Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

Phase 2 Pilot Study, Bonneville Pool

Outreach Memorandum

September 30, 2025

Introduction

This memorandum presents the outreach products developed in Phase 2 of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program – Pilot Study, Bonneville Pool funded by the U.S. Environmental Protection Agency (EPA) Columbia River Basin Restoration Program (CRBRP). This Outreach Memorandum is a supplemental document supporting development of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program - Bonneville Dam to Canadian Border, as well as Columbia River Basin-wide monitoring efforts.

Disclaimer

This publication was developed under EPA Assistance Agreement Numbers:

- 02J21301-0 Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program - Grant A: Planning, Outreach, and QAPP development
- 02J21401-0 Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program – Grant B: Field Data Collection, Analytical, and Reporting

"These projects have been funded wholly or in part by the United States Environmental Protection Agency under assistance agreements 44-02J21301 and 44-02J21401 to the Confederated Tribes and Bands of the Yakama Nation. The contents of these documents do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does the EPA endorse trade names or recommend the use of commercial products mentioned in this document."

Background

Phase 1 Columbia River Mainstem Fish Tissue and Water Quality Monitoring Framework

In 2020, Yakama Nation was successful in securing the U.S. Environmental Protection Agency (EPA) Columbia River Basin Restoration Program (CRBRP) funding to begin Phase 1 of a multi-phased, multi-year project to develop a Fish Tissue and Water Quality Monitoring Program (Monitoring Program) along the approximately 600-mile length of the Middle and Upper Columbia River mainstem to assess and track status and trends of contaminants in fish, water, sediments and invertebrates from the Canadian Border to Bonneville Dam (Figure 1). Phase 1 activities included engaging stakeholders and technical partners; developing a Monitoring Framework to guide the overall program design; and conducting community engagement and outreach to inform and involve affected communities. This work was completed in 2022.

Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

In 2022, Yakama Nation submitted and was awarded two additional EPA CRBRP grant proposals to conduct Phase 2.

Phase 2 Grant A: Planning, Outreach and QAPP Development

Phase 2 Grant A supports the Planning, Outreach and QAPP Development for the Monitoring Program (Bonneville Dam to Canadian Border) while also supporting the Phase 2 Grant B implementation of a Pilot Study for the approximately 50 mile stretch of the Columbia River (Bonneville Dam to The Dalles Dam).

Phase 2 Grant A informed the overall development of the Monitoring Program. Phase 2 Grant A involved production of Quality Assurance Project Plan (QAPP), developing Standard Operating Procedures (SOPs), and obtaining field sampling permits for fish, water, sediment and invertebrates. All materials developed in Phase 2 Grant A were used to implement the Pilot Study proposed in Phase 2 Grant B. Finally, Phase 2 Grant A implements the Phase 1 Outreach Messaging Framework and continues efforts to identify a lead agency, program strategy, data management system and hosts of data as well as development of a Strategy/Implementation/Business Plan for the Monitoring Program.

Phase 2 Grant B: Field Data Collection, Analytical, and Reporting

Phase 2 Grant B implemented a Pilot Study for fish tissue and sediment sampling on an approximately 50 mile stretch of the Columbia River (Bonneville Dam to The Dalles Dam) using the products developed in Phase 2 Grant A which were informed by the Phase 1. The Pilot Study provides information needed to conduct aquatic monitoring in a large river like the Columbia by providing on the ground information to refine media specific QAPP SOPs, HASP, ISSPP, laboratory contracting, performance plan and data review, and other plans and permits required to fully implement the Monitoring Program.

In 2024, Yakama Nation submitted an additional EPA CRBRP grant proposal requesting funds for Phase 3 which would complete development of the Monitoring Program, continue efforts to identify a lead agency and funding mechanism and conduct pilot studies in two additional reaches. Unfortunately, our proposal was not selected. We continue to seek funding to complete development and implementation of this much needed Monitoring Program.

Project Partners

For these efforts, Yakama Nation partnered with the Columbia River Intertribal Fisheries Commission (CRITFC), Washington Department of Ecology (Ecology), Washington State Department of Fish and Wildlife, Oregon Department of Environmental Quality (ODEQ), and the U.S. Geological Survey (USGS).

Outreach Efforts

Outreach planning has been a central and continuous component across all project phases, running parallel to technical and strategic development activities. Efforts have focused on identifying key audiences, creating outreach materials, and promoting meaningful collaboration among partners and stakeholders.

Engagement has included coordination with stakeholders throughout the Columbia River Basin and subject matter experts both within and outside the Basin to collect feedback, share information, and refine the Monitoring Program.

Building on the Phase 1 Outreach Messaging Framework, the Yakama Nation also developed a draft Implementation Plan for a Columbia River Basin Partnership and Monitoring Program. This plan serves as a living roadmap outlining governance, funding, and communication frameworks to support the establishment of a Columbia River Basin (CRB) Partnership. The CRB Partnership would provide the foundation for implementing, overseeing, and managing a long-term CRB Monitoring Program, including identifying a lead agency, program strategy, and data management systems.

Ongoing coordination with partners, stakeholders, and affected communities will remain vital to ensuring transparency, supporting adaptive management, and strengthening outreach and engagement as the Monitoring Program evolves.

A summary of Phase 2 Grant A and Grant B activities is provided in Table 1, and supporting materials are included as an attachment to this memorandum.

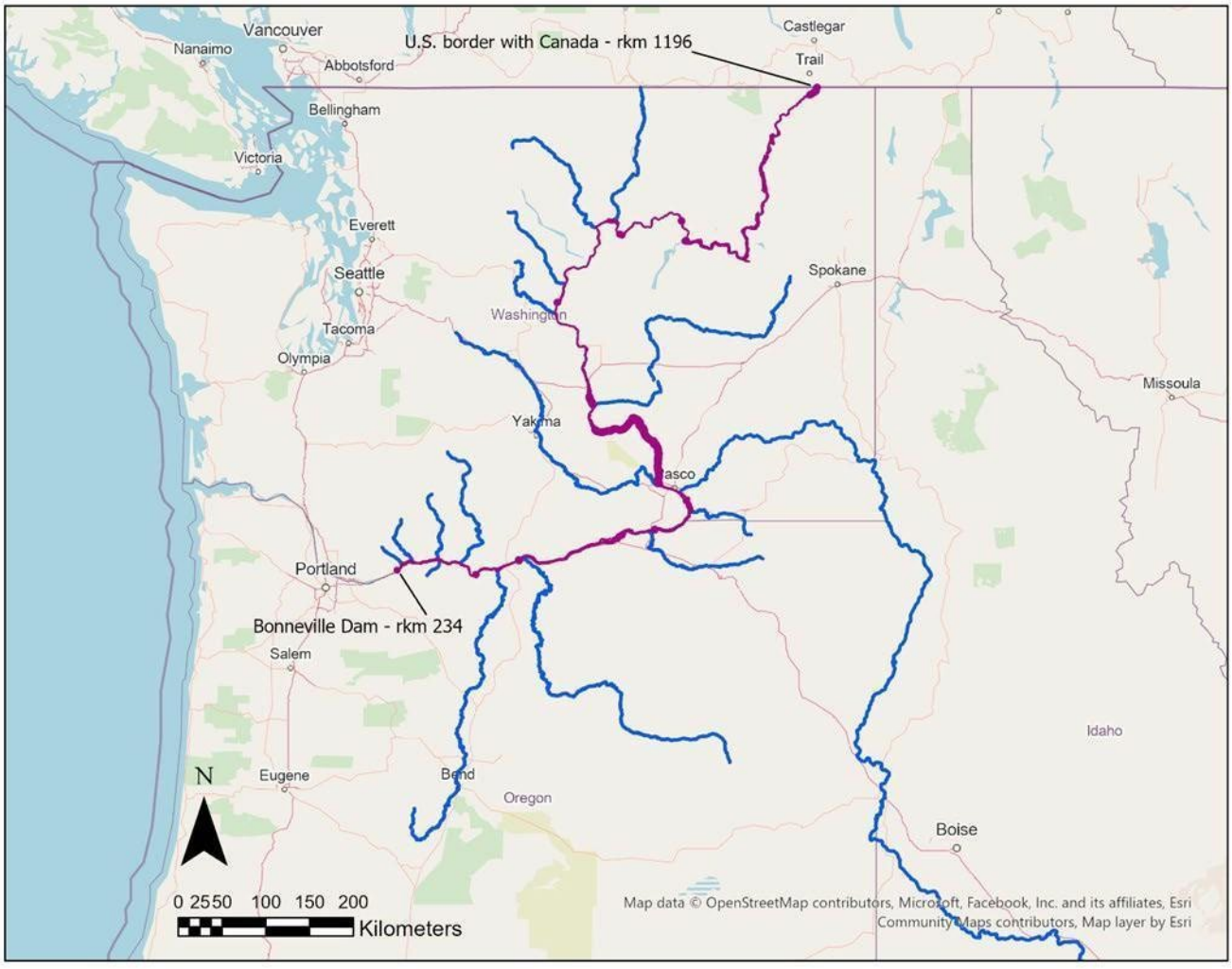


Figure 1. The study area for the Columbia River Fish Tissue and Water Quality Monitoring Program that encompasses the Columbia River (purple) from Bonneville Dam (rkm 234) to the U.S. border with Canada (rkm 1196). Major salmonid bearing tributaries are also depicted (blue).

Table 1. Summary of Phase 2 Grant A and Grant B Outreach Activities

Date	Outreach/Collaboration Description	Audience/Forum
01-Oct-2022	EPA Grant project period (10/1/2022 to 9/30/2025). Award received 12/20/2022.	n/a
20-Dec-2022	EPA Grant Award Received, YN begins work	n/a
03-Nov-2022	Columbia River Basin Restoration Program (CRBRP) funding meeting	EPA and CRBRP grant recipients
14-Dec-2022	CRBRP Working Group, Toxics Monitoring Subgroup Meeting 4 - QAPPs	CRBRP Working Group (WG), Toxics Monitoring Subgroup (TMS)
19-Jan-2023	CR Bonneville Pool Pilot Study Meeting	Team meeting
12-Feb-2023	Presentation to CRITFC_CRB monitoring	CRITFC
16-Feb-2023	CR Bonneville Pool Pilot Study Meeting	Team meeting
14-Mar-2023	CR Bonneville Pool Pilot Study Meeting	Team meeting
18-May-2023	CR Bonneville Pool Pilot Study Meeting	Team meeting
6-Jun-2023	YN Columbia River Mainstem Monitoring Presentation	Internal YN Meeting
19-Oct-2023	Outreach planning, meeting notes	Internal YN Meeting
14-Nov-2023	CRmonitoring_StrategyFundingHousing_Presentation	Internal YN Meeting
5-Dec-2023	StrategyFundingHousing Presentation Tribal Council	YN Tribal Council
15-Dec-2023	CR Monitoring Team List	Working Team
31-Jan-2024	Columbia River Mainstem Monitoring_CBRI Proposal_FINAL	Internal YN Meeting
7-Feb-2024	DRAFT_CR_Monitoring_Program_Lead_Ask	CRITFC
15-Feb-2024	CR Bonneville Pool Pilot Study Meeting	Team meeting
14-Mar-2024	CR monitoring program presentation	CRITFC Commissioners
14-Mar-2024	CR Monitoring Program Fact Sheet	CRITFC Commissioners
9-Apr-2024	CR Mainstem and CRB monitoring discussion	YN, CRITFC, UCUT
11-Apr-2024	YN and CRITFC check-in meeting	YN, CRITFC
16-Apr-2024	SciCon abstract	YN Columbia Gorge Science Conference
16-Apr-2024	Fact Sheet	YN Columbia Gorge Science Conference
16-Apr-2024	CR-monitoring-program_presentation_SCI-CON	YN Columbia Gorge Science Conference
6-Jun-2024	TMS prep meeting	CRBRP TMS meeting
6-Jun-2024	YN and CRITFC check-in meeting	CRITFC
18-Jun-2024	YNF_CR-monitoring-program_presentation	CRBRP TMS meeting

20-Jun-2024	YNF Success Story	EPA
11-Jul-2024	Tribal Grantee Meeting	EPA CRBRP Toxics Monitoring Grant Recipients
10-Sep-2024	Tribal Grantee Meeting	EPA CRBRP Toxics Monitoring Grant Recipients
8-Oct-2024	CRB-FishToxicitySolutionsPresentation-TribalPerspective	American Water Resources Association Meeting
31-Oct-2024	CRBRP WG Fall Meeting	EPA and CRBRP grant recipients and collaborators
6-Dec-2024	CR monitoring, memo, YNF and DNR management	Internal YN Meeting
8-Jan-2025	Tribal Grantee Meeting	EPA CRBRP Toxics Monitoring Grant Recipients
30-Jan-2025	Batelle Conference, CRB monitoring networking & mention in a presentation	Government and private entities
11-Feb-2025	TMS meeting	CRBRP TMS meeting
11-Feb-2025	Columbia river monitoring program presentation	Internal YN Meeting, DNR & Fisheries Management, OLC
11-Feb-2025	Implementation Budget CR Mainstem	Internal YN Meeting, CRITFC
23-May-2025	CRBRP WG Meeting	CRBRP Working Group meeting
10-Jun-2025	YN provided Implementation Plan overview	CRBRP Working Group meeting
12-Jun-2025	YN provided Implementation Plan overview	CRBRP TMS meeting
14-Jul-2025	Meeting to discuss partnership with Columbia R Collaborative	EPA, Salmon Safe, USGS
29-Aug-2025	Tracking Toxics in the Lower Columbia River	USGS, LCEP, States
9/22/2025	Implementation Plan meeting on EPA comments	EPA, USGS
18-Jul-2025	Implementation Plan Comment Period	Grant Team
22-Aug-2025	Implementation Plan Comment Period	CRBRP WG
30-Sep-2025	Lower, Middle, Upper Columbia River coordination, CRBRP-TMS Subgroup agenda planning	EPA, LCEP
30-Sep-2025	Grant period ends	

