and comments should be sent to Ralph Stahl or Don Kain prior to the October SRST meeting.

Former DuPont Plant Site Overview: Mike Liberati, DuPont

- Mike gave overview of findings, work completed and results from plant site.
- Findings were outfall 011 and 001 main contributors of loading to the river due to impacted storm sewers. There is impacted groundwater on site, but that is being contained by pumping in the NE corner of the site which is creating a cone of depression. Impacted soils are from area of retort and waste incineration.
- 001 has highest loading and flow. 011 flow has decreased over time due to production ceased in area of source.
- Sewers were cleaned out and slip lined. 27 cubic yards of Hg impacted sediment and an estimated 1000 lbs of Hg were removed. There was an increase in Hg loading to river after cleanup that has since decreased back to post cleanout levels.
- However, loading from 001 has not improved. More work is needed to understand source of Hg to 001.
- DuPont has submitted CMS.
- Future work on site most likely to include source area removal, continued groundwater gradient pumping, capping and draining area or waste incineration and implementation of institutional controls (restrictions on groundwater use).

RCRA Update: Vince Maiden, DEQ

- Once CSM (Corrective Studies Measure) is approved by EPA for plant site work, RCRA permit will be turned over to DEQ for management with DEQ lead.
- For AOC4:
    - Ecological Risk Assessment has been approved
    - The final draft of the Human Health Risk Assessment has been received and is going through review.
    - Continuing design work of BMAs

Next Science Team Meeting:

- **October 21-22**
- **RAP tour of South River BMA's October 23**