



## Meeting Summary

### Tuesday, April 29

**Welcome and Introductions.** Don Kain welcomed all and outlined housekeeping. Self-introductions were made. Attendees are listed on Attachment 1, page 6.

**Corbicula Results.** Tom Benzing presented the results of the fall 2002 *Corbicula* sampling in South River (see Presentations folder). Results correlated very closely with earlier work done by Doug Graber-Nufeld at those sites sampled under both studies. They also were extremely well-correlated with DEQ fish data. *Corbicula* were felt to be a very useful and practical bioindicator of mercury contamination and will be considered for additional mercury monitoring in South River. Tom intends to contact Doug to discuss options for a future collaborative Science Team project.

**DuPont Stormwater Sampling.** Mike Sherrier outlined DuPont's plans for a detailed stormwater sampling effort (Presentations folder). The survey, anticipated this spring, will address areas throughout the plant site with the potential for mercury contaminated soils and associated runoff. This work is associated with a Corrective Action Program for the site that targets areas of known soil contamination. Sampling will be conducted both during a "base flow" period and during a rainfall event that meets EPA criteria for stormwater sampling. DuPont will mobilize 5 sampling teams, each consisting of 2 people, to capture the target storm event. In addition, DEQ will mobilize a team to sample several sites in South River during the same storm event.

**Floodplain / Trib Sediment Input Study.** Dick Jensen discussed the need to address the contribution of sediment from near-river floodplain areas. The objective of this work would be to attempt to determine the roles of various "sources" influencing sediment mercury in South River. Dick's presentation can be found in the Presentations folder. He advocated a "whole watershed" approach to exploring sediments, including the roles of floodplain, bed sediments, underlying strata, groundwater, and the dynamics between all these factors. Past and proposed work to fill in data gaps includes the 2002 DEQ water intensive survey (seeking groundwater inputs) DuPont's proposed storm water sampling at the plant site, floodplain soil sampling, Dick's proposal to sample tributaries whose drainage areas are primarily within the floodplain, and the use of conceptual models. Floodplain tributary sampling is anticipated this spring, using teams of DuPont and DEQ staff.

**Sediment Monitoring.** Don Kain discussed sediment issues related to DEQ's long-term monitoring program. A concern of earlier sediment sampling is that samples were taken of the "best material available" in a subjective manner at each site, with no way to account for the many variables (such as grain size) that may affect mercury concentration. Don suggested that DEQ explore and refine methods prior to the scheduled 2007 sediment monitoring period in an effort to "normalize" sampling such that data between sites truly reflect differences in location, rather than being highly influenced by other factors. A primary focus of this effort will be to develop methods which will selectively sample the most sensitive sediment types at each site, regardless of the predominant substrate characteristics. For example, even the areas of river with a mostly cobble/gravel bottom should yield sufficient quantities of fine-grained sediments (expected to be the target

**South River Science Team**  
**April 29, 2003**

material). Don sought input from the group on sampling methods to allow similar material to be efficiently collected, regardless of the predominant bed material. One option that DEQ will explore further is a device that incorporates a moveable stilling well to allow selective sampling of fine grained materials, even where current is strong and the substrate is predominantly larger-sized material. DEQ will provide an update and preliminary proposal at the next meeting.

**Fish Tissue update.** Don shared preliminary results of DEQ's methyl mercury data from the 2002 fish collections. Methyl mercury was found to consistently comprise approximately 85% of the total mercury found in fish sampled. All fish collected during 2002 were analyzed for total mercury, with ten percent of those samples also being analyzed for methyl mercury.

**Intensive Survey Follow-up.** A brief discussion was held regarding follow-up to the DEQ summer 2002 intensive water sampling effort on South River. One station (#2, downstream of Hopemen Parkway) yielded considerably higher total mercury values than any other sites. DEQ proposes to resample this area during 2003 by bracketing the site with several closely-spaced stations. Closely spaced river sampling along the area of the DuPont plant may also be conducted. DEQ will provide a preliminary proposal at the June meeting.

**Newsletter / Outreach.** Mike Liberati announced plans to get the spring issue of the newsletter out in May. Proposed articles can be viewed in the Presentations folder. Ideas for the next issue were solicited. Mike also highlighted recent outreach efforts, including the DuPont Community Advisory Panel meeting in March 2003 at the DuPont plant. Brenda Kennel informed the group of the Shenandoah River Roundtable forum planned for late May. The group agreed that a poster or display from the Science Team would be appropriate for this event. A work group to develop a display was formed and included Brenda, Don, Ralph, Erin Mack, and Nancy Grosso.

