

Columbia River Toxics Monitoring Strategy Meeting
Washington Department of Ecology, Lacey, WA
March 30, 2006

Summary Notes

Thank you all for attending and participating and special thanks to the Dale Norton from the Washington Department of Ecology for graciously hosting everyone at the meeting. A list of meeting participants is attached at the end of this document.

This meeting was a follow-up to the Mid-Columbia River Monitoring Group that was created at the February 16, 2006, Mid-Columbia River Toxics Reduction meeting at The Dalles. At that meeting, Pat Cirone, EPA, took leadership to create a monitoring group and hold a follow-up workshop/meeting to move forward on the development of long term monitoring strategy. With Pat's retirement, Bruce Duncan from the EPA Office of Environmental Assessment will be taking over the leadership of this Columbia River Monitoring work effort.

A copy of the summary notes from the monitoring discussion on Feb 16th is also attached at the end of this document. Here is a brief summary of the Mar 30th meeting:

1. PROBLEM FORMULATION

This work effort is ongoing by all of us. As a reminder, problem formulation is an early step in an assessment that establishes the goals, breadth, and focus of the assessment. It also establishes the ecological/human-health/cultural values to be protected. This step describes the existing and potential exposure pathways and effects. As part of Problem Formulation, a conceptual model is developed that describes the relationship between exposure and effects. Problem formulation culminates in agreements on what will be assessed, the exposure pathways, and the main questions to be answered (such as condition, trends, data gaps, etc.). These agreements also describe the approach, types of data, analytical tools to be used, and how the data will be interpreted.

As a group, we shared "why we were there" and what data we could bring to our collaborative table. After that, we spent considerable time discussing Conceptual Models.

2. CONCEPTUAL MODEL DEVELOPMENT

Jesse Schwartz (Confederated Tribes of the Umatilla Indian Reservation) presented a mass-balance model that we modified as a group to capture our concept of important components and processes. That draft model is attached. He offered to take the model and put it into the STELLA format as a conceptual model. This model is intended to help the Columbia River monitoring workgroup prioritize future monitoring work efforts. He will be sending out a draft Stella model by May 31 and ask for input to fill it out. Jesse also proposed that we try to acquire contractor dollars to support this work.

3. SPMD GROUP

A SPMD Group has been formed and Dale Norton from Ecology agreed to convene this group to develop an integrated SPMD proposal. This group will meet and share information on Quality Assurance Project Plans (QAPPs).

4. **NEXT STEPS** - Everyone is being asked to provide (electronic/URLs/etc.) the following feedback by the May 31.
- Priorities: How would/do you prioritize monitoring proposals?
 - What is your top suggested monitoring need for the mid Columbia? And why?
 - Geographical setting: What is the highest priority location for you? Why?
 - Models: What process models (e.g., hydrodynamic, sediment, air, foodweb, etc.) do you use or know of that we could consider when developing our prioritization strategy?
 - Please provide any conceptual models that have you developed/used to guide your monitoring priorities
 - QAPPS: Provide QAPPS that you have developed so we can have them accessible

5. NEXT MEETING

James Thomas from Yakama Indian Nation has proposed that the next meeting of the monitoring group be held on the Yakama Indian Nation reservation. We suggest the last week in June (preferably June 22nd) to have time to meet the action items listed below. Some agenda items for June could include:

- Discussion of revised conceptual site model, list of priority areas/projects
- Update from SPMD group
- Additions to the requested items
- Discussion of EPA's proposed monitoring projects
- Closure of Problem Formulation – what is known, valued, data gaps, etc.

6. ACTION ITEMS

1. By May 31: Jesse Schwartz will send out latest draft Stella conceptual model for feedback
2. By May 31: Bruce Duncan and Mary Lou Soscia will send out a short proposal for monitoring (the goal is to start requests for funding ASAP), building on the CRITFC study and integrating with the larger monitoring framework we continue to work on
3. By May 31: Monitoring Team members will provide input (see #4 above)
4. June meeting: SPMD group will provide an update of their coordination/activity.

Columbia River Toxics Monitoring Strategy Meeting
March 30, 2006 - R1S-17 - Sign-in Sheet (emails added, please check!)