KEY

YN Internal Outreach
CRITFC Outreach
Grant Team Outreach
EPA CRBRP Working Group Outreach
Other Outreach

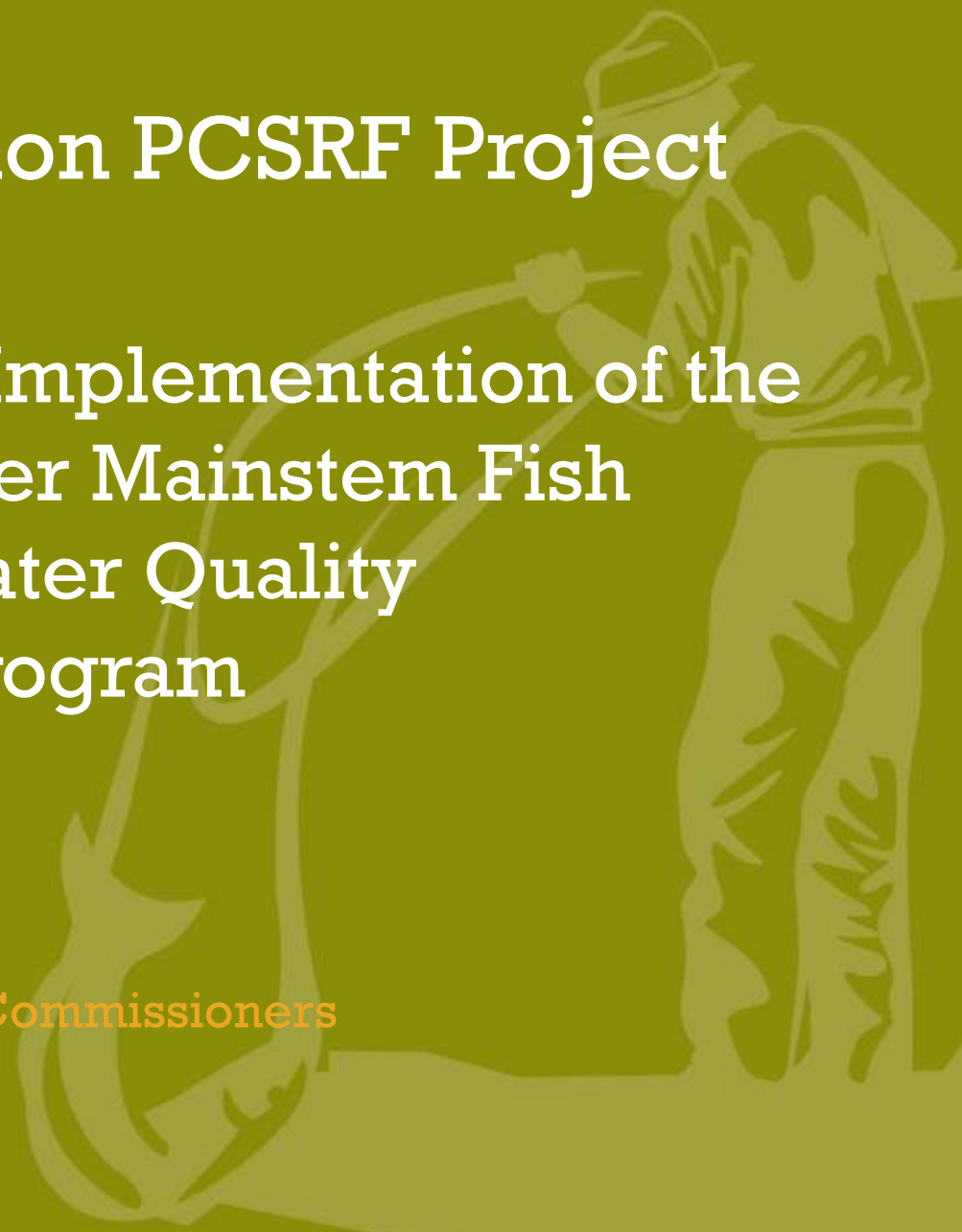
Attachment 1

Outreach Materials

Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

Yakama Nation PCSRF Project

Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program



Prepared for CRITFC Commissioners
DATE TBD

Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

BACKGROUND

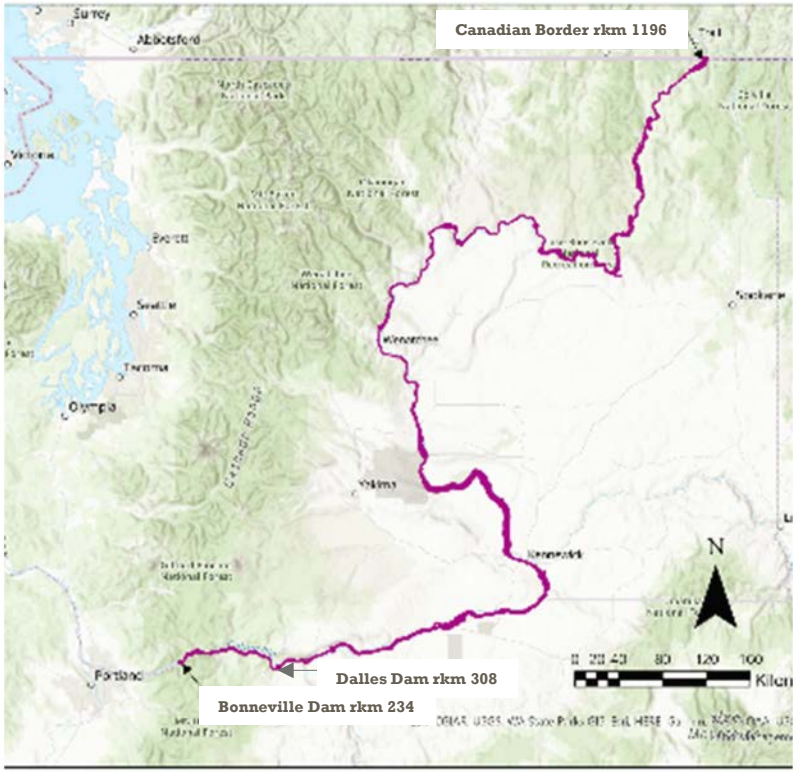
YN, USGS, CRITFC, Ecology, DEQ, and EPA are working to establish a long-term Monitoring Program to assess status and trends of contaminants in the Columbia River Mainstem to guide ecosystem recovery.

PURPOSE

- **Phase 2** – Test the framework and methods.
- **Program** – Clean, healthy and abundant fish.

PHASED APPROACH

- **PHASE 1 - Completed!** The Monitoring Program framework provides expert guidance for assessing the status and trends of contaminants in fish, sediment, water, and other media.
- **PHASE 2 – Current Phase.** Planning, Outreach and Bonneville Pool Pilot Study.
- **PHASE 3 - Next Phase**. Funding and Implementation of Program.



Bonneville Pool Pilot Study

Phase 2 Efforts

- **PHASE 2A - Planning, Outreach and QAPP Development**
  - Develop a Quality Assurance Project Plan (QAPP), including Standard Operating Procedures (SOPs) and permits.
  - Conduct outreach – technical and strategic.
- **PHASE 2B - Field Data Collection, Analytical, and Reporting**
  - Sample fish tissue and sediment. **PCRSF funding is being leveraged to sample & analyze***:
    - ≤33 fish (resident and **salmon***)
    - ≤ 12 sediment samples
    - 10 locations
    - **PCBs, DDx, Hg, and PBDEs analysis***
  - **Develop database & reports***

Phase 2 Final Products

- Pilot Study QAPP (including SOPs & permits)
- Database amd data reports
- Document repository
- Outreach efforts and reports
- Publically available website
- Final Program QAPP – for full Program implementation (Phase 3)

Yakama Nation

Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

CRBRP Toxics Monitoring Subgroup Meeting
March 23, 2023

Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

MONITORING PROGRAM MISSION

Monitor toxic substances in the Columbia River Mainstem in perpetuity to establish trends and guide ecosystem recovery resulting in clean, healthy fish that are safe to eat.

PHASE 2 PURPOSE

Test the Monitoring Framework and methods and continue outreach efforts to gain support for a Monitoring Program.

TEAM:

Yakama Nation – Grant lead

USGS– Technical lead

CRITFC – Technical assistance

WDFW – Field assistance

Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

PHASED APPROACH

- **PHASE 1** - Completed!!!

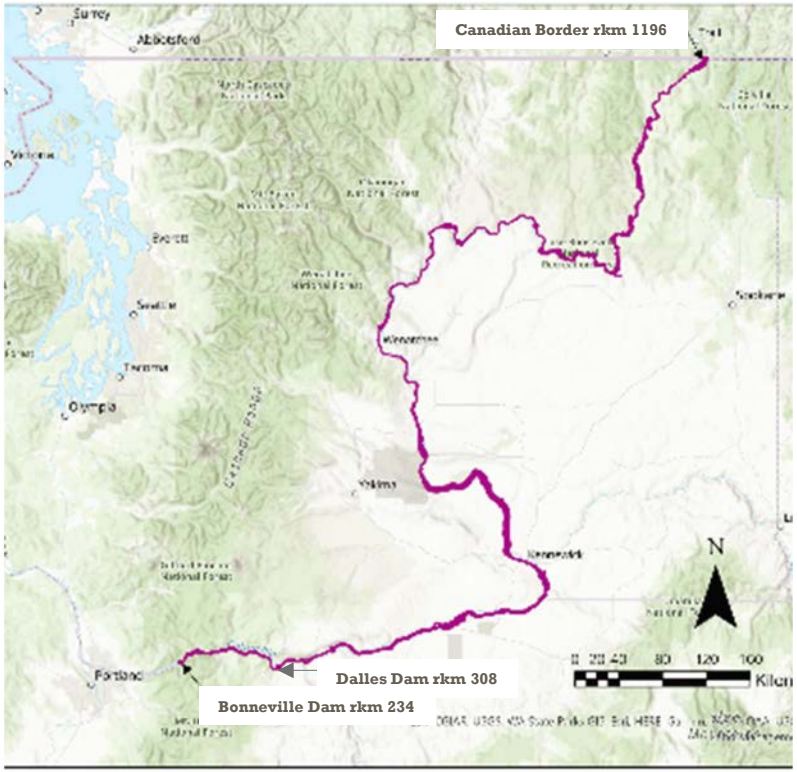
The Monitoring Framework provides expert guidance for assessing the status and trends of contaminants in fish, sediment, water, and other media.

- **PHASE 2 – Current Phase.**

Planning, Outreach and Bonneville Pool Pilot Study.

- **PHASE 3** - Next Phase.

Funding and Implementation of Program.



Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

PHASE 2A - Planning, Outreach and QAPP Development

- Develop a Quality Assurance Project Plan (QAPP), including Standard Operating Procedures (SOPs) and permits.
- Conduct outreach – technical and strategic.

PHASE 2B - Field Data Collection, Analytical, and Reporting

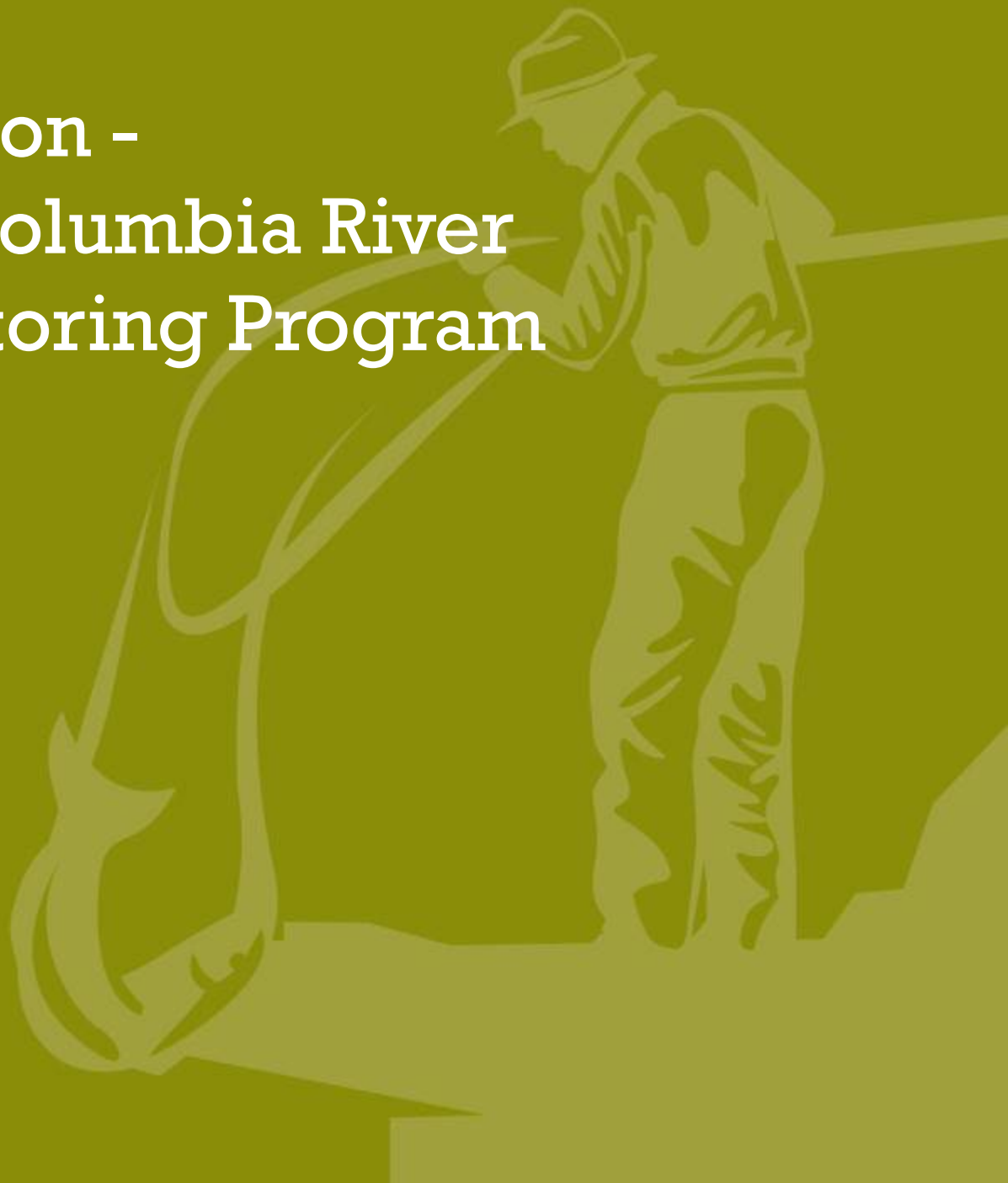
- Sample fish tissue and sediment.
  - ≤33 fish (resident and adult/juvenile salmonids)
  - ≤ 12 sediment samples
  - 10 locations
  - PCBs, DDx, Hg, and PBDEs analysis
- Develop database & reports

Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

PHASE 2 Final Deliverables

- Pilot Study QAPP (including SOPs & permits)
- Database and data reports
- Document repository
- Outreach efforts and reports
- Publicly available website
- Final Program QAPP – for implementation of Monitoring Program implementation (Phase 3)

Yakama Nation - Building a Columbia River Toxics Monitoring Program



Laura Shira, P.E.

June 6, 2023

NW Toxics Summit

Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

- **MISSION**: Monitor toxic substances in the Columbia River Mainstem in perpetuity to establish trends and guide ecosystem recovery resulting in clean, healthy fish that are safe to eat.

- **OUTCOMES**:
  - Data Management
  - Document Repository
  - Standardized Methods
  - Education and Outreach
  - Adaptive Management

Grant Team

- Yakama Nation – GRANT LEAD
- United States Geological Survey, USGS – TECHNICAL LEAD
- Columbia River Inter-Tribal Fish Commission, CRITFC
- Washington Department of Ecology, Ecology
- Oregon Department of Environmental Quality, DEQ
- Environmental Protection Agency, EPA

ALSO CONTRACTING/COLLABORATING WITH:

- Washington Department of Fish and Wildlife, WDFW

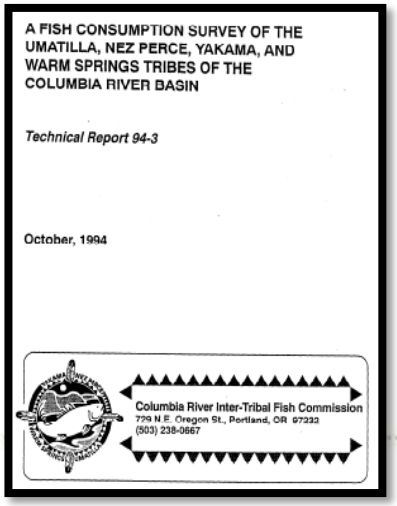
Foundations

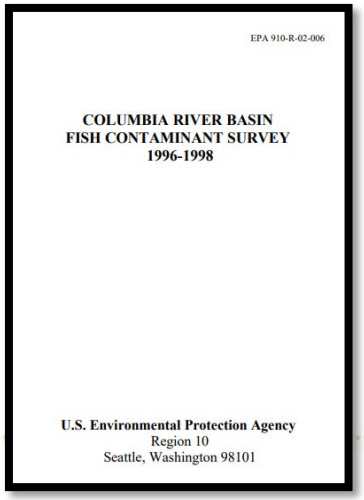
LEGAL

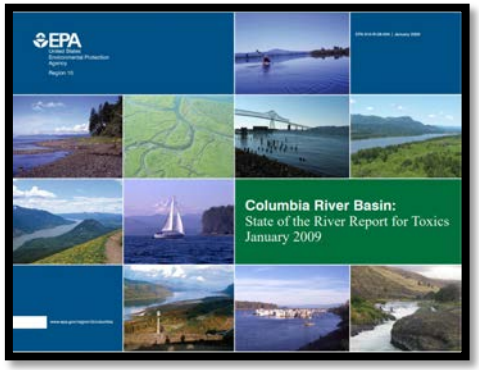
- 2016 Clean Water Act, Section 123 (33 USC 1275) - required EPA to establish the Columbia River Basin Restoration Program (CRBRP)
  - Working Group
  - Grant Program
- EPA manages the Columbia River Basin as 1 of 12 Geographic Programs

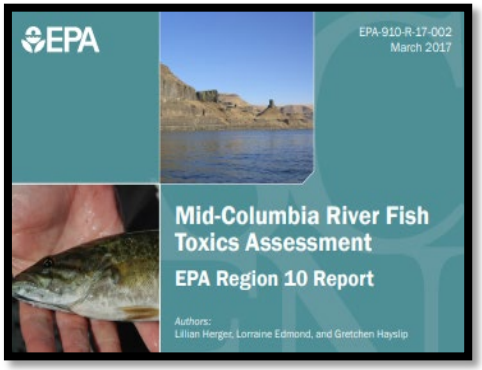
BUILDING ON PAST WORK

- Columbia River Toxics Reduction Working Group
- CRBRP Working Group
- Previous Columbia River Studies









Phased Approach – Technical Focus

- **VISIONING** – 2015 to 2020.
- **PHASE 1 – Completed!** 2021-2022. Framework - provides expert guidance for assessing the status and trends of contaminants in fish, sediment, water, and other media.
- **PHASE 2 – Current Phase.** 2023-2024. Pilot Study (Bonneville Pool). Test the framework and methods.
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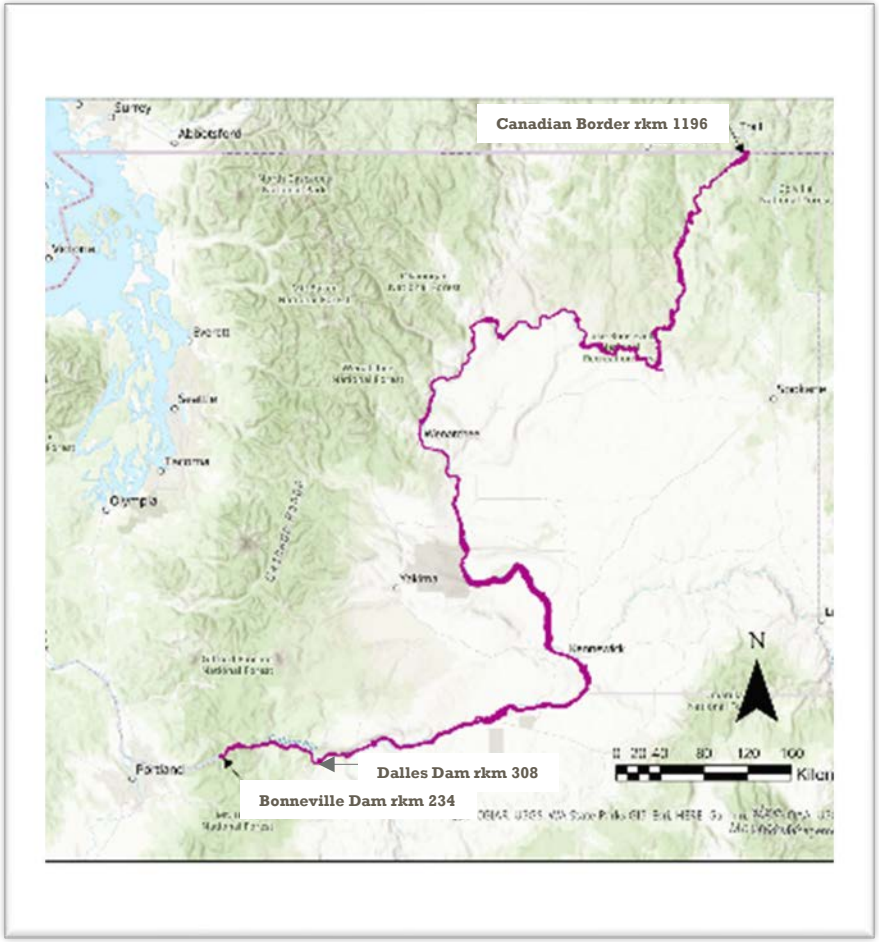

STARTING POINT

- Mainstem Columbia River
- Limited budget, media, analytes
- Collaborate with basin-wide efforts
- Allow for adaptive management, growth

Outreach Focus

- **PHASE 1 - Completed!** 2021-2022.
  - Technical collaboration with experts from CRBRP Working Group (300+ members) including representatives from federal, state, regional governments, health experts, tribes, universities, NGOs.
- **PHASE 2 – Current Phase.** 2023-2024.
  - Continued collaboration with Core Team and CRBRP Working Group.
  - Focus on partnerships (leadership level) to build support for establishing a long-term Monitoring Program.
- **PHASE 3 - Next Phase**. 2025-perpetuity.
  - Funding, Housing, and Implementation of Program.
- **ALL PHASES -** Publically available reporting of data, evaluations, and recommendations.

Outreach Products

- YN Website: https://yakamafish-nsn.gov/restore/projects/columbia-river-mainstem-water-quality-monitoring-program
- EPA WQX – database

Phase 2 - Bonneville Pool Pilot Study

(2023 – 2024)

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Phase 3 Vision for Long-Term Monitoring Program Funding & Implementation

- Housing – USGS
- Funding – Codified, reliable, long-term funding source
- Collaborative Process
- Adaptively Managed

Challenges

Technical

- Logistics (ex. permitting, esp. for interacting with ESA-listed species)

Outreach

- Program Establishment – Expertise, Strategy
- Integration with a Basin-Wide Strategy
- Continued Collaboration at Multi-Agency Level
- Planning and capacity building without certainty of funding or future roles

Administrative

- Funding
- Capacity
- Grant Constraints and Requirements
- Internal Processes and Timelines
- Adapting program to changing needs – funding, staffing

Yakama Nation - Building a Columbia River Toxics Monitoring Program

Laura Shira, P.E.

November 14, 2023

Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

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Yakama Nation - Building a Columbia River Toxics Monitoring Program

Laura Shira, P.E.

December 5, 2023

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- Internal Processes and Timelines
- Adapting program to changing needs – funding, staffing

Columbia River Fish & WQ Monitoring
Team List, 12/15/2023 update

	INVITE
Colville Tribe	Whitney Fraser (Lodestone Env)*
Colville Tribe	Robin Atlin - add
CRITFC	Dianne Barton
EPA	Nicole Taylor * - add
EPA	Lillian Herger *
LCEP-USGS	Sean Payne - add
LCEP	Catherine Corbett - add
LCEP-USGS	Jennifer Morace - add
OR Dept of Env Quality	David Gruen
OR Dept of Env Quality	Paige Haxton-Evans - add
OR Dept of Env Quality	Jennifer Peterson* - add
Spokane Tribe	Tamara Knudson *
UCUT	Laura Robinson *
USGS	Tim Counihan
USGS	Ian Waites
USGS	Patrick Moran
USGS	Jennifer Bayer *
USGS	Elena Nilsen *
USGS	Edyth Hermosillo - add
WA Dept of Ecology	Will Hobbs
WA Dept of Ecology	
WA Dept of Ecology	Jim Medlen *
WDFW	Dave Burgess
Yakama Nation	Laura Shira
Yakama Nation	Rose Longoria *
Yakama Nation	Natalie Swan *
Yakama Nation	Janell Shah - add
Yakama Nation	Sherrie Duncan
*optional	

email for new folks	DELETE
robin.atlin.env@colvilletribes.com	
	Lauren McDaid* - delete Lon Kissinger * - delete
spayne@usgs.gov ccorbett@estuarypartnership.org jlmorace@usgs.gov	
	Mike Mulvey - delete
Paige.HAXTON-EVANS@deq.oregon.gov Jenn.L.PETERSON@deq.oregon.gov	
ehermosillo@usgs.gov	
	Keith Seiders - delete Jim Carroll - delete Evan Newell - delete
Dave.Burgess@dfw.wa.go	
	Julie Atwood - delete
shaj@yakamafish-nsn.gov duns@yakamafish-nsn.gov (new address - do not send to her SkyEnviron email)	

Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

Despite decades of hazardous waste cleanup and environmental regulations, fish consumption advisories exist throughout the Columbia River—greatly impacting fishing and the health of communities.

The Columbia River needs an unbiased and permanent way to monitor toxic substances and evaluate status and trends. This Program will guide cleanup and restoration of the River to support natural resources, provide healthful foods, and sustain cultural practices.

