

Yakama Nation Columbia River Basin



Monitoring Program – Lessons Learned & Strategy

September 2, 2026

Science to Policy Summit: Lessons & Opportunities from the CRB Restoration Program

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Pathway

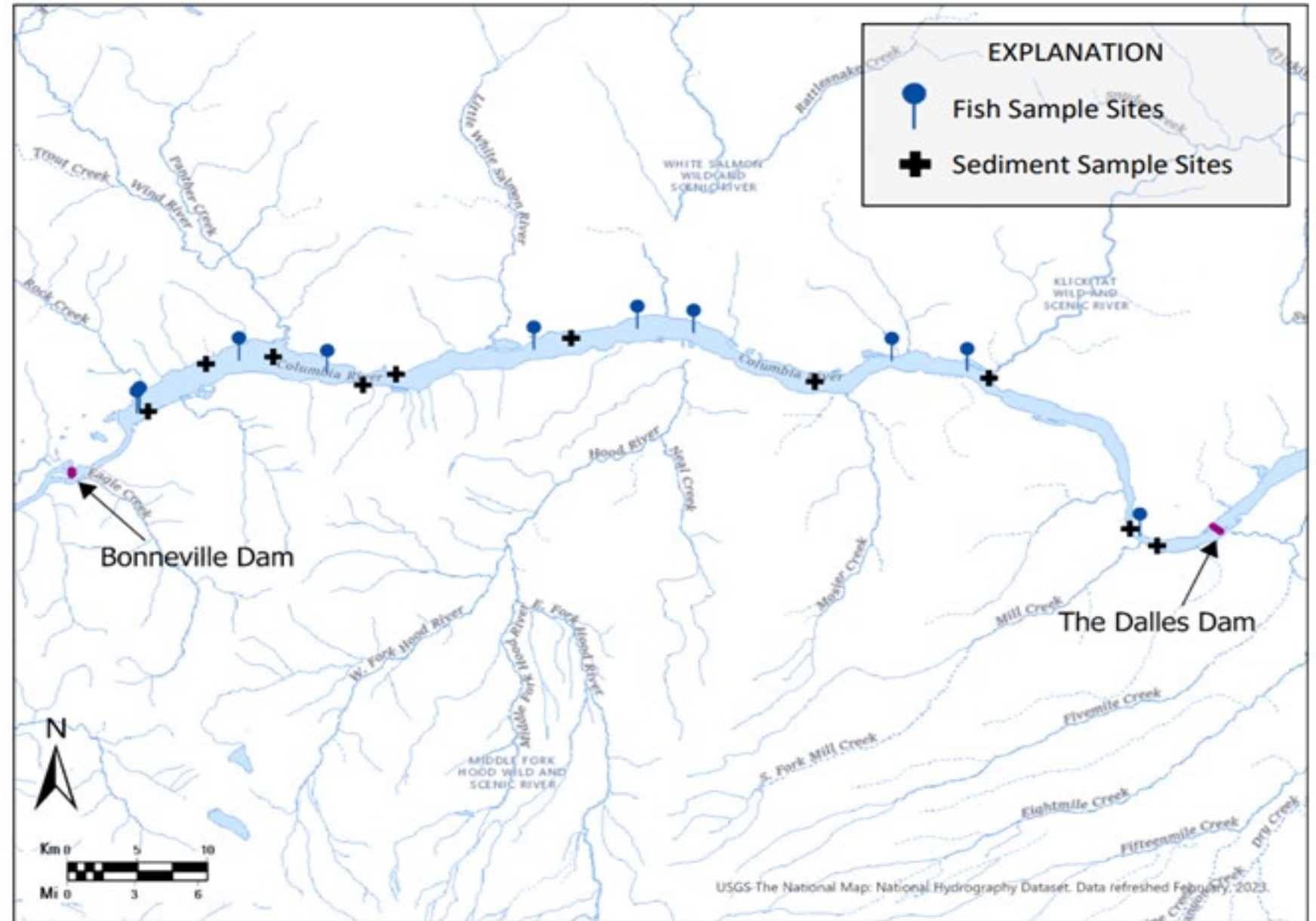


- Pre-Work (2016-2019) – Straw Dog and Vision outreach
- Phase 1 - Technical & Outreach Frameworks (2020-2022)
- Phase 2 - Pilot Study - Bonneville Pool (2022-2025)
 - Sampling & Summary Report
 - Program QAPP, including lessons learned
 - Implementation Strategy
 - Outreach materials
 - USGS data evaluation publication - pending
- Phase 3 - Program Implementation – WE ARE HERE! \$0 (seeking funding)!
 - Implement Monitoring Program and Adaptive Management
 - Confirm who will lead and house the program
 - Secure funding - codified, reliable, long-term funding source