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Summary of Feb. 16th Mid-Columbia River Meeting Monitoring Discussion

Review & Discussion of Monitoring Workgroup Ideas

Pat Cirone of EPA began the Monitoring Workgroup session by briefly reviewing components of a modular monitoring approach (e.g., deep sediment cores) and identifying questions participants need to consider when determining a monitoring project for the Columbia River. In addition, Pat reviewed areas within the Columbia River where sampling has been done by EPA and Ecology.

Next, Brent Foster of Columbia Riverkeeper briefly presented the Columbia River Point Source Toxic Load Analysis monitoring proposal. This proposed project would evaluate existing toxics discharge data to estimate toxic load contributions from major point source dischargers in the mid-Columbia Basin, by:

- Collection and review of National Pollutant Discharge Elimination System (NPDES) permit documents for major industrial and municipal discharges (“facilities”) in the Columbia River Basin to identify facilities discharging priority pollutants;
- Collect and review existing toxics monitoring data (EPA Form 2C’s, Discharge Monitoring Reports where applicable,) from facilities;
- Use toxics monitoring data and yearly flows to extrapolate annual toxic loads on a pollutant-by-pollutant basis for each facility;
- Prepare a cumulative toxic load accounting for priority toxics by combining toxic load projections from major facilities on the Columbia River;
- Evaluate what portion of the toxic load is the result of allowances for mixing zones and make recommendation on whether increased controls on mixing zones is warranted based on level of level of toxics discharged under point source NPDES permits;
- Prepare GIS mapping of Columbia River major facility dischargers with priority toxic load values shown for each facility

The estimated cost of this project is \$ 30,000 to \$40,000.

Next, Don Essig of the Idaho Department of Environmental Quality (DEQ) briefly presented a mercury and fish tissue monitoring program that is currently under consideration/development in Idaho. This project would do targeted and random monitoring at 24 sites throughout Idaho over a five year duration; six core sites per year in addition to rotating sites to analyze trends. The goal of this project would be to identify the source of the mercury, which appears to be largely an air emissions issue. The next step for this project is to try to obtain funding from the state legislature; Don believes there is a good chance the project will receive funding because the project is driven by human health.

Next, Dale Norton of the Washington Department of Ecology briefly presented a Washington and Oregon “Columbia River Toxics Monitoring Proposal”¹ for identifying sources of toxics in the Mid-Columbia River using passive samplers and resident fish tissue survey to assess human health implications in the mainstem Columbia River. This proposal builds on a 2003 monitoring study that evaluated concentrations of 303(d) listed

¹ This 5-page document was emailed to participants prior to the meeting.

chemicals in the lower Columbia River using Semi-Permeable Membrane Devices (SPMDs). Specifically, this proposal would extend the earlier study approach into the Mid-Columbia River by deploying SPMDs immediately upstream of each of the Columbia River dams from Grand Coulee to Bonneville (11 sites), at the downstream end of the Hanford Reach (one site), and at the mouths of all major tributaries (16 sites). In addition, resident fish species would be collected from 11 reaches of the mainstem Mid-Columbia River, one reach behind each of the dams where SPMDs are being deployed, to assess fish tissue. The estimated cost for the full (SPMD & fish) Mid-Columbia River study is \$543,557, and various sub-options are identified in the Proposal document.