Current data and collection methods on toxic substances are insufficient

At present, data collection of toxic substances in the Columbia River is conducted by numerous entities and not standardized. With scattered data and incomparable methods, no one is able to identify trends or answer critical questions.

A collaborative approach to monitoring toxic substances will improve the ability to make informed decisions on Columbia River recovery.

The Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program is a collaborative effort being implemented by Tribal, federal, and state agencies and organizations.

This monitoring program is part of a larger Basin-wide effort and will collect, manage, evaluate, and publicly share data and report on toxic substances in Columbia River water, fish, and sediment.

Overall, this program aims to collect unbiased data to support:

- **Evaluation** of contaminant status and trends over time and space
- **Evaluation** of impacts to human and ecological health
- **Identification** of river segments in need of cleanup or source control
- **Identification** of river segments for restoration and protection
- **Informing** prevention, cleanup, protection, and restoration efforts
- **Informing** education and outreach efforts
- **Informing and enhancing** the recovery of threatened and endangered species
- **Informing** adaptive management
- **Informing** larger Columbia River Basin efforts
- **Providing** data interpretation and recommendations
- **Providing** data compatible with the larger Columbia River Basin efforts

As the program expands, we welcome new partnerships and the expansion of monitoring to compliment Basin-wide efforts and needs.

The program is being developed in three phases:

Phases 1 & 2

2020 to 2024

- Engage stakeholders
- Define initial project area and logistics - 600-mile stretch of the Columbia River—from the Bonneville Dam to the Canadian Border
- Conduct a toxic monitoring pilot study in Bonneville Pool.
- Secure a Program Lead, housing, and permanent funding.

Phase 3

2025 and beyond — Funding needed

- Implement Monitoring Program and Adaptive Management
- Projected budget: $6 million per year
  - Mainstem Monitoring Program: $5M per year
  - Outreach: $500K per year
  - Database/Website: $500k per year

Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program Implementation Team

- Columbia River Inter-Tribal Fish Commission
- Yakama Nation
- U.S. Geological Survey
- Washington Department of Ecology
- Oregon Department of Environmental Quality
- Washington Department of Fish and Wildlife

For questions and more info

Please contact Laura Shira at shil@yakamafish-nsn.gov and Sherrie Duncan at duns@yakamafish-nsn.gov with any questions.

Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

March 14, 2024 CRITFC Commissioners Meeting

Laura Shira, Yakama Nation Fisheries Program

Our ask of CRITFC

Would CRITFC consider taking on the role of Program Lead and housing the Program, with continued support from YN and other partners?

The Current State

Poor fish health and water quality throughout the Columbia River

Despite decades of hazardous waste cleanup and environmental regulations:

- Many reaches of the Columbia River fail to meet Washington, Oregon, and federal water quality standards
- Fish consumption advisories exist on the entire mainstem Columbia River
- Fish runs continue to decline

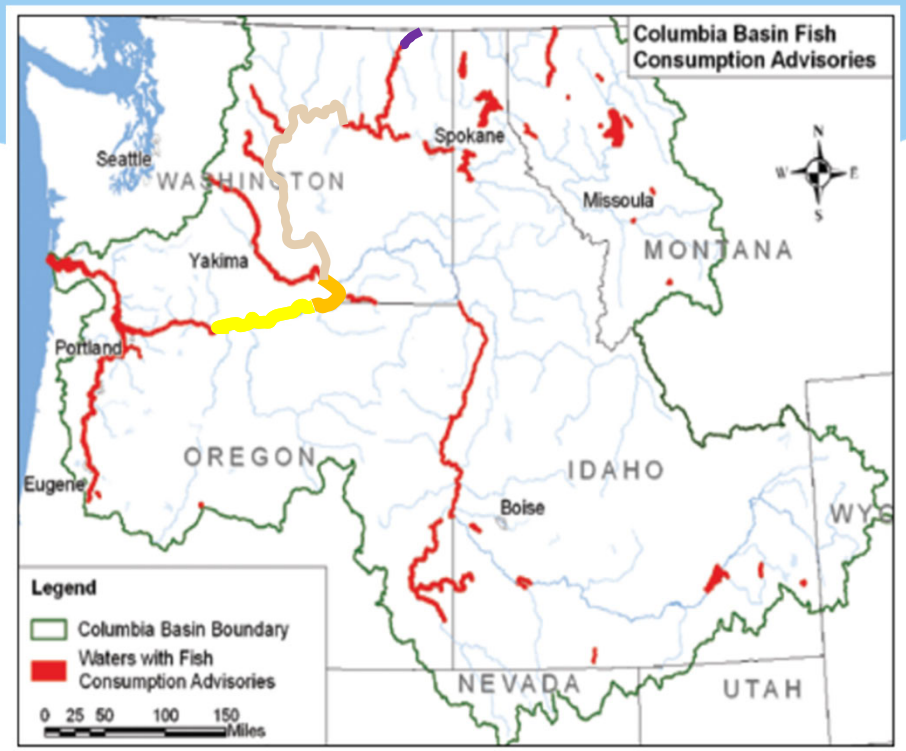


Figure 3.4: State-issued fish consumption advisories are in effect throughout the Columbia River Basin for certain contaminants and species. Not all waters have been tested, so the absence of an advisory does not necessarily mean it is safe to consume unlimited quantities of fish from untested waters.

Are contaminants in Columbia River fish getting better or worse?

Answer: We don't know

- Insufficient Data
- Incomparable data collection methods
- Lack of a consistent and collaborative monitoring program

Model programs include:

- Nation-wide air quality program
- Monitoring of Large Aquatic Ecosystems (LAEs)

Insufficient data & data collection methods

- Data collection is scattered across multiple organizations and not standardized
- Comparing data is difficult
  - Differences in analytical methods, spatial and temporal issues, study purpose/bias
- Inconsistent methods make identifying trends impossible
- **Funding is needed** for
  - Consistent, long-term monitoring;
  - Better spatial coverage, and;
  - Priority contaminant analysis across all media.

The Solution

The Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

A collaborative effort being implemented by Tribal, federal, and state agencies with input from many organizations.

Collect, manage, evaluate, and publicly share data and report on toxic substances in Columbia River water, fish, and sediment.

Welcome new partnerships and the expansion of monitoring to compliment Basin-wide efforts and needs.

Implementation team

- Columbia River Inter-Tribal Fish Commission (CRITFC)
- Yakama Nation
- U.S. Geological Survey (USGS)
- Washington Department of Ecology
- Oregon Department of Environmental Quality
- Washington Department of Fish and Wildlife (WDFW)

Program Objective

Provide an **unbiased and permanent** way to monitor toxic substances and evaluate status and trends.

This Program will guide cleanup and restoration of the Columbia River to support natural resources, provide healthful foods, and sustain cultural practices.

Program Goals

Evaluate

- Contaminant status and trends over time and space
- Impacts to human and ecological health

Identify

- River segments in need of cleanup or source control
- River segments for restoration and protection

Inform

- Prevention, cleanup, protection, and restoration efforts
- Education and outreach
- Recovery of threatened and endangered species
- Adaptive management
- Larger Columbia River Basin efforts

Provide

- Data interpretation and recommendations
- Data compatible with the larger Columbia River Basin efforts

Initial Program Logistics

Spatial

- Columbia River Mainstem
- Canadian Border to Bonneville Dam (~1,050 river km)

Media

- Fish tissue
- Water Quality
- Sediment
- Biota

Temporal

- TBD (ex. repeat every 5-10 years)

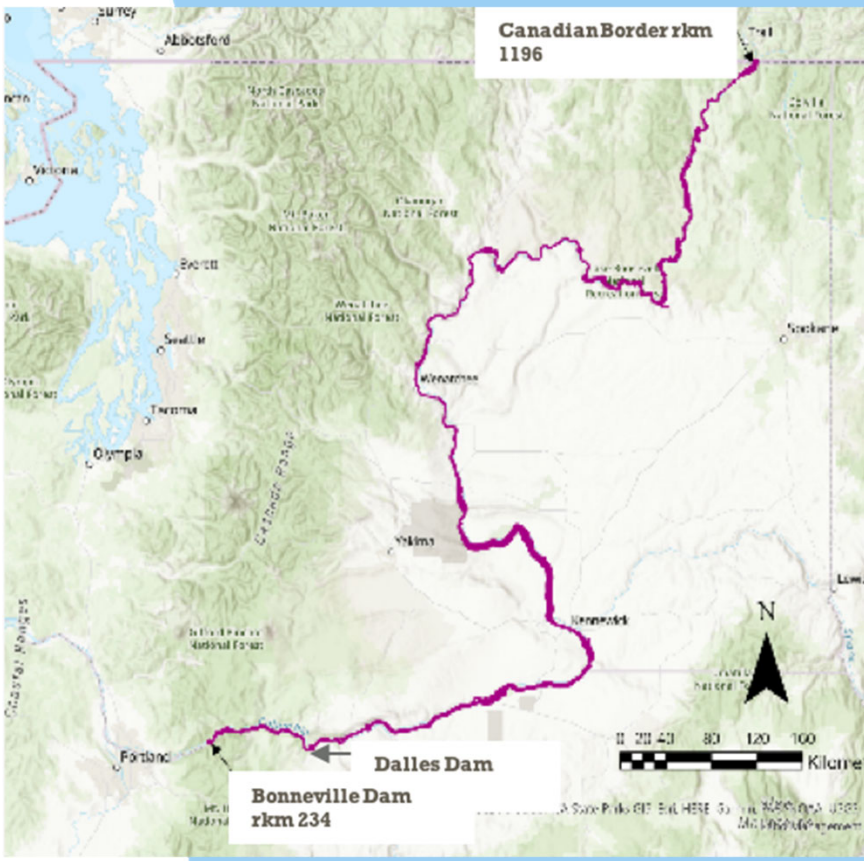
Contaminants

- Mercury
- PCBs
- Pesticides (DDT)
- PBDEs
- Others identified through adaptive management and emerging science

Three-Phased Approach

Phases 1 and 2: 2020 - 2024

- Engage stakeholders
  - Collaborated with the Columbia River Basin Restoration Working Group (350+ members)
  - Included representatives from federal, state, and regional governments, health experts, Tribes, universities, NGOs
- Define initial project area:
  - 600-mile stretch of the Columbia River—from the Bonneville Dam to the Canadian Border
- Conduct a toxic monitoring pilot study in Bonneville Pool
- Identify a Program Lead, house, and permanent funding



Three-Phased Approach

Phases 3: 2025 and beyond

- Implement Monitoring Program and Adaptive Management
- Confirm who will lead and house the program
- Secure funding - codified, reliable, long-term funding source

Project Budget *(per year)*

$5 million

Mainstem Monitoring Program

\+ $500,000

Outreach

\+ $500,000

Database/Website

$6 million

Commitment Needs

- Partner commitment letters
- House – CRITFC lead with USGS support
- Funding - interim & long-term
- Collaboration – to identify data gaps and needs, emerging science, and adaptive management to ensure program longevity and effectiveness

Thank You

"Not much less necessary than the atmosphere they breathed"

— Justice Joseph McKenna in the Supreme Court Decision *United States v Winans* (198 U.S. 371)

Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program Development

June 18, 2024 Columbia River Basin Restoration Program, Toxics Monitoring Subgroup Meeting

Laura Shira and Sherrie Duncan, Yakama Nation Fisheries Program

The Current State

Poor fish health and water quality throughout the Columbia River

Despite decades of hazardous waste cleanup and environmental regulations:

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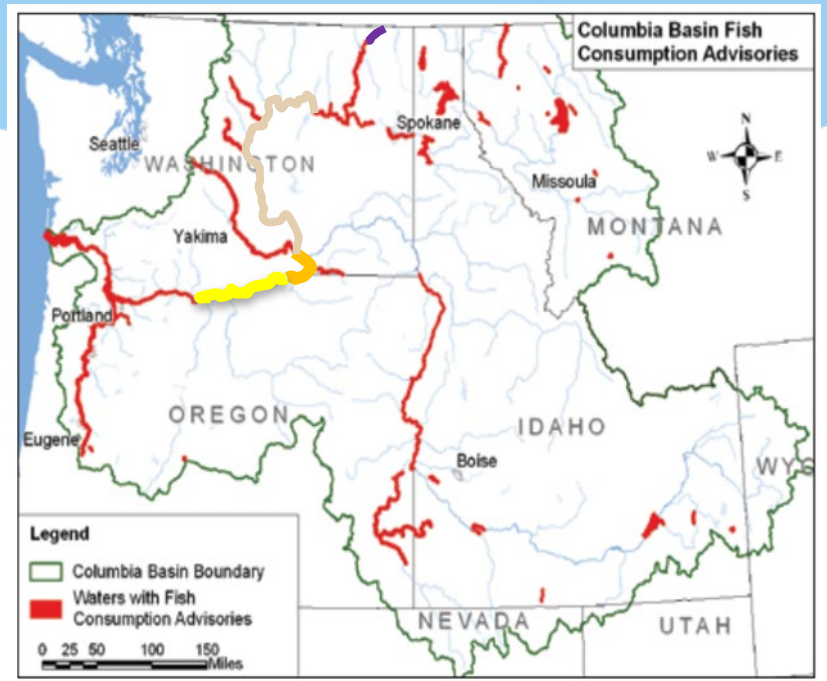

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- Lack of a consistent and collaborative monitoring program

Model programs include:

- Nation-wide air quality program
- Monitoring of Large Aquatic Ecosystems (LAEs)

Planning- Historical Data Review

- Identified 17 Large “one-off” studies on the Mainstem, reviewed
- WQX and Ecology EIM Database Retrieval

=

- Few Points to compare over time-

  due to changes (Field & Lab Methods, Species, Tissues, Detection Limits)

ELSEVIER

Water Research

Volume 110, 1 March 2017, Pages 252-261

Challenges with secondary use of multi-source water-quality data in the United States

Lori A. Sprague [a], Gretchen P. Oelsner [b], Denise M. Argue [c]

Highlights

- Metadata of 25 million nutrient records from 488 U.S. sources were evaluated.
- Nearly 14.5 million records had missing or ambiguous metadata.
- The value of these ambiguous records is estimated at $US12 billion.
- Standardized metadata practices are needed for future and legacy data in the U.S.

