South River Science Team

March 19, 2014

Minutes

*Note: This meeting was originally planned to be a face-to-face meeting but was changed to a web meeting due to winter weather. All presentations from this meeting can be found on ftp site and will eventually be added to www.southriversciencteam.org. Please see presentations for more detail on specific topics.

Next SRST meeting: May 29, 2014 (ROPs and other task teams meeting on 28th)

Proposed July meeting: July 29-30

- **SRST Task Team Updates**
  - **Remedial Options**
    - **2014 Program Activities: Nancy Grosso, DuPont**
      - **Field Pilots**
        - **Bank:** 2009 – Present. So far successful, stable, vegetated and the water quality and clams are good.
        - **Pond:** 2011 – Present. Initial results promising. Most significant changes are MeHg in biota. Several flooding events have occurred. Hg concentrations still low, but declines are not as dramatic most likely due to flooding.
        - Floodplain: Lab studies complete. Plants and biota testing possibly by Fall 2014.
      - **University Studies**
        - **Waterloo (Carol Ptacek):** Characterization, leaching properties and treatment option for soil and sediment.
        - **Texas Tech (Danny Reible):** Working on pore water/sediment assessment (DGT and Voltammetry) and nanoparticle characterization and reactive capping testing of biochar amendments and Mn(IV)O2 (moderate redox conditions slowing methylation)
        - **VIMS (Mike Newman):** Working on impact biochar has on amphipods **and** creating more predictive model to predict MeHg bioaccumulation by biota in amended and unamended sediments.
        - **Colorado State (Will Clements):** Studying the potential effects of biochar on the structure and function of aquatic ecosystems using mesocosms.

- **New- U. Mich. (Joel Blum):** Using natural stable Hg isotopes (not radioactive) to answer question is Hg in banks ending up in biota (aquatic or terrestrial orgin)?
- **RRM 3.5 Study Area:** collaboration between Universities, DuPont, and contractor working on biogeochemical dynamics in the GW/SW transition.
- **Phase 1 Design and construction Planning:** Measuring erosion rates, Hg concentrations and determining loading rates in preparation for interim measures work plan and preliminary design report.

- **Action Items from Expert Panel Mtg: Robert Brent, JMU**
  - Turned notes from meeting to action items with time line
  - Lumped/grouped items according to SRST task team responsibilities (monitoring, communications, etc)
  - Looking at how Chesapeake Bay Program goals overlap with planned remedial work possibly getting credits for work completed in Waynesboro
- **Hydrodynamics, Geochemistry and Leaching in RM3.5 Bank Soils: Jim Dyer, DuPont**
  - The current CSM predicts bank leaching contributes 1 – 5% of UTHg water column loading. Recent studies however suggest a larger contribution to both filtered and unfiltered THg, more like 5 – 15% @95 percentile assuming you have HRAD conditions along both banks. Current studies at RRM 3.5 may help us gain more insight into bioavailable pool of Hg. Next steps are to consider contribution to loading under storm flow (above was done for baseflow) and to estimate contribution of bank leaching to MeHg loading in water column. The current CSM assumes banks do not contribute to MeHg loading.

- **BMAs Phase 1 Interim Measures: Clay Patmont, Anchor QEA**
  - Collecting additional information so that Phase 1 interim measures plan can be refined. This includes hydrodynamic modeling using Environmental Fluid Dynamics Code, refining erosion rates using exposed tree roots and LIDAR and taking more soil samples to fill in data gaps and better calculate loading rates.
  - Schedule:
    - March/April – data gap sampling to refine BMA's
    - June – draft Interim Measures Work Plan

- Summer/fall – Interim Measures design and permitting (potentially continuing into mid 2015)

- **Human Exposure: Annette Guiseppi-Elie, DuPont**
  - Draft wildlife factsheet complete
  - Livestock results showed low concentrations Hg in meat, non-detect in milk. Next step writing briefing paper and fact sheet.
  - Poultry study is in design phase. There are currently 5 known "backyard" poultry operations within or close to South River floodplain. Study being designed to evaluate worst case scenario of raising chickens in floodplain and consuming meat and eggs from those chickens.

- **Monitoring: Short and Long-term Monitoring: Ralph Stahl, DuPont; JR Flanders, URS**
  - Documents can be found on the ftp site for review.
  - Comments due by March 31st.
- **Program Integration: Status and Update on RCRA Activities: Mike Liberati, DuPont; Vince Maiden, DEQ**
  - RCRA permit has been modified to include offsite (river and floodplain) contamination. EPA will lead onsite work, DEQ offsite. This marks the end of the Program Integration Task Team. For now on, this section will be referred to as the "Corrective Action Update".
  - February 4, 2014 is the day regulatory requirements started (after 60 day public participation request). This sets up hard deadlines for ecological and human risk assessments. Corrective action to follow. In the meantime, work will start on the first two miles of river as an "interim measures plan".
  - Public notice list has been compiled and it's very big. All landowners adjacent to river were notified and it includes SRST members.
- **Outreach/Public Info – highlight on Promotores Program: Mike Liberati, DuPont; Deb Foy, JMU**
  - www.southriversciencteam.org
    - Additions to website since October 2013 include: SRST charter, "Ecostudy" and "Remediation Proposal" reports, Promotores program, newsletter – second half of 2013, two new publications, events and meeting links updated monthly and "Contact Us" hotlink
    - Statistics since April 2013 include: 1,023 visitors (64% new), average duration of visit 3.2 minutes, average pages viewed was 3.2, top visitor cities include Richmond, Harrisonburg, Waynesboro, Staunton and Charlottesville, most popular pages include home page, news, programs, what is SRST, advisories, recreation, timeline, documents, Promotores and contacts.
  - Upcoming Activities:

- 25th Annual Environment Virginia Symposium – April 8 – 10
- Waynesboro Fly Fishing and Wine Festival – April 12 – 13
- 1st Annual One Fly Competition – April 26
- Waynesboro Riverfest – May 3 (Student Day May 1)
- 35th Annual SETAC North America – November 9 -13

- **Promotores Program**
  - A new coordinator has been hired, Deb Foy
  - Since 2000 there have been 40 trained Promotores and >6000 people reached. 1 in 9 people in VA are now foreign born (9% Harrisonburg, 2% Waynesboro). Harrisonburg training ends April 4 and had 12 participants. Waynesboro training starts April 12th. All classes open to public.
  - Cooking classes start April 7th with New Community Project and VA Cooperative Extension and will feature a fish advisory lesson. Promotores will be participating in Health Fairs April 23 – 24. And the PDS Regional Conference is being held May 10th.
  - Future vision of Promotores program is to provide similar outreach to other communities providing translations and classes. Looking in to starting Promotores Jr. pilot course targeting 15 – 18 year olds in Waynesboro August 2014. Also, JMU students will be working on a "mercury storybook" during the Fall semester 2014.