Mainstem Program

Bonneville Pool
2022-2025

goal - work our way up
the river (every 5yrs)



YN/USGS/WDFW Bonneville Pool Fish Toxicity Study – 2023 to 2025

Table 8. Summary statistics of compounds analyzed in fish and sediment samples collected in the Columbia River from Bonneville Dam to near The Dalles, Oregon.

Units in µg/kg, microgram per kilogram

Contaminant Class		Total concentrations measured (µg/kg wet weight)													
		Chinook (adult)	Chinook (juvenile)		Coho (Adult) ¹		Northern pikeminnow		Prickly sculpin		Smallmouth bass		Yellow perch		Sediment
ΣOrganochlorine pesticides and pesticide degradation products (not including DDT)	Min	5.78	0.92				1.63		1.26		0.29		0.15		ND
	Max	9.63	1.74		3.15		2.78		3.10		1.49		0.21		0.01 ²
	Mean	7.18	1.44				2.06		2.01		0.76		0.18		0.01 ²
ΣDDT degradation products	Min	4.96	4.92				23.82		9.08		6.33		2.36		0.02
	Max	12.26	19.24		9.05		26.28		22.28		42.44		2.77		1.88
	Mean	7.99	12.89				21.32		15.50		17.75		2.54		0.34
ΣPBDE congeners	Min	0.35	1.15				1.43		1.1		0.44		0.18		0.04
	Max	1.04	7.34		0.47		1.58		9.97		5.12		0.61		0.09
	Mean	0.72	3.93				1.52		3.82		1.58		0.39		0.06
ΣPCB congeners	Min	7.29	4.00		6.13		6.5		3.48		2.00		0.68		0.02
	Max	15.2	9.8				7.91		14.55		13.6		0.84		0.05
	Mean	10.57	6.51				7.38		7.69		6.60		0.74		0.04
	Min	61.9	21.7				20.0		32.8		26.2		75.4		3.0 ³
Total Mercury	Max	89.1	25.0		49.9		359.3		75.1		293.1		103.7		75.7 ³
	Mean	76.4	23.4				111.9		59.6		154.7		89.6		25.7 ³

Columbia River Basin Partnership



2025 Draft Implementation Plan for a Basin-Wide Monitoring Program



Photograph Provided By Laura Gephart

CRB Partnership

Leadership Board (Board of Directors)