Rick Straitman asked if we could think of any discreet group that we may be missing in our outreach efforts. Dan Downey suggested that we may need to do more to effectively reach the Hispanic users, as many may be catching and consuming fish. Rick said he would look into different media opportunities to reach the Hispanic community. Annette said she will contact Dr. Wasti about developing warning signs in Spanish. Dean Cocking suggested that some Blacks in the Waynesboro may also be regular consumers of fish. The upcoming Shenandoah River Sojourn was identified as an opportunity to reach a highly diverse group of people. DGIF will be participating in the event. Mike Newman mentioned that a brochure sent to local schools may be helpful. Steve Reeser suggested a "good news" newspaper article with factual mercury information. Rick suggested that we develop a short communications plan for the Science Team. He and Mike Liberati will work on this.

**Crop Uptake Study.** Annette Guiseppi-Elie filled in for Bill Berti and provided a summary of a recent soil sampling event at the Augusta Forestry Center near Crimora (Presentations folder). Plans are to study two plots: One in the floodplain near the river and one in an upland portion of the Forestry Center. Results are expected shortly and will be shared with all.

**South River Science Team**  
**April 29, 2003**

**Nutrient Data.** Ralph Stahl discussed nutrients which may influence mercury and the need to compile available data. DEQ will review historic records and provide Ralph any data he is missing.

**Manuscript.** Ralph asked for additional volunteers to participate in the development of a manuscript outlining the history of the mercury problem and the ongoing efforts of the members of the Science Team. Target date for the 1<sup>st</sup> draft manuscript is June 2. The draft will be shared with all Science Team members. A target for submittal to a journal is the end of 2003 or early 2004.

**Bird Studies.** Ralph brought up the subject of birds and mercury contamination. Although birds have been studied at other sites, little is known about whether birds have been impacted locally from mercury in South River. No data have been collected. We agreed that it would be desirable to obtain local inventory information. Ralph will use fish data from South River and plug the figures into relationships known from other studies and will share the results at our June meeting.

**Working hypotheses / Brainstorming.** Ralph led a discussion of the working list of hypotheses and priorities developed over past meetings. Specific issues and/or action items from this discussion are below.

- Ted Turner will compile historic sediment data and provide to Ralph
- Erin Mack announced that DuPont has invited Dave Krabbenhoff, a mercury expert from USGS in Wisconsin, to present a seminar. Details forthcoming.
- Don suggested that sediments be moved to a higher priority in order to refine sampling methods before the scheduled 2007 trend sampling period.
- Dick inquired about details of a follow-up to the DEQ 2002 intensive survey and suggested we explore the use of surrogates or indicator parameters. DEQ agreed to develop a scope of work. Don asked for folks to provide recommendations to him.

Next Expert Panel Meeting. Ralph asked that we all be thinking of the October meeting and its agenda. We anticipate a full two days for this meeting.

**Wrap-up / Next Meeting.** The next meeting will be June 24. Tentative agenda topics:

- Crop Uptake Status
- Coring
- Sediment ideas
- Intensive Survey follow-up
- Fish data statistics
- Floodplain Soils
- Communications Plan
- Stormwater
- Bird Studies
- Seasonal Fish Tissue

**South River Science Team**  
**April 29, 2003**

**Wednesday morning, April 30**

**On-site tour of DuPont facility, Waynesboro.** Brenda Kennell provided a tour of the Waynesboro DuPont plant. The focus of the tour was on portions of the property known to have some history of mercury contamination and any wastewater streams associated with these areas.



Filling Data Gaps, Ralph Stahl

## Ongoing or Completed

- **Sediment Sampling and Coring**
- **Corbicula Studies**
- **Fish Diet Studies**
- **DuPont Site Stormwater Investigation**
- Investigate Floodplain (& for purposes of CSM) / Vegetation / Biota
- **Publications (need some common definitions)**
- Water Column Sampling (ions, etc.)

## Planned or Proposed

- **Investigate 2<sup>nd</sup> St. Landfill**
- **Initial estimate of bird exposure and hazards**
- Sampling Periphyton / Aquatic Vegetation
- Round 2 - Intensive Water Column Sampling
- Sediment Sampling & Analysis
- Non Trust-fund Fish Sampling
- Atmospheric Deposition Studies
- Develop Basic Mass Balance, etc.
- Develop set of bioindicators (including fish)
- **Modeling Help**
- **Hg Speciation**

## Related Activities

Seminars and presentations by experts - USGS