

South River Science Team Meeting
October 25, 2012

Open Discussion Comments:

- Dredging of the riverbed of the South River should be removed from the list of possible remediation options. Ecological impacts from dredging would be severe and recovery would take many decades.
- Long-term habitat monitoring is needed to ensure that remediation practices do not destroy or degrade habitat and cause further impairment of aquatic and terrestrial communities.
- Bank stabilization, soil/sediment amendment (carbon, biochar, etc.) practices, and reductions at the plant site are viewed as being viable for pilot studies or implementation in the near future. Other options seem to be much lower on our priority list, but need to be fully explored. Which options are rate-controlling?
- How do we segregate the different mercury sources? Important to be able to treat and monitor each source separately in a manner that allows measurable progress to be quantified.
- Elimination of the continuing releases of mercury from the former DuPont plant site to the South River should be a top priority. The plant site is not just a legacy source, but continues to release mercury to the river. The effectiveness of other remedial measures along channel margins/banks and floodplain cannot be clearly measured if mercury continues to enter the river from the plant site.
- Can the adaptive management model help predict which sources are creating impacts in different areas?
- Remedies such as capping and dredging can be very destructive. We should take advantage of every tool and the most complete knowledge to ensure that we don't "kill the patient to cure it." Remedial measures may disrupt the ecosystem, and we should make every effort to enhance, rather than degrade, the local habitats and communities. We need "no regret" options.
- We need to come up with a simple list of remedies that everyone can agree on.
- We should employ high-resolution maps and aerial images to identify target areas for different remedial strategies. [Reply - GIS maps are in place and are being used on this project, but have not yet had layers developed for remediation.]
- SRST members should coordinate with NRCS and SWCD local offices to encourage farmers to apply for cost-share funds and implement BMPs.
- The "tea bag" approach and similar technologies, using biochar or other carbon-based materials with an affinity for mercury, should be employed where possible. These technologies may be less physically disruptive than others (bank stabilization, soil amendments) and allow the contaminated media to be removed and renewed. "Aqua-Block" was also mentioned as a technology for consideration.
- Is mercury directly affecting the biological populations in the river? These issues are being addressed through the NRDA process.
- Can technology allow us to achieve our target of 0.3 ppm Hg in fish? Unknown, but it is likely to take reductions from all 3 sources: floodplain/banks/channel

margins, river sediments, and plant site. Note – the goal of 0.3 ppm Hg in fish tissue is much more achievable in the South Fork of the Shenandoah River than in the South River. Achieving this goal in the S. Fork Shenandoah River would release 100 miles of river from the consumption advisory.

- A Monitoring Task Team is needed. Effective long-term monitoring is needed to evaluate the effectiveness of remediation and restoration. Will Clements will coordinate this effort. We are looking for volunteers for this team (contact Ralph Stahl or Don Kain if you are interested).
- Are there other technologies we should revisit? In early discussions among SRST members many technologies were discussed. We should revisit those discussions and be open-minded to innovative approaches.
- More knowledge is needed about methylation and de-methylation. Can we influence the methylation process without causing harm elsewhere?
- Land-use and ownership remain as challenges. Much of the floodplain is in private ownership, so we may not have free reign to apply remedial technologies where we think they might be most effective.
- Meeting Format. The meeting format (invited speakers, progress updates, proposals for next steps, and open discussion) came out of discussions from last year's October meeting. Was this format effective?
- Recommendation to call next year's meeting a "program review," rather than "expert panel" meeting.