- Federal-EPA, USGS
- States-WA, OR, ID, MT, UT, NV, WY
- Tribes-CRITFC, others

**Executive
Director**

Funding
Development

Adaptive
Management
Systems
&
Accountability
Team

CRB
Monitoring
Program
Technical
Director

Outreach
& Education
Team

Policy Team
&
Basin-wide
Coordinator

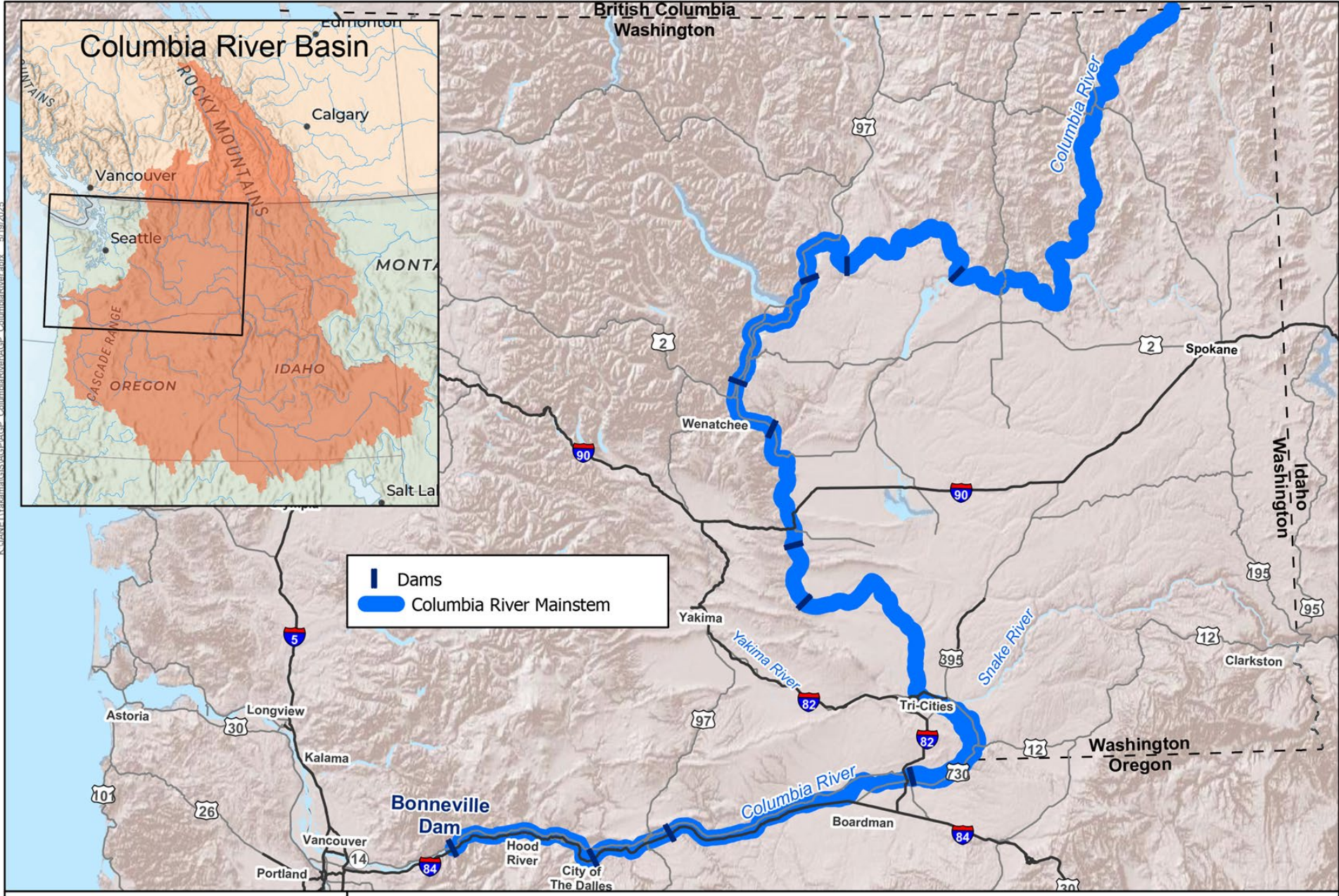
Columbia River
Basin Restoration
Working Group

