Columbia River Basin Restoration Program Toxics Monitoring Sub-group Overview of 2022 Meetings and Proposed Next Steps

Purpose of this Document

This document summarizes the three meetings of the Columbia River Basin Restoration Program Monitoring Sub-group in the spring and summer of 2022 and the proposed path forward for this Sub-group. The meeting summaries and presentations are available on EPA's Columbia River website. While originally proposed to be a short-term ad hoc group to develop a strategy specific to long-term monitoring, the group evolved through the course of three meetings in 2022 into a standing sub-group of the Columbia River Basin Restoration Program's Work Group focused on monitoring more generally.

- **Goal of this group**: Advance recommendations from the 2010 Columbia River Toxics Reduction Action Plan and specifically, the June 2021 Monitoring Webinar proposal to develop a steering committee to guide long-term monitoring.
- **Meeting(s) Objective**: Initiate the development of a strategy for coordination of long-term monitoring of toxics and sharing of resulting data at the Columbia River Basin scale.

March 2, 2022 Meeting link to meeting materials

At the March meeting, participants explored ideas related to 1) a forum to exchange toxics monitoring information, discuss challenges, and coordinate monitoring activities to complement existing CRBRP working group meetings; 2) a strategy for coordinated monitoring activities across tributaries, compatible with emerging mainstem monitoring and existing estuary monitoring efforts; and 3) a shared data management system.

Monitoring Sub-group Goals

The March meeting began with a review of the proposed goals for the monitoring sub-group. These goals came from prior work, including the CRBRP Columbia River Basin Toxics Reduction Action Plan and several previous meetings hosted by EPA staff Mike Cox and Lon Kissinger.

Proposed goals:

- Providing a forum to exchange toxics monitoring information, discuss challenges, and coordinate monitoring activities to complement existing CRBRP working group meetings.
- Developing a strategy for coordinated monitoring activities across tributaries, compatible with emerging mainstem monitoring and existing estuary monitoring efforts.
- Working to develop a shared data management system.
- Identifying priority contaminants for future monitoring efforts.
- Holding an annual meeting to discuss and identify research needs.

Things to avoid with this group include:

- Repeat the role/activities of the Working Group.
- Be prescriptive.

Three questions were posed to the group in this meeting:

- Question 1: Should there be a document describing agreed upon sampling and analytical methods and concerns for Columbia River toxics monitoring? Who would prepare it?
- Question 2: What are the monitoring gaps of greatest concern?
- Question 3: We propose that toxics monitoring data be published to the EPA Exchange Network's WQX data system and that we create a new dashboard to access CRB data from the WQX. We have 3 related questions:
  - Do you currently publish any data to WQX (water quality, toxics, other data types?)

- Do you currently have capacity in your agency or Tribe to publish toxics data to the WQX?
- Do you have reservations about using WQX for publishing these data?

See below for brief discussion summaries – see full Meeting Summary here

General Sampling and Methods for the Basin
The group discussed the question of whether a document describing agreed upon sampling and analytical methods and concerns for Columbia River Basin toxics monitoring would be helpful. Participants were supportive of the idea and felt that if successful, this approach would improve consistency, establish a baseline or minimum standard, and allow flexibility. Consistency would make data more useful across the Basin and ensure that labs are generating results that are comparable. Establishing a baseline standard would add to consistency while allowing programs to tailor their own projects. This could be achieved with a general QAPP for the Basin or a clearinghouse of SOPs, along with guidance and/or examples for how to use the resources. Challenges will include resolving areas where plans differ, maintaining flexibility, and managing the sheer volume of documents. Two possible models for this approach include the Columbia Habitat Monitoring Program (CHAMP) or the Yakama Nation project for the mainstem.

Monitoring Gaps of Greatest Concern
General responses to this question focused on the scope and funding—with conclusion that a well-defined scope would be essential to keep monitoring efforts manageable, and conditions on current funding limit the viability of longer-term monitoring. Other areas of concern included: source identification, which may require targeted monitoring and the distinction between acute releases and longer-term sources. Contaminants of emerging concern are not always captured in existing efforts, so will need to be addressed.

Data Management
The final topic discussed at this meeting was the possibility of using EPA's WQX data system to manage Columbia River Basin monitoring data. Many state, federal, tribal, and other entities already use the system and are familiar with the protocols. Others are unfamiliar and limited in their capacity to upload data due to lack of staff. Training, computing infrastructure, and other support will be needed in order to promote the use of WQX throughout the Basin. Moving to this approach would require the creation of some exchange standards to support data mapping from individual data providers' systems to the standard and ensure staff capacity to publish data and metadata.

April 28, 2022 Meeting link to meeting materials

At the April meeting, participants discussed ideas related to 1) data sharing and access (continued from March meeting); 2) annual research and emerging concerns workshop; and 3) when to revisit the CRB Contaminants of Concern Framework (finalized August 2020).