Insufficient data & data collection methods

- Data collection is scattered across multiple organizations and not standardized
- Comparing data is difficult
  - Differences in analytical methods, spatial and temporal issues, study purpose/bias
- Inconsistent methods make identifying trends impossible
- **Funding is needed** for
  - Consistent, long-term monitoring;
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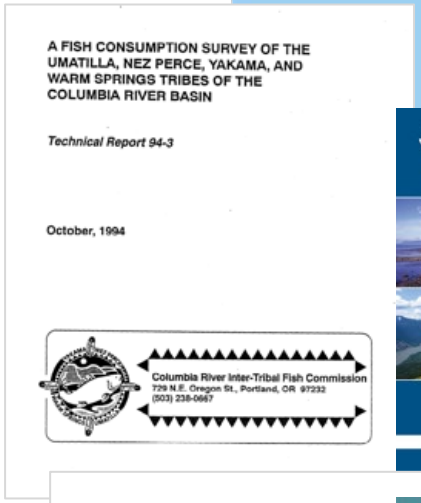
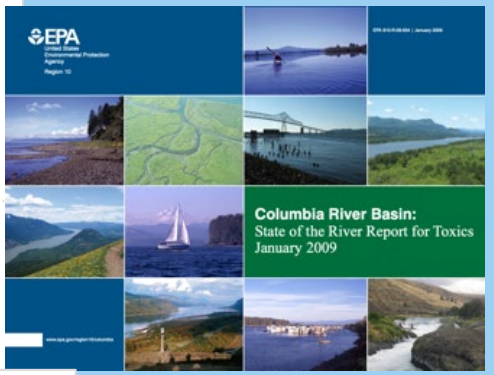
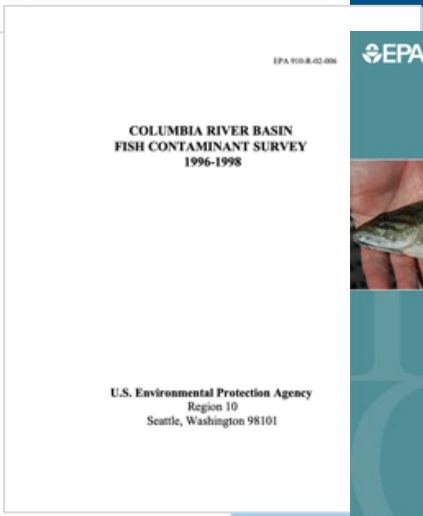

A FISH CONSUMPTION SURVEY OF THE UMATILLA, NEZ PERCE, YAKAMA, AND WARM SPRINGS TRIBES OF THE COLUMBIA RIVER BASIN

Technical Report 94-3

October, 1994

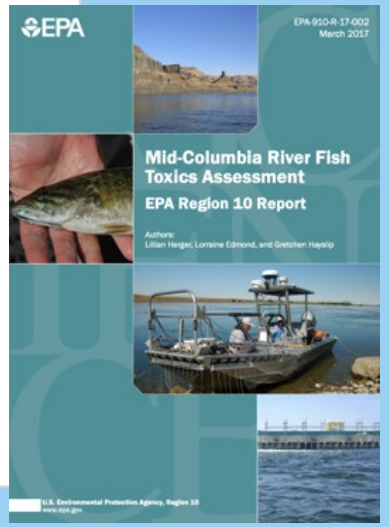
Columbia River Inter-Tribal Fish Commission
729 N.E. Oregon St., Portland, OR 97232
(503) 238-0667




EPA 910-R-02-006

COLUMBIA RIVER BASIN
FISH CONTAMINANT SURVEY
1996-1998

U.S. Environmental Protection Agency
Region 10
Seattle, Washington 98101



The Solution

The Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

Program Objective

Provide an **unbiased and permanent** way to monitor toxic substances and evaluate status and trends.

This Program will guide cleanup and restoration of the Columbia River to support natural resources, provide healthful foods, and sustain cultural practices.

Implementation team

- Columbia River Inter-Tribal Fish Commission (CRITFC)
- Yakama Nation
- U.S. Geological Survey (USGS)
- Washington Department of Ecology
- Oregon Department of Environmental Quality
- Washington Department of Fish and Wildlife (WDFW)

Visioned or “Dream” team

- Everybody/ Anybody willing to follow protocols and standard lab methods

Program Goals

Evaluate

- Contaminant status and trends over time and space
- Impacts to human and ecological health

Identify

- River segments in need of cleanup or source control
- River segments for restoration and protection

Inform

- Prevention, cleanup, protection, and restoration efforts
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- Larger Columbia River Basin efforts

Provide

- Data interpretation and recommendations
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- Columbia River Mainstem
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- TBD (ex. repeat every 5-10 years)

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- Mercury
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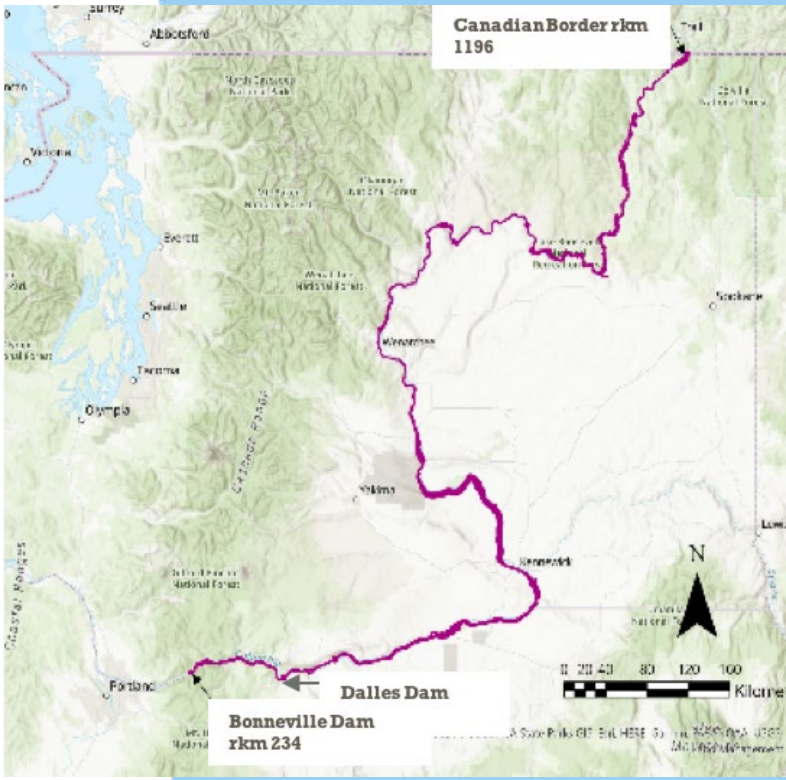
Three-Phased Approach

Phases 1 and 2: 2020 - 2024

- Engage stakeholders
  - Collaborated with the Columbia River Basin Restoration Working Group (350+ members)
  - Included representatives from federal, state, and regional governments, health experts, Tribes, universities, NGOs
- Define initial project area:
  - 600-mile stretch of the Columbia River—from the Bonneville Dam to the Canadian Border
- Conduct a toxic monitoring pilot study in Bonneville Pool, write SOP's
- Identify a Program Lead, house, and permanent funding



Three-Phased Approach

Phases 3: 2025 and beyond

- Implement Monitoring Program and Adaptive Management
- Confirm who will lead and house the program
- Secure funding - codified, reliable, long-term funding source

Thank You

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— Justice Joseph McKenna in the Supreme Court Decision *United States v Winans* (198 U.S. 371)

The Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

A collaborative effort being implemented by Tribal, federal, and state agencies with input from many organizations.

Collect, manage, evaluate, and publicly share data and report on toxic substances in Columbia River water, fish, and sediment.

Welcome new partnerships and the expansion of monitoring to compliment Basin-wide efforts and needs.

2022 CRBRP Grant Success Stories – Template

Project Title
Phase 2 Pilot Implementation of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program (2 Grants)

Grant A: Planning, Outreach and QAPP development—Confederated Tribes and Bands of the Yakama Nation

EPA Grant Amount: $350,000 (funded with Bipartisan Infrastructure Law funds)
Total Project Cost: $350,000
Location: Middle and Upper Columbia River Basin

Grant B – Field Data Collection, Analytical, and Reporting—Confederated Tribes and Bands of the Yakama Nation

EPA Grant Amount: $350,000 (funded with Bipartisan Infrastructure Law funds)
Total Project Cost: $350,000
Location: Middle and Upper Columbia River Basin

Geographic Reference Point
Development of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program (Monitoring Program) focuses on the stretch of the Columbia River mainstem from the Bonneville Dam to the Canadian Border, critical habitat to several federally listed and tribally important species, including salmon, trout, eulachon, sturgeon, and Pacific lamprey. Collaboration with basin-wide monitoring efforts is ongoing. FY2023-FY2024 pilot study work was conducted in Bonneville Pool, a 50-mile reach of the Columbia River, from the Bonneville Dam to the Dalles Dam.

Community Challenge
The Columbia River mainstem throughout Washington is affected by 40 site- and species-specific Fish Consumption Advisories, reducing Tribal access to healthy food and treaty-reserved resources. Additionally, many reaches of the Columbia River do not meet Washington's water quality standards, with Washington's Department of Ecology maintaining 26 Clean Water Act listings for polychlorinated biphenyls (PCBs) and pesticides. Despite concerns about the effects of contaminants on fish, wildlife, and human health, efforts to address pollution in the Washington reach of the Columbia River have lacked a systematic approach, such as clear cleanup goals or benchmarks of progress. In addition, past sampling efforts throughout the basin have used a variety of methods and therefore cannot be compared to evaluate status and trends.

EPA Solution
EPA awarded two $350,000 grants to the Yakama Nation Fisheries, a program of the Confederated Tribes and Bands of the Yakama Nation, in partnership with Tribal, Federal, and state environmental agencies, to implement Phase 2 out of 3 of the Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program. This program will track the

status and trends of toxics in fish, water, sediments, and invertebrates in the Columbia River mainstem from Bonneville Dam to the Canadian border.

Under Phase 2 Grant A, utilizing the products developed in Phase 1, the project team developed Quality Assurance Project Plan (QAPP) informing program components such as the monitoring, fish sampling methods, and outreach efforts. An implementation plan will also be developed to inform funding and housing of the Monitoring Program.

Progress to Date (Grant A)

- In April 2023, Yakama Nation Fisheries (YNF) drafted and submitted a QAPP for fish, water, sediment, and invertebrate data to EPA. The QAPP elaborates on key elements such as overall project objectives, detailed data quality objectives and criteria for each media to be sampled, sampling design, methods, rationale, handling, analytical methods, quality control, and data management.
- YNF has continued existing and developed new partnerships with relevant agencies and local communities to allow for the future collection of fish samples. These include a core team of the Columbia River Intertribal Fish Commission (CRITFC), United States Geological Survey (USGS), Washington State Department of Ecology, Oregon Department of Environmental Quality, Washington Department of Fish and Wildlife, as well as numerous other collaborations. YNF and partners have also worked with the Pacific State Marine Fisheries Commission, an interstate compact established by Congress to facilitate the sustainable management of Western fisheries, to collect salmon at the juvenile bypass facility at Bonneville Dam. Additionally, USGS obtained a permit from NOAA to collect resident fish samples and has coordinated with Tribal fishers to purchase salmon caught in the Bonneville Reservoir.
- YNF has continued coordination and collaboration to conduct a pilot study. The project team has reviewed and refined their procedures to ensure that samples are properly collected, processed, and submitted to laboratories for processing.
- YNF has continued outreach, coordination, and collaboration with their partners to inform future sample analysis, community engagement, and outreach efforts. Partnerships include the Columbia River Basin Restoration Working Group and Toxics Monitoring Subgroup to inform community engagement and outreach efforts, Central Washington University for testing fish samples for microplastics, and USGS for per- and polyfluoroalkyl substances (PFAS) analysis.

Under Phase 2 Grant B, the project team implemented a pilot study for fish tissue and sediment sampling on a 50-mile stretch of the Columbia River, in the Bonneville Pool. Results, methods, and data evaluations will be shared publically and used to inform the long-term Monitoring Program, aid Columbia River stakeholders and decision-makers, and formulate recommendations to improve the river's health.