External
Expert
Panels

* YN focusing on the mainstem

Goal
Basin-wide

YN Focus
Mainstem



Mainstem Program

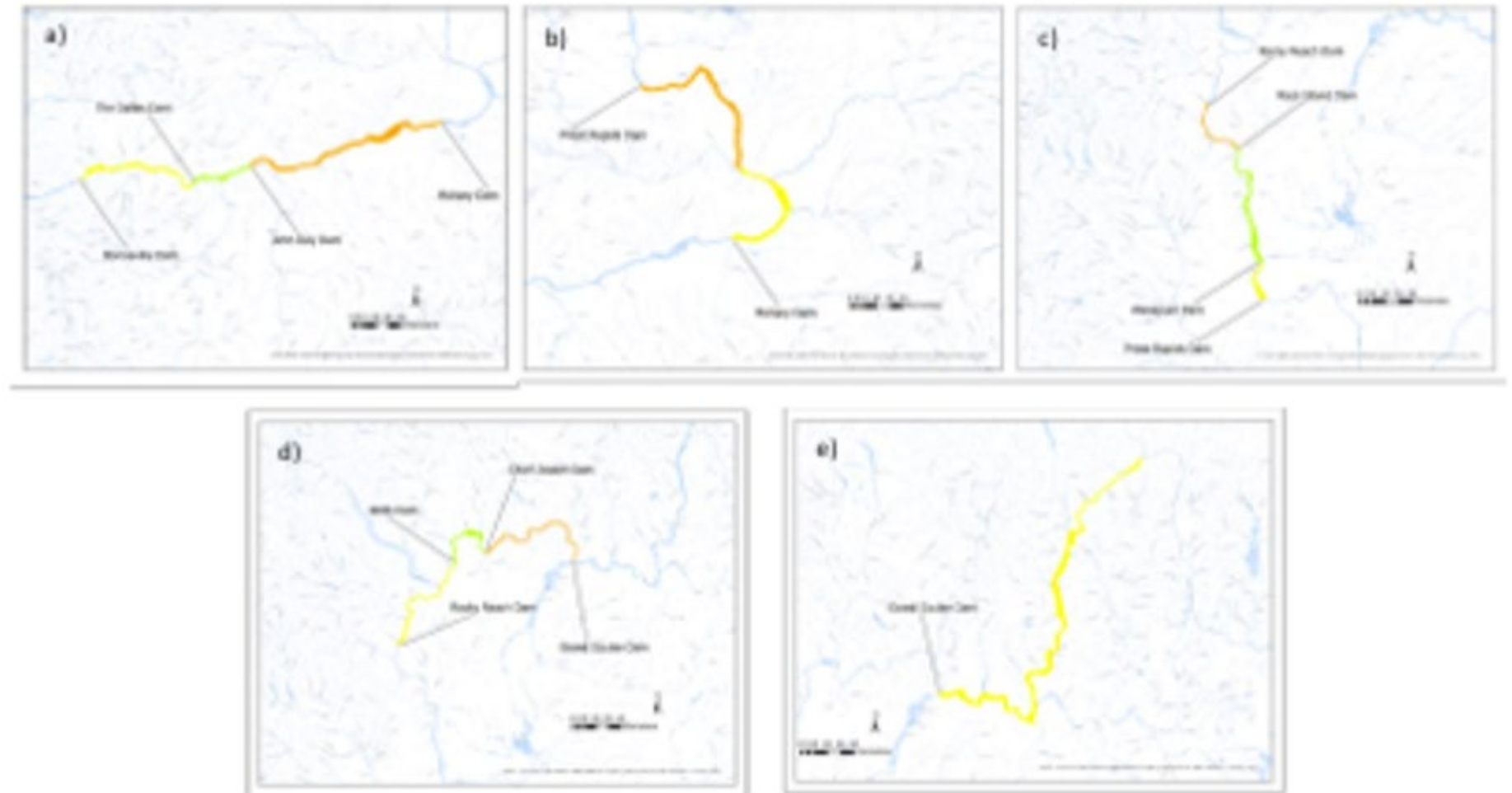


Figure 2. Example of reservoir groupings that would allow the study area, from Bonneville Dam to the international border with Canada, to be sampled in a 5-year rotation. Example groupings depicted are a) Bonneville, The Dalles, and John Day reservoirs; b) McNary reservoir and the Hanford Reach; c) Priest Rapids, Wanapum, and Rock Island reservoirs, d) Rocky Reach, Wells, and Chief Joseph reservoirs, and e) Lake Roosevelt. See Table S1 for additional details about the reaches. Source: USGS-TNM, USGS The

Lessons Learned



- GO BIG! – clearly communicate long-term goals
- START EARLY! – permitting, contracts, sub-awards & coordinating, QAPPs, analysis
- LONGER TIMELINES! – grants 3 yr (or longer) needed for complex projects
- BE NIMBLE!– flexible site selection and oversampling necessary - ex. challenging water levels, dense macrophytes, wind conditions
- THINK EFFICIENCY!: equipment & methods to improve sample collection & reduce holding times
 - second shuttle boat
 - combining hook-and-line and electrofishing to improve predator collection
- CONTINGENCY BUDGET!: budget for lab inflation & delays; prioritize sampling needs in case of budget short-fall; identify minimum sample needs for meeting DQOs
- COLLABORATE & COORDINATE! – key for success
 - Ex. lift up the work of partners, funding support, sample & field effort sharing, QAPP/SOP/permit sharing, cost sharing, knowledge sharing, lab timing

CRITICAL!

