Columbia River Basin Restoration Program Monitoring Webinar

FEBRUARY 11, 2021

EXECUTIVE SUMMARY

At the October 22, 2020, Columbia River Basin Restoration Working Group meeting, several attendees expressed interest in a follow-on discussion, focused on the monitoring grants awarded in September 2020 through Clean Water Act, Section 123, Columbia River Basin Restoration Program. EPA supported the development and facilitation of this monitoring webinar, which was held on February 11, 2021.

EPA invited seven of the inaugural Columbia River Basin Restoration Funding Assistance Program grantees that are planning or currently conducting monitoring activities. In addition, EPA invited working group members and regional partners from across the Basin that have expertise in monitoring efforts.

The goal of this collaborative meeting was to provide a flexible forum for grantees to share monitoring activities, discuss analytical methods, ask questions of EPA and other grantees, and share information and best practices.

To support the webinar, EPA prepared a number of resources, included in this packet. These include:

- **Summary the Columbia River Basin Toxics Monitoring Webinar.**
  - This document summarizes the presentations, discussion, and next steps from the February 11, 2021 Monitoring Webinar.
- **Appendix A:** Meeting Agenda.
- **Appendix B:** Presentation on the History of Columbia River Basin Toxics Monitoring by Mike Cox, EPA retired.
  - This presentation provided historical context of monitoring in the Columbia River Basin, including past efforts to develop a monitoring strategy for the Basin.
- **Appendix C:** Presentation on Columbia River Basin Grantee Monitoring Projects by Lon Kissinger, EPA/Arthur Preston, OHSU/PSU.
  - This presentation summarized the seven monitoring grants and introduced the table that compiles chemicals, media, and methods being sampled by the grantees (see Appendix E).
- **Appendix D:** Presentation on Non-targeted Analysis of Columbia River Waters Contaminants using Liquid Chromatography and High-Resolution Mass Spectrometry by Andy James, University of Washington.
  - This presentation provided more detail on the novel approach to monitoring being implemented by the University of Washington Tacoma grantees.
- **Appendix E:** Spreadsheet describing contaminants monitored in each medium by grantee and analytical methods used.
  - EPA developed this spreadsheet to compare chemicals, media, and methods being sampled by the seven grantees with the intention of enabling all parties to compare their approaches and inform the discussion about pros and cons of various methods, compatibility of results, and areas of overlap between efforts.
- **Appendix F:** Detailed table of grantees and monitoring project descriptions.
  - This summary table provides a high-level description of the seven monitoring projects' scopes and objectives.
- **Appendix G:** A preliminary list of references on Columbia River Basin Toxics Monitoring (SEE: https://www.zotero.org/groups/2720722/columbia_river_monitoring_resources/library).
  - This list of Columbia River Basin Monitoring Resources (available at the link, above) can serve as a living document to consolidate monitoring-related literature relevant to the Basin.
- **Appendix H:** A list of Columbia River Basin Toxics Action Plan actions relevant to CRB long term monitoring.
  - This attachment highlights the monitoring-related initiatives proposed in the EPA 2010 Columbia River Basin Toxics Reduction Action Plan to provide additional historical context for current monitoring efforts.
- **Appendix I:** Columbia River Basin Long Term Monitoring Strategy Development Questions.

All appendices are available on EPA's FTP site at:
https://gaftp.epa.gov/region10/columbiariver/TRWG/Meetings/2021Feb-Monitoring-Webinar/

WEBINAR SUMMARY

Columbia River Basin Restoration Program Monitoring Webinar
Facilitated by U.S. EPA Region 10 and 8 with support from Greg Frey, The Council Oak

February 11, 2021
10:00 AM – 12:00 PM PST

Attendees:

- Alan Kolok, University of Idaho
- Andy James, University of Washington Tacoma at the Center for Urban Waters
- Arthur Preston, OHSU-PSU
- Ashley Zanolli, EPA Region 10
- Brad Barnhardt, National Council for Air and Stream Improvement
- Collin Eagles-Smith, U.S. Geological Survey (USGS)
- David Gruen, EPA Region 10, ORISE
- Dianne Barton, Columbia River Inter-Tribal Fish Commission (CRITFC)
- Dorie Sutton, City of Vancouver, WA
- Elena Nilsen, USGS
- Erik Peterson, EPA Region 10
- Greg Frey, The Council Oak
- Ian Waite, USGS
- Jennifer L Morace, USGS
- Karl Rains, WA Ecology
- Keith Dublanica, WA State Governor's Salmon Recovery Office
- Keith Seiders, WA Ecology
- Ken Clark, Nez Perce Tribe
- Kris Olinger, City of Vancouver, WA
- Krista Mendelman, EPA Region 10
- Laura Shira, Yakama Nation
- Lilian Herger, EPA Region 10
- Linda Nemeth, Nez Perce Tribe
- Lon Kissinger, EPA Region 10
- Margaret Drennan, Washington State Department of Agriculture
- Michael Cox, EPA Region 10 (Retired)
- Mary Lou Soscia, EPA Region 10
- Michael Fischer, EPA Region 8
- Michelle Mullin, EPA Region 10
- Michelle Wilcox, EPA Region 10
- Nanette Nelson, University of Montana
- Nicole Taylor, EPA Region 10
- Patrick Moran, USGS
- Peter Brumm, EPA Region 8
- Peter Ismert, EPA Region 8
- Peter Murchie, EPA Region 10
- Sierra Higheagle, Nez Perce Tribe
- Tim Counihan, USGS
- Tony Olsen, EPA ORD
- William Hobbs, WA Ecology

Purpose

This monitoring webinar was organized and hosted by the Columbia River Basin Restoration Program (CRBRP) in response to interest expressed at the October 22, 2020 Columbia River Basin Restoration Working Group meeting. A desire to provide a forum to share ideas and coordinated monitoring efforts in the basin was expressed. Of the 14 grants funded through the first round of Section 123 funding a total of seven are directly involved with monitoring for toxics. These seven grants represent a diverse coalition of stakeholders each uniquely approaching the effort of monitoring. The potential to share resources and lessons-learned, as well as begin to develop a framework for long term monitoring strategy was a primary goal.