Progress to Date (Grant B)

- Yakama Nation Fisheries (YNF) and project partners have collected juvenile Chinook and coho salmon at the juvenile bypass facility, purchased adult Chinook salmon from Tribal fishers at Bonneville Dam, and caught resident fish and collected sediment samples throughout the study reach. Fish and sediment samples are currently being analyzed for microplastics at partner laboratories. The project team is working on refining their sample collection methods for future sampling events so that they can collect blood from fish samples for PFAS analysis.
- YNF has begun outreach, coordination, and collaboration with their partners to inform sample analysis, community engagement, and outreach efforts. Partnerships include the Columbia River Basin Restoration Working Group and Toxics Monitoring Subgroup to inform community engagement and outreach efforts, Central Washington University for testing fish samples for microplastics, and USGS for PFAS analysis.
- YNF is working on a strategy for obtaining long-term funding and housing for the Monitoring Program. They delivered several presentations to the Yakama Nation Fisheries strategists and leaders, Yakama Nation Tribal Council, CRITFC Commissioners, and Columbia River Basin Restoration Program Working Group to discuss their strategy, which includes leveraging partnerships for funding and capacity.

What's Next? Where Do We Go from Here?

Priorities for next steps include the following:

- Establish a consistent, reliable funding source(s) and housing for the Monitoring Program. YNF is currently unfunded for FY2025 and beyond. YNF is working with CRITFC to build their capacity and potentially house the long-term Monitoring Program under CRITFC.
- Develop an information system for data/document storage and sharing.
- Conduct an additional pilot study to further refine methods for additional media (water quality and biota).
- Update the QAPP based on pilot study findings, new scientific developments, and collaborative input.
- Develop implementation and funding strategy plan.
- Implement the full-scale Monitoring Program.
- Collaborate with basin-wide monitoring efforts.
- Conduct outreach.

"Not much less necessary than the atmosphere they breathed"
— Justice Joseph McKenna in the Supreme Court Decision *United States v Winans* (198 U.S. 371), regarding salmon and Indian treaty rights

For more information, visit https://yakamafish-nsn.gov/.

Fishing Platforms Columbia River

Solutions for Columbia River Basin Fish Toxicity, A Tribal Perspective

Confederated Bands and Tribes of the Yakama Nation

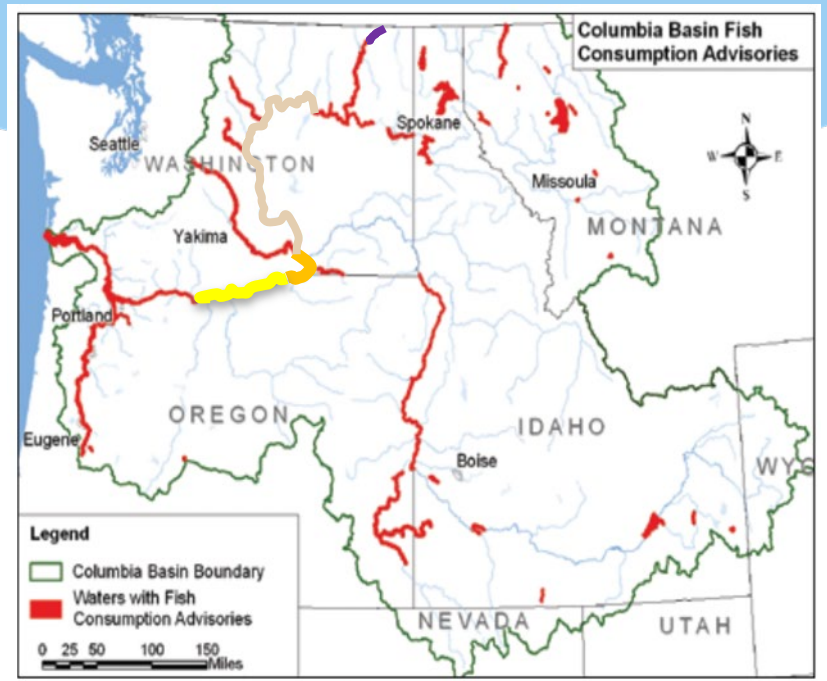
AWRA
October 8, 2024
Laura Klasner Shira, P.E.

The Current State

Poor fish health and water quality throughout the Columbia River

Despite decades of hazardous waste cleanup and environmental regulations:

- Many reaches of the Columbia River fail to meet Washington, Oregon, and federal water quality standards
- Fish consumption advisories exist on the 100% of mainstem Columbia River
- Fish runs continue to decline



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Are contaminants in Columbia River fish getting better or worse?

Answer: We don't know

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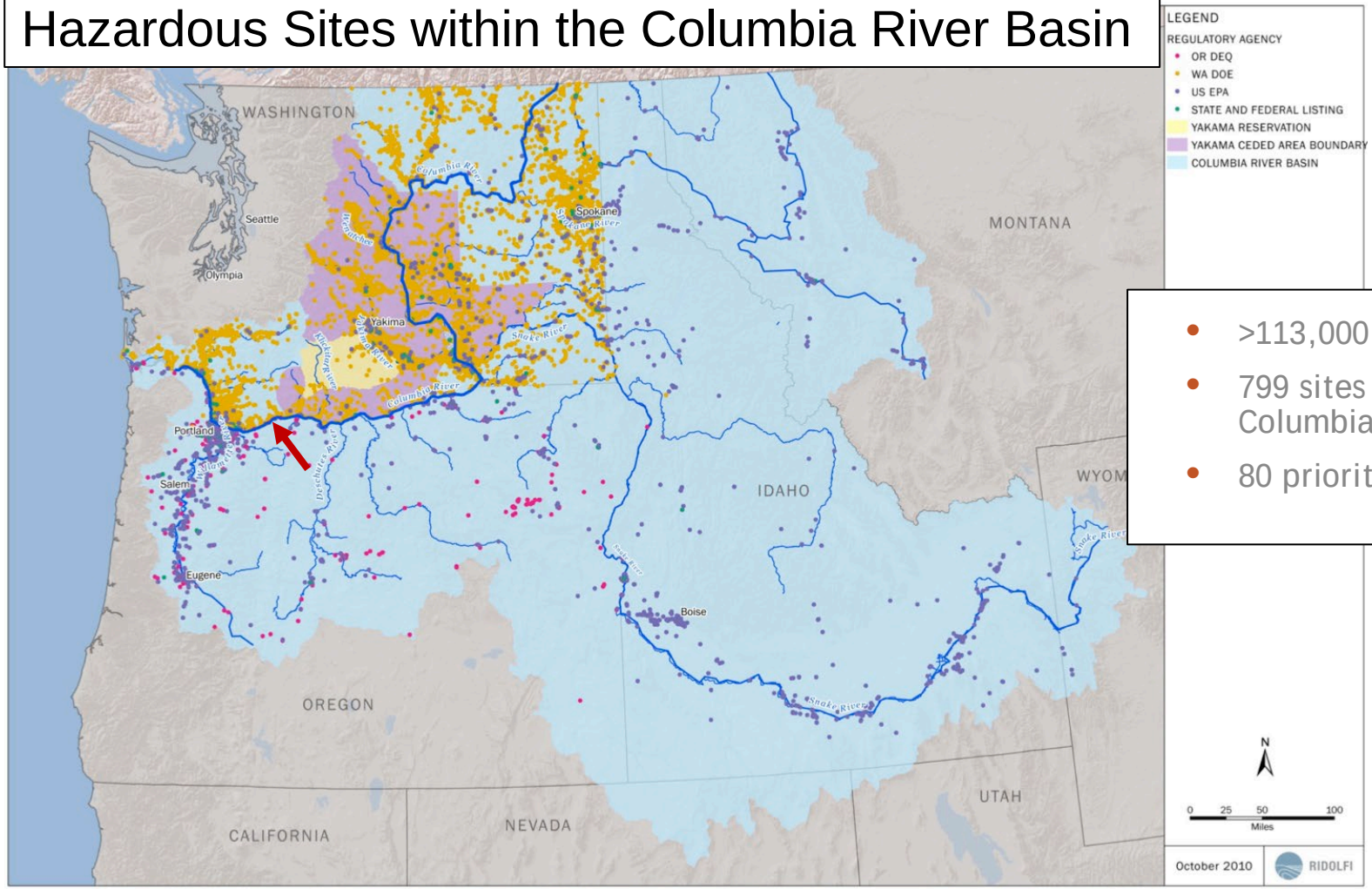
Hazardous Sites within the Columbia River Basin



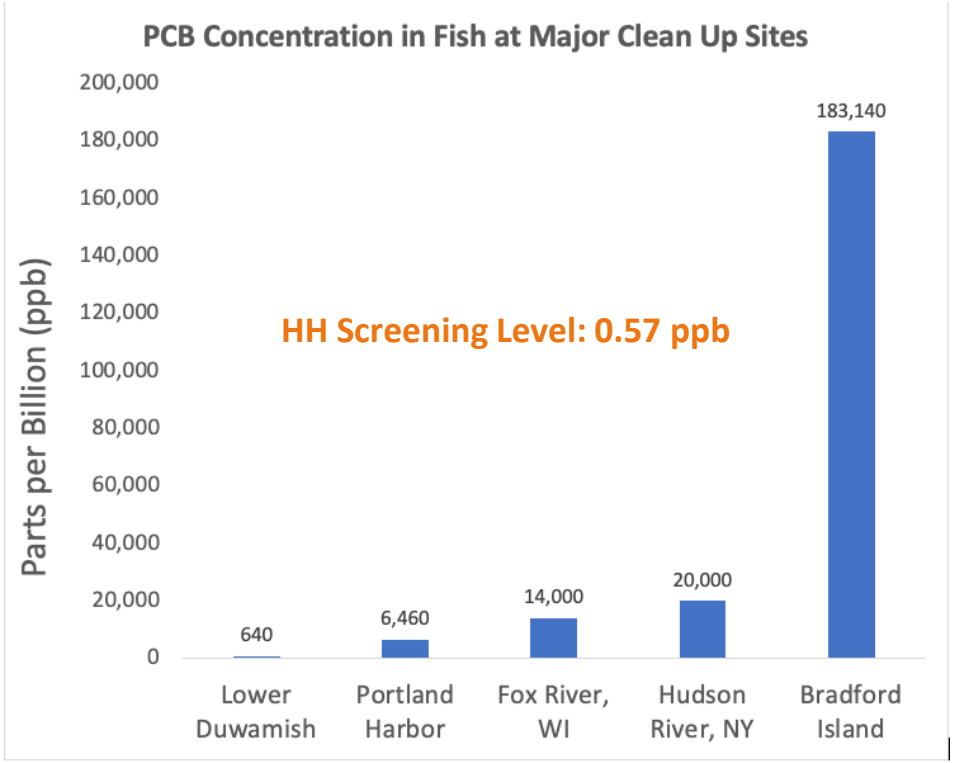
- >113,000 sites within CRB
- 799 sites within ½ mile of Columbia River
- 80 priority sites

Bradford Island Site

Bradford Island Upland & Inwater Dumping

- Mercury Lightbulbs
- Sandblast grit
- Municipal, dam construction, and dam operational waste

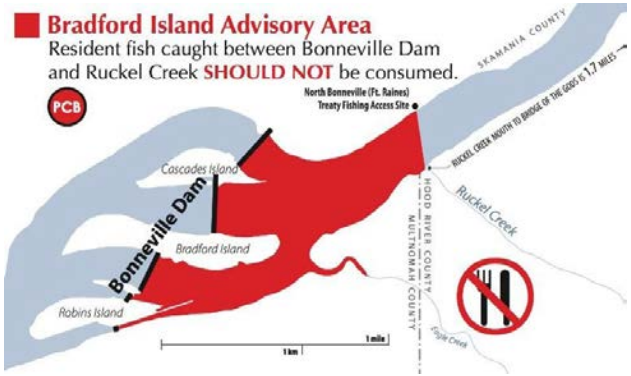
Highest PCB Concentrations Found in US Resident Fish



OR and WA Health Authorities Issue

DO NOT EAT

Resident Fish Consumption Advisory



Solutions

1. Tribal Engagement at Hazardous Waste Sites

2. Columbia River Fish Tissue and Water Quality Monitoring Program Development

3. Policy Engagement

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Implementation team

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- Columbia River Inter-Tribal Fish Commission (CRITFC)
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- Washington Department of Ecology
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Visioned or “Dream” team