Development of
ROBUST
Goals,
Study Design &
Data Quality
Objectives

Design what you need – then
take a tiered approach to get
there.

Short-term & interim &
long-term

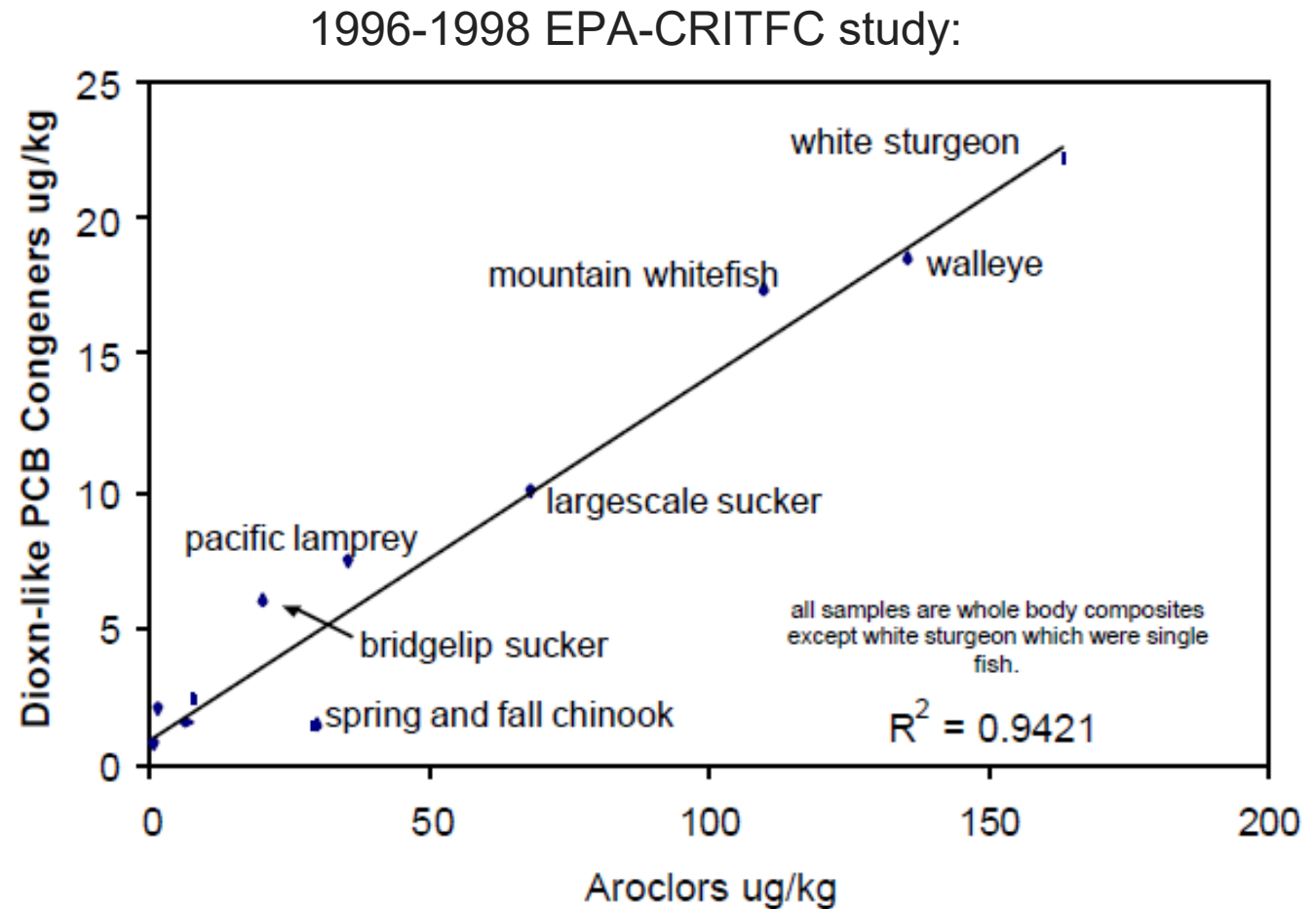
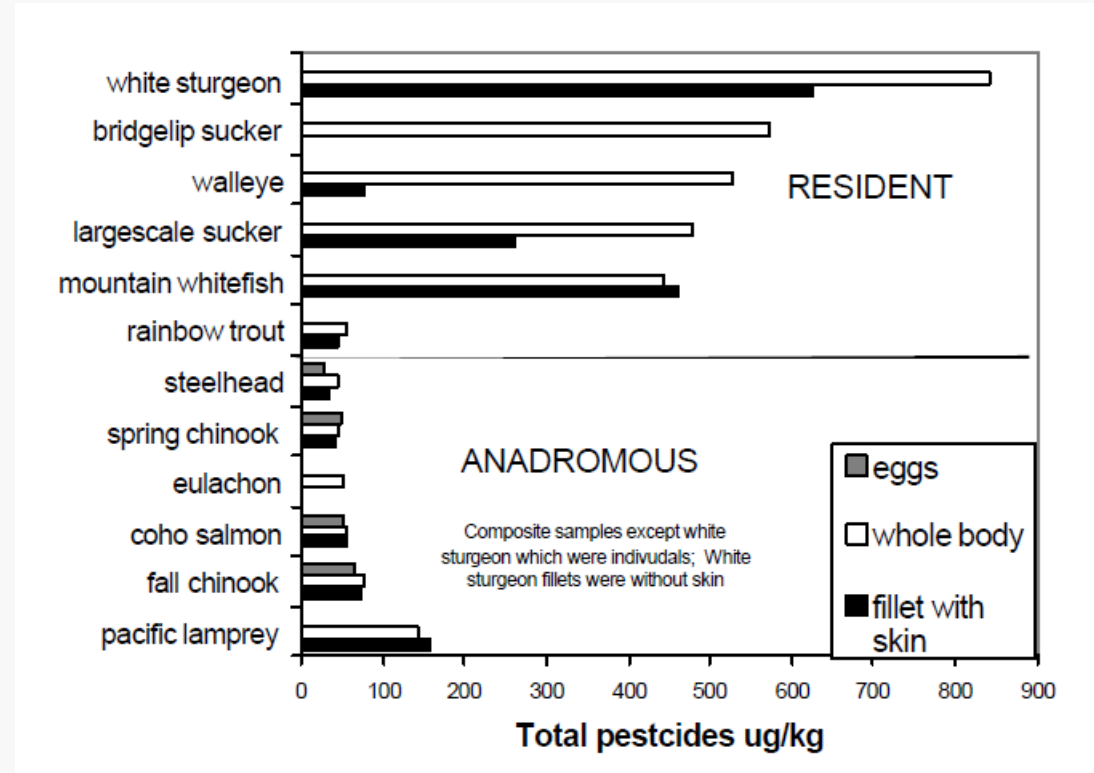