Introduction

Presenters: Mary Lou Soscia, EPA Region 10; Greg Frey, Council Oak

- Mary Lou welcomed attendees and provided a basic history of the program and the origins of the seven monitoring grants. The origin of this current monitoring effort came from the October 22nd, 2020 Working Group meeting where individuals expressed interest in a monitoring focused meeting.
- Mary Lou handed the meeting over to Greg Frey who facilitated the meeting and provided organizational support.

Background on Monitoring in the Basin

Presenter: Mike Cox, retired EPA Region 10

- Mike Cox gave a brief presentation on the history of monitoring in the Columbia River Basin, as well as past efforts to develop a monitoring strategy.
- Mary Lou highlighted EPA's most recent report, the 2019 Columbia River Basin Toxics Reduction Status Update. Mary Lou discussed how that report informed prioritization of resources for Section 123 of the Clean Water Act.

Overview of grantee monitoring projects

Presenters: Lon Kissinger, EPA Region 10; Arthur Preston, OHSU-PSU Graduate Student

- Lon Kissinger gave an overview presentation of:
  - Each of the seven monitoring grants, including the geographic scope of each project.
  - An overview of an Excel spreadsheet which identifies and compares the contaminants being monitored by current grantees, the media sampled, and the analytical methods used.
- Arthur Preston gave a brief presentation of a Columbia River Basin monitoring resource list being compiled using Zotero software (available at: https://www.zotero.org/groups/2720722/columbia_river_monitoring_resources/library).

What makes the UW Tacoma project unique?

Presenter: Andy James, UW Tacoma Center for Urban Waters

- Presentation by Andy James on conducting non-target screening for chemicals of emerging concern in the Columbia River using liquid chromatography and high-resolution mass spectrometry.
- This is a unique method of monitoring where instead of targeting a specific list of contaminants, one can identify thousands of potential chemicals and their water concentrations.
- For chemicals with effect levels provided in toxicologic databases (Tox21 etc.), the ratio of ambient levels to effect levels is used to measure the environmental hazard that a chemical poses.

Open Discussion

- Laura Shira (Yakama Nation Fisheries, grant recipient) is working on planning a large-scale monitoring effort of the Columbia River mainstem. Requesting feedback and input on what contaminates to test for.
- The group discussed the best methods for PCB testing in the CRB. The group's consensus was that method 1668, which utilizes gas chromatography and high-resolution mass spectroscopy, was recommended over the older method 8082, which utilizes gas spectroscopy and an electron capture detector. The use of 8082 to have current

results that are comparable with historic data was outweighed by the much greater sensitivity of 1668. 8082 is not sufficiently sensitive to detect PCB congeners of emerging concern (e.g. lower molecular weight PCBs produced via pigment manufacturing). Nor is 8082 sufficiently sensitive to detect PCB fish tissue levels that are of concern in assessing the risks PCBs pose for Native Americans with high fish consumption rates. 1668 congener data profiles can be used to address source attribution, fate/transport, bioaccumulation, and to identify levels of "dioxin-like" PCBs to assess overall risks from dioxin-like PCBs, polychlorinated dibenzofurans/dibenzodioxins.

- The group discussed issues regarding best practices for collecting and analyzing sediment samples. Some programs are having problems with getting results, and a request for best practices regarding processing the samples was made.
- The group discussed creation of a publicly available web-based repository for all Columbia River Basin monitoring data sets. It was emphasized that a repository needed to include metadata (e.g. were sample results wet weight or dry weight, what type of sampling was done, etc.) that would allow for correct interpretation of data sets. It was noted that a comprehensive database similar to Ecology's Environmental Information Management System was likely to difficult to create due to cost and other resource issues.
- The need for creation of a compendium of recommended sample collection and analytical methods was identified. Such a compendium would ensure that sampling and analytical methods supported research objectives. For example, collection of grab water samples rather than composites over longer time periods might lead to errors in associating fish tissue and water concentrations. It was noted that such an effort would require significant human resources.

Closing and next steps, *Lon Kissinger and Mary Lou Soscia*

- Lon Kissinger put the call out for grantees to join him in beginning to develop a long-term monitoring strategy. Future meetings might include guest presenters from other geographic programs (Great Lakes, Chesapeake Bay, etc.) speaking about their experience in conducting monitoring.
- Lon noted that a long-term monitoring strategy effort should not focus on perfectly addressing all issues, but should take a task-oriented approach to make progress (e.g. developing a repository for CRB monitoring data sets).
- Mary Lou closing comments expressed gratitude for all the people participating. EPA is looking forward to next working group meeting and the potential of another monitoring webinar.