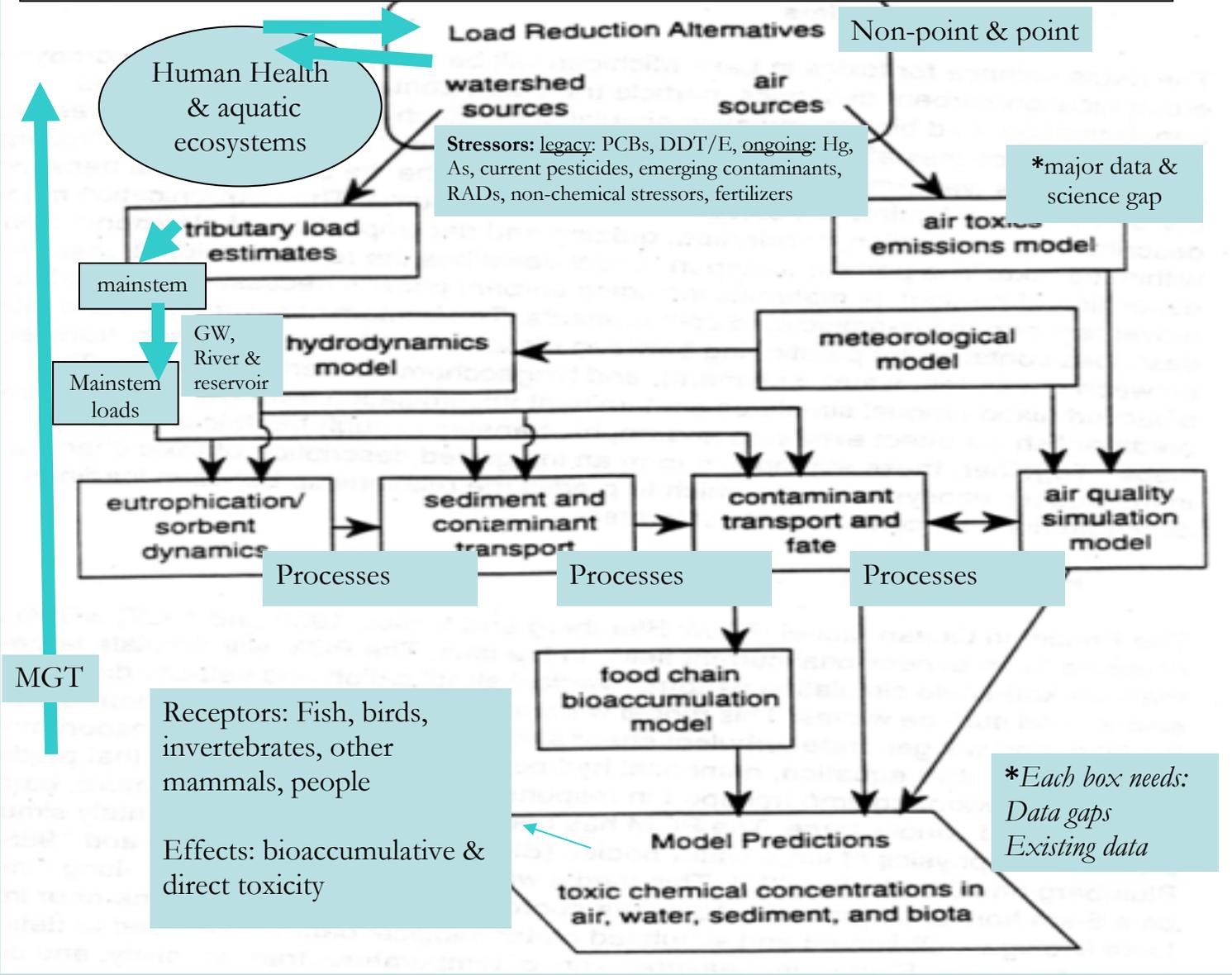
Next, Greg Fuhrer and Joe Rinella of USGS briefly discussed two sampling techniques, specifically passive and instantaneous/discrete sampling. Greg and Joe noted that each sampling technique alone has limitation and disadvantages, but that both techniques could be used in combination for a more integrated and holistic sampling approach.

Pat Cirone closed this session by indicating that participants need to determine the focus of a monitoring project for the Mid-Columbia River, including whether the study would focus on human health or ecosystem, whether sampling should be targeted or random, and whether a modular approach as discussed earlier should be pursued. Due to time limitations, Pat suggested it was not possible to make all these determinations at today's meeting; as such she proposed that there be a to work on designing a module monitoring program/project for the Mid-Columbia River. The following participants volunteered to work on the design team:

- Barbara Harper
- John Sands
- James Thomas
- Jesse Schwartz
- Alec Maule
- Brent Foster
- Agnes Lut
- Andrew Kolosseus or Dale Norton
- Lyndal Johnson
- Greg Fuhrer
- Jennifer Morace
- Rachael Pecore

Action Item: Participants determined that the Design Team will meet in late March to develop a monitoring approach/study for the Mid-Columbia River. Pat Cirone will organize this meeting.

Columbia River Conceptual Model – *Mid-Columbia Monitoring Design Team – March 30, 2006 (Lacey, WA)*



Based on Lake Michigan: <http://www.epa.gov/glnpo/lmmb/workplan/Modeling.htm>