- Everybody/ Anybody willing to follow protocols and standard lab methods

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*Starting Point

Three-Phased Approach

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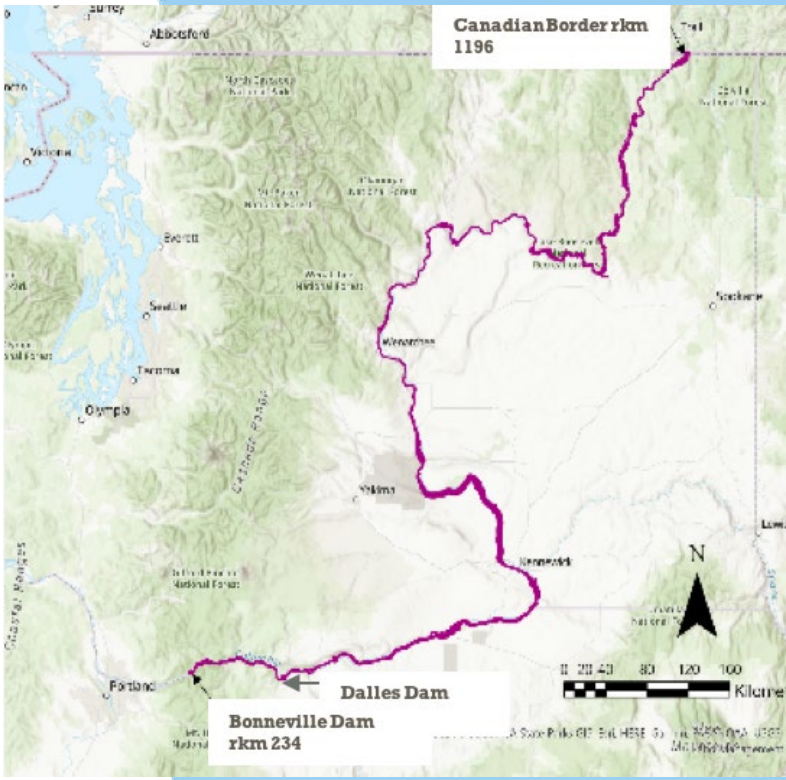
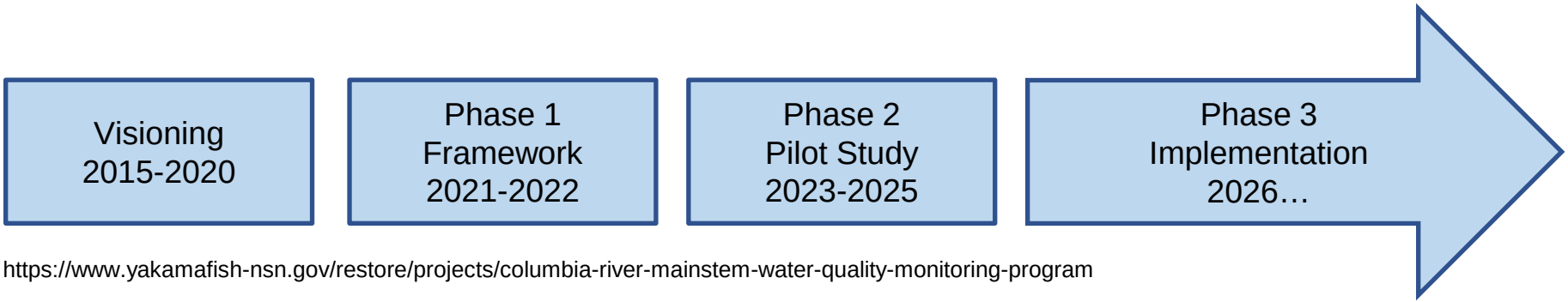


Three-Phased Approach

Phases 3: 2026 and beyond

- Implement Monitoring Program and Adaptive Management
- Confirm who will lead and house the program
- Secure funding - codified, reliable, long-term funding source



https://www.yakamafish-nsn.gov/restore/projects/columbia-river-mainstem-water-quality-monitoring-program

Thank You

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Laura Klasner Shira, shil@yakamafish-nsn.gov

EXTRA SLIDES

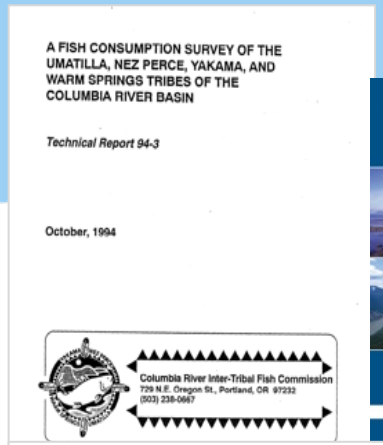
RESOURCES FOR MORE INFORMATION – CRBRP

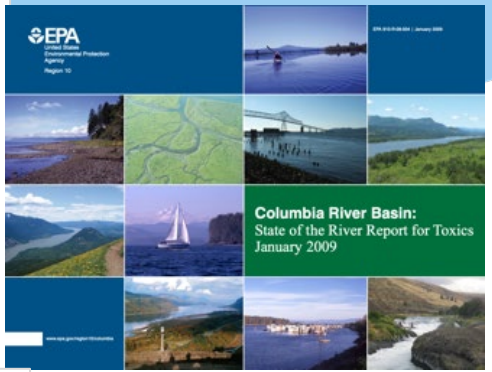
- EPA Columbia River Website is where information about all of the Agency's work in the Basin can be found: https://www.epa.gov/columbiariver
- 2007 Prioritization of Toxics in the Columbia River was developed by the Columbia River Toxics Reduction Working Group to support their work to identify and reduce toxics in the Columbia River Basin: https://www.epa.gov/columbiariver/prioritization-toxics-columbia-river
- 2009 State of the River Report for Toxics is a summary of the science and assessment of four indicator toxic contaminants found in the Basin: https://www.epa.gov/columbiariver/2009-state-river-report-toxics
- 2010 Columbia River Basin Toxics Reduction Action Plan identified five strategies and 61 actions to help reduce toxics in the Basin: https://www.epa.gov/columbiariver/columbia-river-basin-toxics-reduction-action-plan
- 2014 Columbia River Strategy for Measuring, Documenting and Reducing Chemicals of Emerging Concern provides an outline for characterization of the biological impacts of CECs on aquatic and terrestrial wildlife and a research and monitoring strategy: https://www.epa.gov/columbiariver/chemicals-emerging-concern-columbia-river
- 2016 Congress amended the Clean Water Act by adding Section 123 (33 U.S.C. § 1275), which required EPA to establish a Columbia River Basin Restoration Program. Section 123 directs EPA to develop a voluntary, competitive grant program for environmental protection and restoration programs throughout the Basin. https://www.law.cornell.edu/uscode/text/33/1275#:~:text=The%20term%20%E2%80%9CColumbia%20River%20Basin,of%20the%20Columbia%20River%20watershed.
- 2019 Status Update: Columbia River Basin Toxics Reduction provides information from Working Group partners on the most successful actions to reduce and assess toxics in the Basin to help craft a strategy for implementation of CWA Section 123 and future work efforts necessary to reduce toxics in the Basin to benefit human health and the health of fish and wildlife: https://www.epa. gov/columbiariver/2019-columbia-river-basin-toxics-reduction-status-update
- 2020 Toxic-Impaired Waterbodies on 303(d) Lists in the Columbia River Basin identified more than 50 toxic contaminants in the Basin and summarized the location of impaired waters for 10 contaminants. It is intended for use by the Columbia River Basin Restoration Working Group members: https://www.epa.gov/columbiariver/toxic-impaired-waterbodies-303d-listscolumbia-river-basin
- 2020 Columbia River Basin Contaminants of Concern Framework is intended to guide collaboration and implementation of toxics monitoring and reduction efforts across the Columbia River Basin. It is primarily intended as a reference for members of the Columbia River Basin Restoration Working Group and other entities working to assess, reduce, and/or clean up toxics in the watershed: https://www.epa.gov/columbiariver/columbia-river-basin-contaminantsconcern-framework
- 2021 Columbia River Cold Water Refuges Plan is a scientific document with recommendations to protect and restore cold water refuges and protect migratory salmon populations: https://www.epa.gov/columbiariver/columbia-river-cold-water-refuges-plan
- EPA's Columbia River Basin Restoration Program Story Map provides a comprehensive and interactive overview of toxics in the Basin and efforts underway to improve and protect the watershed: https://storymaps.arcgis.com/stories/24979f1fd3124cc7bb4c85147d38eedc

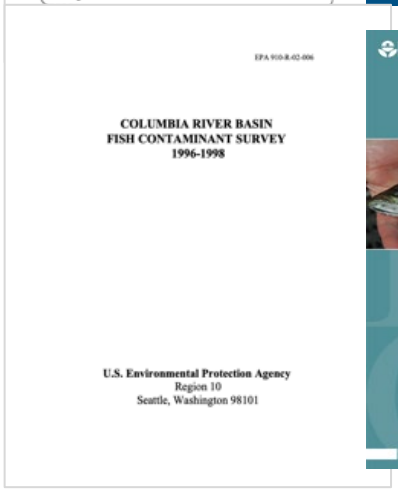
Planning- Historical Data Review

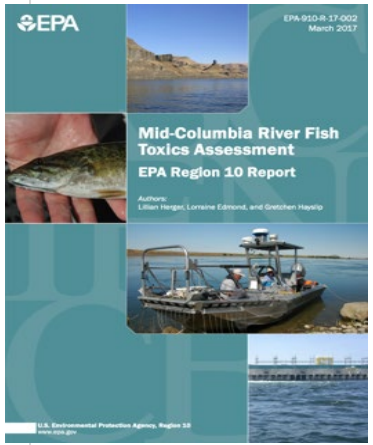
- Identified 17 Large “one-off” studies on the Mainstem, reviewed WQX and Ecology EIM Database Retrieval

- Few Points to compare



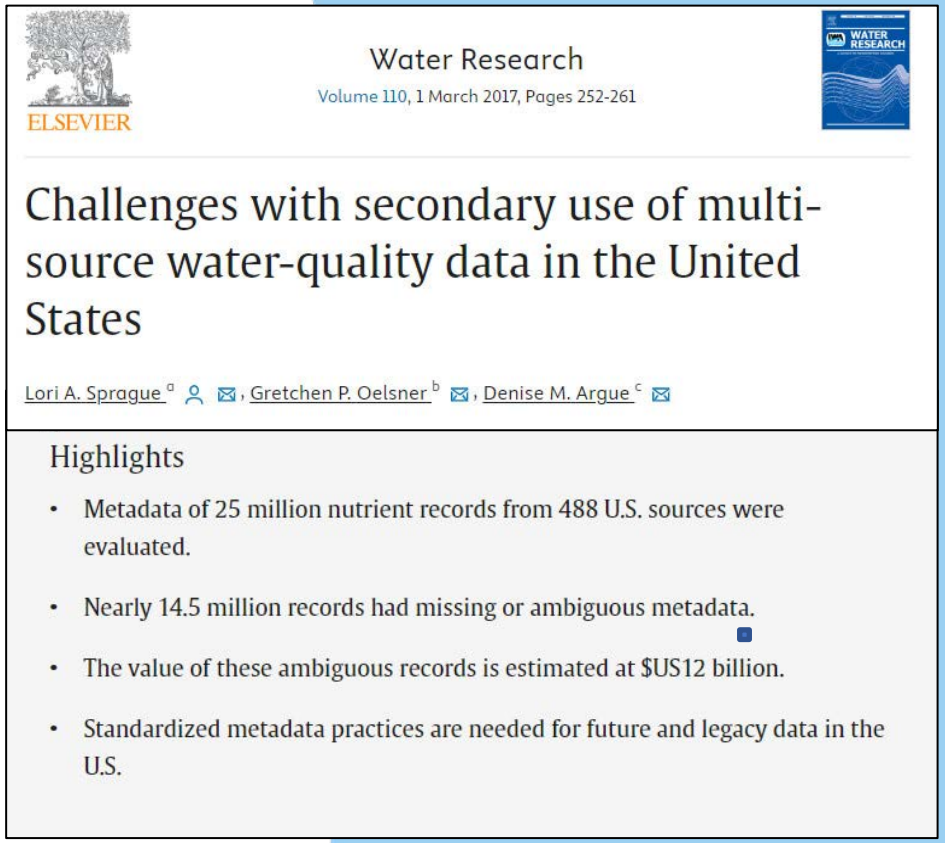






Insufficient data & data collection methods

- Data collection is scattered across multiple organizations and not standardized
- Comparing data is difficult
  - Differences in field/lab methods, species, spatial and temporal issues, detection limits, study purpose/bias
- Inconsistent methods make identifying trends not possible
- **Funding is needed** for
  - Consistent, long-term monitoring;
  - Better spatial coverage, and;
  - Priority contaminant analysis across all media.



ELSEVIER

Water Research

Volume 110, 1 March 2017, Pages 252-261

Challenges with secondary use of multi-source water-quality data in the United States

Lori A. Sprague [a], Gretchen P. Oelsner [b], Denise M. Argue [c]

Highlights

- Metadata of 25 million nutrient records from 488 U.S. sources were evaluated.
- Nearly 14.5 million records had missing or ambiguous metadata.
- The value of these ambiguous records is estimated at $US12 billion.
- Standardized metadata practices are needed for future and legacy data in the U.S.

Program Goals

Evaluate

- Contaminant status and trends over time and space
- Impacts to human and ecological health

Identify

- River segments in need of cleanup or source control
- River segments for restoration and protection

Inform

- Prevention, cleanup, protection, and restoration efforts
- Education and outreach
- Recovery of threatened and endangered species
- Adaptive management
- Larger Columbia River Basin efforts

Provide

- Data interpretation and recommendations
- Data compatible with the larger Columbia River Basin efforts

The Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

A collaborative effort being implemented by Tribal, federal, and state agencies with input from many organizations.

Collect, manage, evaluate, and publicly share data and report on toxic substances in Columbia River water, fish, and sediment.

Welcome new partnerships and the expansion of monitoring to compliment Basin-wide efforts and needs.

February 11, 2026

Columbia River Mainstem, Long-Term Toxics Monitoring Program, Budget for Implementation

ANNUAL COST ESTIMATE: $6 million/year

- Mainstem Monitoring Program: $5 million/year
- Outreach: $0.5 million/year
- Database/Website: $0.5 million/year

PROGRAM DEVELOPMENT – upfront costs for building a new, stand-alone program include (with annual updates as needed):

- statistically robust sampling design
- methods testing
- permit acquisition
- training program development
- database and website development
- supplies & equipment, boats, refrigeration, space purchase
- personnel to manage program
- adaptive management (ex. QAPP updates)

MONITORING PROGRAM: $5 MILLION/YR

What are we sampling?