The April meeting began with a presentation from Dwane Young (Chief of EPA's Office of Water, Water Data Integration Branch) on EPA's WQX system for data and information sharing. Dwane explained that WQX is a standards-based approach for sharing water quality monitoring data and as such provides a standard format for publishing data. Dwane gave an overview of how WQX is used and what it looks like, with examples. He also explained the different versions of WQX that can be used and who they are geared toward (WQX basic and WQX Web). Dwane explained the water quality portal partnership with EPA, USGS, and the National Water Quality Monitoring Council. He showed examples of the Water Quality Portal and how it is used. Dwane went on to explain why it is important for data to be published. Access to the full presentation is available here.

See below for brief discussion summaries – see full Meeting Summary here

Data Sharing
The group discussed the data sharing proposal (i.e., that toxics monitoring data be published to the EPA Exchange Network's WQX data system and that we create a new dashboard to access CRB data from the WQX). Some expressed reservations about sharing data in WQX. Nearly all attendees were interested in training on the tool, which EPA can provide. When asked about what would be most useful in a data dashboard, some common themes included location, gaps, and trends.

Recurring Research and Emerging Concerns Workshop
Next, the group discussed the utility of a recurring workshop to discuss emerging concerns and coordinate research priorities. Most felt that an in-person meeting every two years (in winter) would be the most helpful. This workshop should be open to subject matter experts, scientists, lab managers, technical staff, and regulators.

Contaminants of Concern Framework
Finally, David Gruen (OR DEQ, formerly an EPA ORISE Fellow) described the process for developing the Columbia River Basin Contaminants of Concern Framework and how the Framework may be used. EPA staff (Mary Lou Socia) proposed revisiting this list in 5–10 years and the group largely agreed with this approach.

June 2, 2022 Meeting link to meeting materials

At the April meeting, participants discussed ideas related to 1) umbrella or programmatic QAPPs; 2) standardized monitoring design; 3) other needs to successfully coordinate towards a CRB-wide toxics monitoring strategy?

See below for brief discussion summaries – see full Meeting Summary here

Revisiting a Columbia River Basin-wide Generalized or Programmatic QAPP
Donald Brown provided a quick overview of when a QAPP is needed and offered assistance for anyone finding themselves having questions about the QAPP process. A requirement for all environmental information collection, generation, evaluation, and use activities, the four Quality Assurance Project Plans were discussed in detail and include a project QAPP, a generic QAPP, a programmatic QAPP, and an umbrella QAPP. All QAPPs have four elements—project management, data generation and acquisition, assessment and oversight, and data validation and usability. For access to the full presentation, please click here. Discussion focused on the ability to update QAPPs for future projects, adaptive management, data quality objectives, and the availability of a template.

Assistance for Developing QAPPs
Attendees pointed to the need for examples or templates for developing QAPPs, assistance for development (including answering questions that arise during development), support for determining the best type of QAPP for a project, managing DQOs into the future, and working with QAPP reviewers.

Improving Consistency of Monitoring Projects
In the absence of an overall QAPP for the Basin, attendees thought that sharing text and common DQOs would be helpful in improving consistency. Looking to existing QAPPs with established methods would help standardize language and field/lab methods. Templates also would be helpful in the push towards improved consistency.

Coordinating Existing Work to Develop a Scientifically Defensible Design that Includes the Basin Tributaries
We provided two design examples that other large-scale programs have used that could serve as a guide to include the tributaries of the Basin. The two examples provided were the National Aquatic Resource Surveys program and the Great Lakes Monitoring program. James Medlen, WA Ecology, shared his thoughts on their state-wide Persistent, Bioaccumulative, and Toxic substances (PBT) program in relation to the examples that were shared and provided a link to the program.

The group then discussed the benefits of a Basin-wide design. General questions that such an approach would answer include:

- Are conditions improving or declining, and where are these changes occurring?
- What are the emerging contaminants and where are they coming from?
- Are specific mitigation measures effective and at what spatial scales?
- Given the scale of contaminants in the Basin, where should remediation efforts be focused?

Chemicals of Concern

Comments were provided for the second question, including a concern about relinquishing innovation in the pursuit of new chemicals and/or understanding the extent of potential impacts that might come from the contaminants of concern already identified. An additional concern was raised regarding the importance of being mindful about migratory patterns and habitat influence on the species of fish to be sampled.

Additional Support for Coordinated Toxics Monitoring

Participants were asked to identify their most important goals, if there is an interest in collaborating with EPA, and what else might the attendees need to achieve their goals. Attendees mentioned the need for training on developing grant proposals, selecting the right method, technical support for developing sampling plans, developing a QAPP and DQOs, data management, and data analysis. Other helpful items included a library of monitoring methods, support for documenting sampling activities, and support for additional monitoring staff. Finally, attendees pointed out the need for coordination of activities between the mainstem and tributaries, stable funding, and workshops to communicate results.

Next steps for the Toxics Monitoring Sub-group

Include how to incorporate mainstem monitoring framework in development (led by the Yakama Nation) and how to incorporate other monitoring projects funded by the CRBRP (including new projects selected in 2022 for funding) to develop a roadmap for the path forward. EPA and USGS will reconvene the Monitoring Sub-group in winter 2022 or early 2023 to describe the new monitoring projects funded by the Columbia River Basin Funding Assistance Program and begin to identify remaining monitoring needs.