

South River Science Team

January 11, 2011

Web meeting

Welcome, Introductions: *Don Kain, DEQ*

Expert Panel Feedback: *Jim Dyer, DuPont*

- There was conference call back around Thanksgiving with Expert Panel to provide initial feedback to their comments from the October meeting.
- Slides show results of discussion. Highlights listed below:
 - Reconcile long term vision for South River
 - Expand SRST outreach
 - Accelerate shift in emphasis for SRST
 - Better articulate and substantiate conceptual models
 - Get more specific on remedial options

Questions/Issues under Regulatory Programs: *Ralph Stahl and Mike Liberati, DuPont*

- Ralph presented draft write up of uncertainties driving work on South River. These include the following. See write up for explanations:
 - How is Hg getting into the aquatic and terrestrial ecosystems?
 - Why has Hg remained higher than previously predicted in fish tissue in certain areas?
 - Are there specific Hg pathways that significantly contribute to Hg levels in aquatic and terrestrial species?
 - Have aquatic and terrestrial species been impacted as a result of exposure to Hg?
 - Are there potential remedial or mitigation options that might reduce or eliminate entry of Hg into the aquatic and terrestrial ecosystem?
- Mike presented table of regulatory programs with start and implementation dates. See Program Drivers table on website.
 - Comment was made to include list of other non-Hg projects occurring on river that could be relevant to Hg issue (non-Hg TMDL work, TU work, etc.). Also, may want to include Human Exposure Workgroup work and 100 yr monitoring plan.

Mercury in the Aquatic Environment/Eco Studies Update: *Greg Murphy, URS*

- Greg opened with group discussion.

- CADDIS recommended as useful tool for stressor analysis (see EPA-CADDIS on web).
- Ecostudy
 - Preliminary data evaluations for fall were completed for fish and macroinvertebrate studies.
 - Preliminary BASS model simulations were completed for selected fish species.
 - Next steps:
 - Consultation with NRDC 2/7-8
 - Data integration and evaluation
 - Preparation of Phase II report

Remedial Options – Activities and Update: *Nancy Grosso, DuPont*

- Nancy addressed comments made by expert panel. Categories are listed below. See presentation for explanations.
 - Feedback from panel as it relates to remedial decisions.
 - Conceptual model and mass balance.
 - Managing mercury
 - Watershed management
 - Mercury management

Hg in Terrestrial Environment/Bio Studies: *Anne Condon, USFWS*

- Most studies are completed. No field work is planned for 2011.
- Bats
 - Radio telemetry used to establish distance bats are travelling from river.
 - Determined geographic extent of Hg contamination downstream in South Fork Shenandoah River.
- Turtles
 - 1100 turtles caught in 2010. 4 species, 388 were snappers
 - Analyzing blood, muscle and eggs.
 - Conducted performance trials.
 - Righting response = 614
 - Terrestrial locomotor performance = 609
- Toads conclusions
 - Embryonic effects and delayed maturity have minor effects on populations.
 - Maternal and dietary Hg alone have minor effects on population dynamics.
 - Larval effects have serious consequences.
 - Maternal and high dietary Hg together decrease adult density and increase local extinction.
 - Minor additional adult effects can be important.

- Implications for restoration:
 - Larval stage is good target for restoration.
 - Reduce Hg exposure through larval diet.
 - Residual maternal effects have minor effects on abundance or extinction rate.
 - Birds
 - Work continued downstream along South Fork
 - Carolina wren study completed
 - W&M aviary study continues.
 - Trophic model completed
 - Hg accumulates up to 4x faster in terrestrial environment than aquatic.

Human Exposure Issues/Exposure Task Team Update: *Annette Guiseppi-Elie, DuPont*

- Experts commented 2-way communication needed.
 - Outreach work has gotten better. Working with JMU Blue Ridge Area Health Education Center on outreach projects aimed at Hispanic/immigrant community.
- Deer sampling
 - Deer sampling this past year was slow. 3 deer collected so far. Statewide, deer harvest down at least 10 percent. Collection permit is good for another year so we are using it now to try and collect a few more samples from Forestry Center.
- Livestock sampling
 - Plan being developed. Hopefully will implement this year.
- Creel Survey
 - New survey being considered.

Wrap up, Action Items, Next Meeting: *All*

- Next meeting April 26, 2010 in Harrisonburg
- Items for April Meeting:
 - Ecostudy field schedule
 - ROPs-conceptual model: what we have, need, lines of evidence
 - Robert Brent's Waynesboro WWTP downstream nutrient study update
 - Maybe talk by City on STP plant upgrades
 - Jim Pizzuto work
 - Update from Waterloo studies
 - Additional floodplain sampling/ponds
 - Interim measures plant site
 - Former DuPont plant outfall monitoring program
- Second half 2010 newsletter out by end of January. Need ideas for Spring 2011
- NRDA plan goes public in February

- Webinar on sediment amendments Jan 19th