- resident fish (predator and forage fish)
- juvenile & adult salmon within pool and at fish bypass
- sediment
- water quality
- other biota sampling

Where and how often are we sampling? Conducted in a 5-year rotation where 1 of 5 portions of the study area are sampled annually. For example:

- Year 1 - Bonneville, The Dalles, John Day
- Year 2 - McNary, Hanford Reach,
- Year 3 - Priest Rapids, Wanapum, Rock Island
- Year 4 – Rocky Reach, Wells, Chief Joseph
- Year 5 - Lake Roosevelt (Grand Coulee to the Canadian Border)

Other Components?

- logistics/planning
- permit acquisition
- field operations and field sample processing
- post-field operation sample processing
- lab analyses for: mercury, PCB congeners, DDx (and other organochlorines), PBDE, PAHs, PFAS, and possibly others as need and budgets and need are identified (ex. 6ppd-Q, PAHs)
- process data such that it is reviewed, validated

- data analyses (basic summary and visuals), recommendations for future modifications and needs, and reporting
- an annual progress and data summary report.

OUTREACH: $0.5 MILLION/YR

- staff, supplies, equipment, material development
- outreach and collaboration with basin-wide partners, end-users, salmon recovery groups and water quality organizations, etc.
- funding and program development and operations
- training of field sample collectors
- communication on issues identified through the monitoring with respective partners
- participation in workshop, conferences, meetings with government partners, NGOs, and universities

DATABASE/WEBSITE: $0.5 MILLION/YR

- staff, supplies, equipment, data/website host fees, website development and management
- publically available data hosting site such as NWIS / WQX and/or USGS ScienceBase (www.sciencebase.gov) or equivalent
- publically available document hosting and outreach website for SOPs, QAPPs, reports, data summaries, visuals, other information, and outreach materials

Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

February 11, 2025 YN DNR & Fisheries Management Meeting

Laura Shira, Yakama Nation Fisheries Program

Our asks of YN DNR & Fisheries Management

1. Are YN DNR and Fisheries Program management willing to engage with state and national leadership?

2. Is management supportive of identifying the toxics monitoring program as one of YN's priorities in the NPCC CR Basin Fish & Wildlife Program 'call for amendments" so that it could be funded by BPA?

The Current State

Poor fish health and water quality throughout the Columbia River

Despite decades of hazardous waste cleanup and environmental regulations:

- Many reaches of the Columbia River fail to meet Washington, Oregon, and federal water quality standards
- Fish consumption advisories exist on the entire mainstem Columbia River
- Fish runs continue to decline

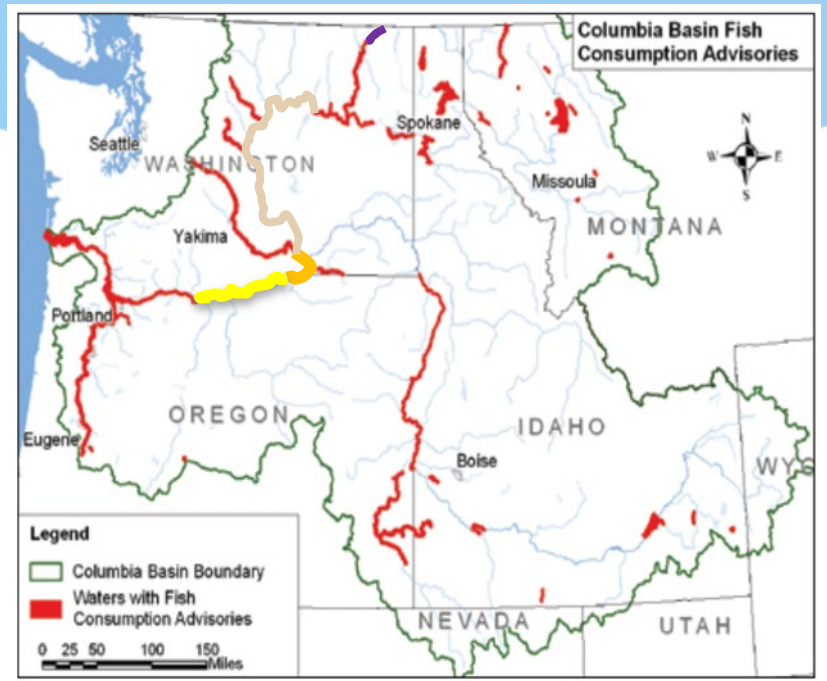


Figure 3.4: State-issued fish consumption advisories are in effect throughout the Columbia River Basin for certain contaminants and species. Not all waters have been tested, so the absence of an advisory does not necessarily mean it is safe to consume unlimited quantities of fish from untested waters.

Are contaminants in Columbia River fish getting better or worse?

Answer: We don't know

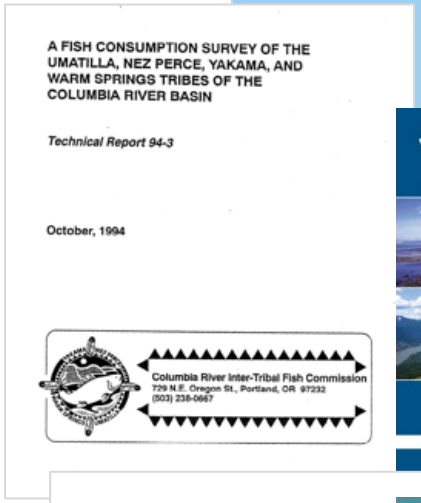
- Insufficient Data
- Incomparable data collection methods
- Lack of a consistent and collaborative monitoring program

Model programs include:

- Nation-wide air quality program
- Monitoring of Large Aquatic Ecosystems (LAEs)

Insufficient data & data collection methods

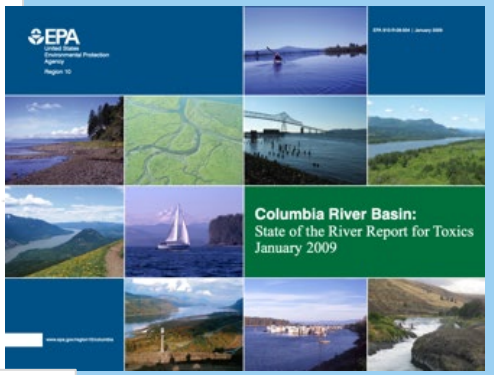
- Data collection is scattered across multiple organizations and not standardized
- Comparing data is difficult
  - Differences in analytical methods, spatial and temporal issues, study purpose/bias
- Inconsistent methods make identifying trends impossible
- **Funding is needed** for
  - Consistent, long-term monitoring;
  - Better spatial coverage, and;
  - Priority contaminant analysis across all media.

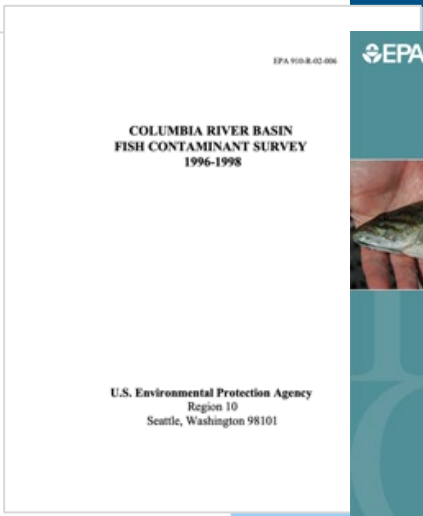

A FISH CONSUMPTION SURVEY OF THE UMATILLA, NEZ PERCE, YAKAMA, AND WARM SPRINGS TRIBES OF THE COLUMBIA RIVER BASIN

Technical Report 94-3

October, 1994

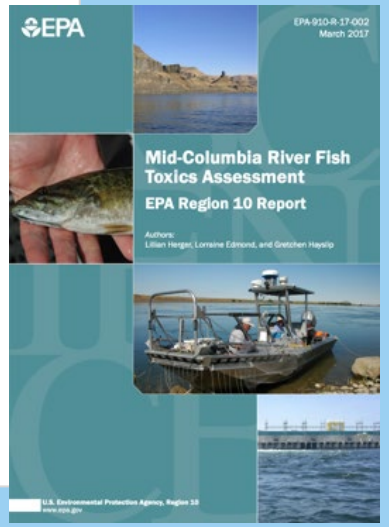
Columbia River Inter-Tribal Fish Commission
729 N.E. Oregon St., Portland, OR 97232
(503) 238-0667




EPA 910-R-02-006

COLUMBIA RIVER BASIN
FISH CONTAMINANT SURVEY
1996-1998

U.S. Environmental Protection Agency
Region 10
Seattle, Washington 98101



The Solution

The Columbia River Mainstem Fish Tissue and Water Quality Monitoring Program

A collaborative effort being implemented by Tribal, federal, and state agencies with input from many organizations.

Collect, manage, evaluate, and publicly share data and report on toxic substances in Columbia River water, fish, and sediment.

Welcome new partnerships and the expansion of monitoring to compliment Basin-wide efforts and needs.

Implementation team

- Columbia River Inter-Tribal Fish Commission (CRITFC)
- Yakama Nation
- U.S. Geological Survey (USGS)
- Washington Department of Ecology
- Oregon Department of Environmental Quality
- Washington Department of Fish and Wildlife (WDFW)

Program Objective

Provide an **unbiased and permanent** way to monitor toxic substances and evaluate status and trends.

This Program will guide cleanup and restoration of the Columbia River to support natural resources, provide healthful foods, and sustain cultural practices.

Program Goals

Evaluate

- Contaminant status and trends over time and space
- Impacts to human and ecological health

Identify

- River segments in need of cleanup or source control
- River segments for restoration and protection

Inform

- Prevention, cleanup, protection, and restoration efforts
- Education and outreach
- Recovery of threatened and endangered species
- Adaptive management
- Larger Columbia River Basin efforts

Provide

- Data interpretation and recommendations
- Data compatible with the larger Columbia River Basin efforts

Initial Program Logistics

Spatial

- Columbia River Mainstem
- Canadian Border to Bonneville Dam (~1,050 river km)

Media

- Fish tissue
- Water Quality
- Sediment
- Biota

Temporal

- TBD (ex. repeat every 5-10 years)

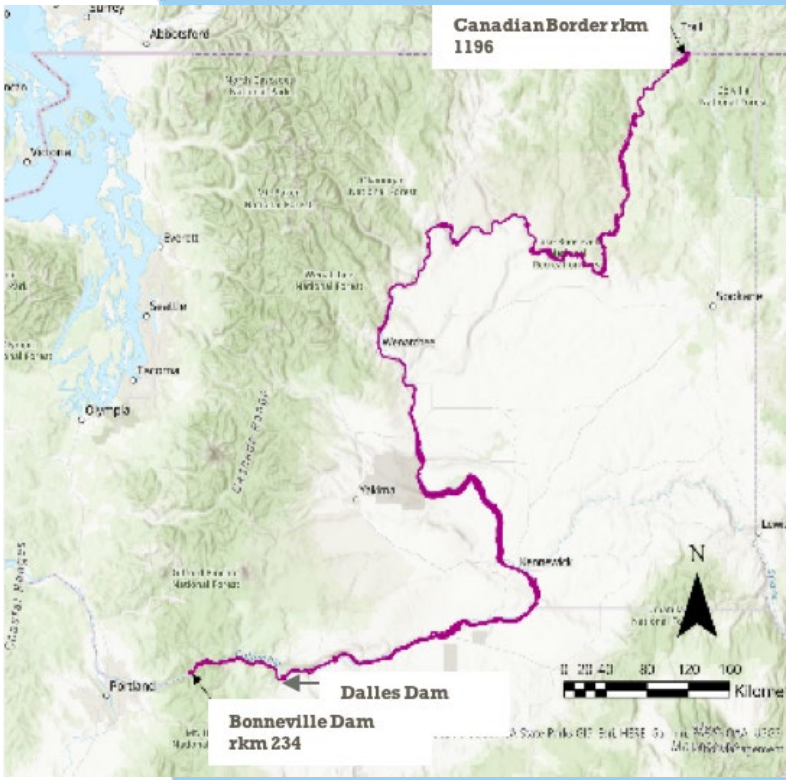
Contaminants

- Mercury
- PCBs
- Pesticides (DDT)
- PBDEs
- Others identified through adaptive management and emerging science

Three-Phased Approach

Phases 1 and 2: 2020 - 2024

- Engage stakeholders
  - Collaborated with the Columbia River Basin Restoration Working Group (350+ members)
  - Included representatives from federal, state, and regional governments, health experts, Tribes, universities, NGOs
- Define initial project area:
  - 600-mile stretch of the Columbia River—from the Bonneville Dam to the Canadian Border
- Conduct a toxic monitoring pilot study in Bonneville Pool
- Identify a Program Lead, house, and permanent funding



Three-Phased Approach

Phases 3: 2025 and beyond

- Implement Monitoring Program and Adaptive Management
- Confirm who will lead and house the program
- Secure funding - codified, reliable, long-term funding source

Project Budget *(per year)*

$5 million

Mainstem Monitoring Program

\+ $500,000

Outreach

\+ $500,000

Database/Website

$6 million

Commitment Needs

- Partner commitment letters
- House – CRITFC lead with USGS support
- Funding - interim & long-term
- Collaboration – to identify data gaps and needs, emerging science, and adaptive management to ensure program longevity and effectiveness

Thank You

“Not much less necessary than the atmosphere they breathed”

— Justice Joseph McKenna in the Supreme Court Decision *United States v Winans* (198 U.S. 371)