Figure 2-10. Correlation of basin-wide average concentrations of Aroclors 1242,1254,1260 (x axis) with dioxins like PCB congeners (y axis).

Stand on the
shoulders of
giants
to go
BIGGER!

1996-1998 EPA-CRITFC study:



If YN had funding – collaborative goals



- Implement Monitoring Program
 - Refine Study Design – number and distribution of samples, locations, species, analytes, etc.
 - Conduct mainstem annual sampling – 1 of 5 mainstem segments
 - Resample each mainstem segment - every 5 yrs
 - Develop Results & Evaluation Report - every 5 yrs
 - Develop reporting formats, websites, outreach program, collaborative partnership
 - Adaptively manage program
- Collaborate with basin-wide program development
- Outreach – communicate short, interim and long-term goals for the program – GO BIG!
- Confirm who will lead and house the program - build capacity.
- Secure funding – reliable, diversified, innovative long-term funding source (codified, private, grants, partnerships)

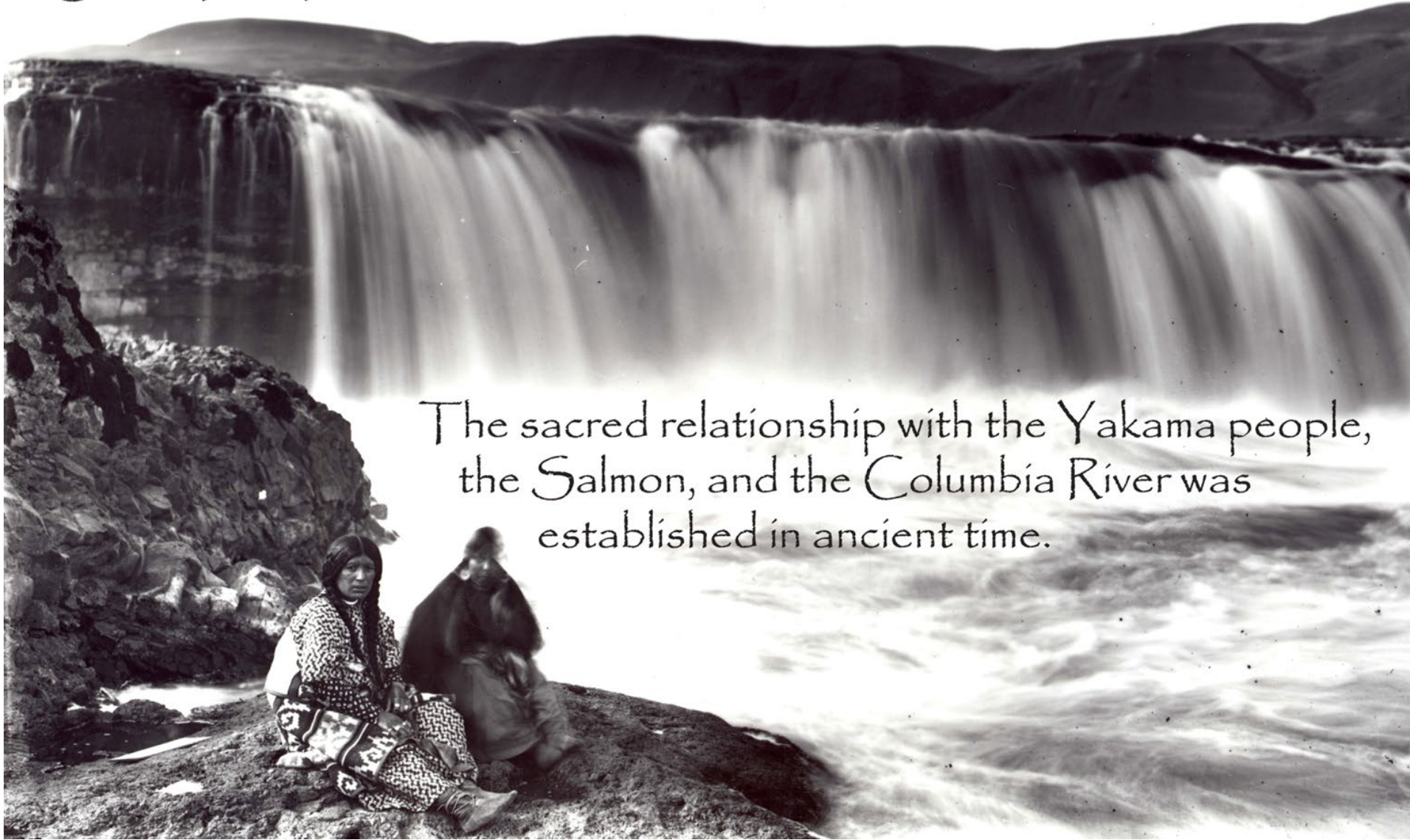


Thanks to the Implementation Team!

- Columbia River Inter-Tribal Fish Commission
- Oregon Department of Environmental Quality
- U.S. Geological Survey
- Washington Department of Ecology
- Washington Department of Fish and Wildlife
- And input from numerous others

Since Time Immemorial...

The sacred relationship with the Yakama people,
the Salmon, and the Columbia River was
established in ancient time.





HONOR. PROTECT. RESTORE.





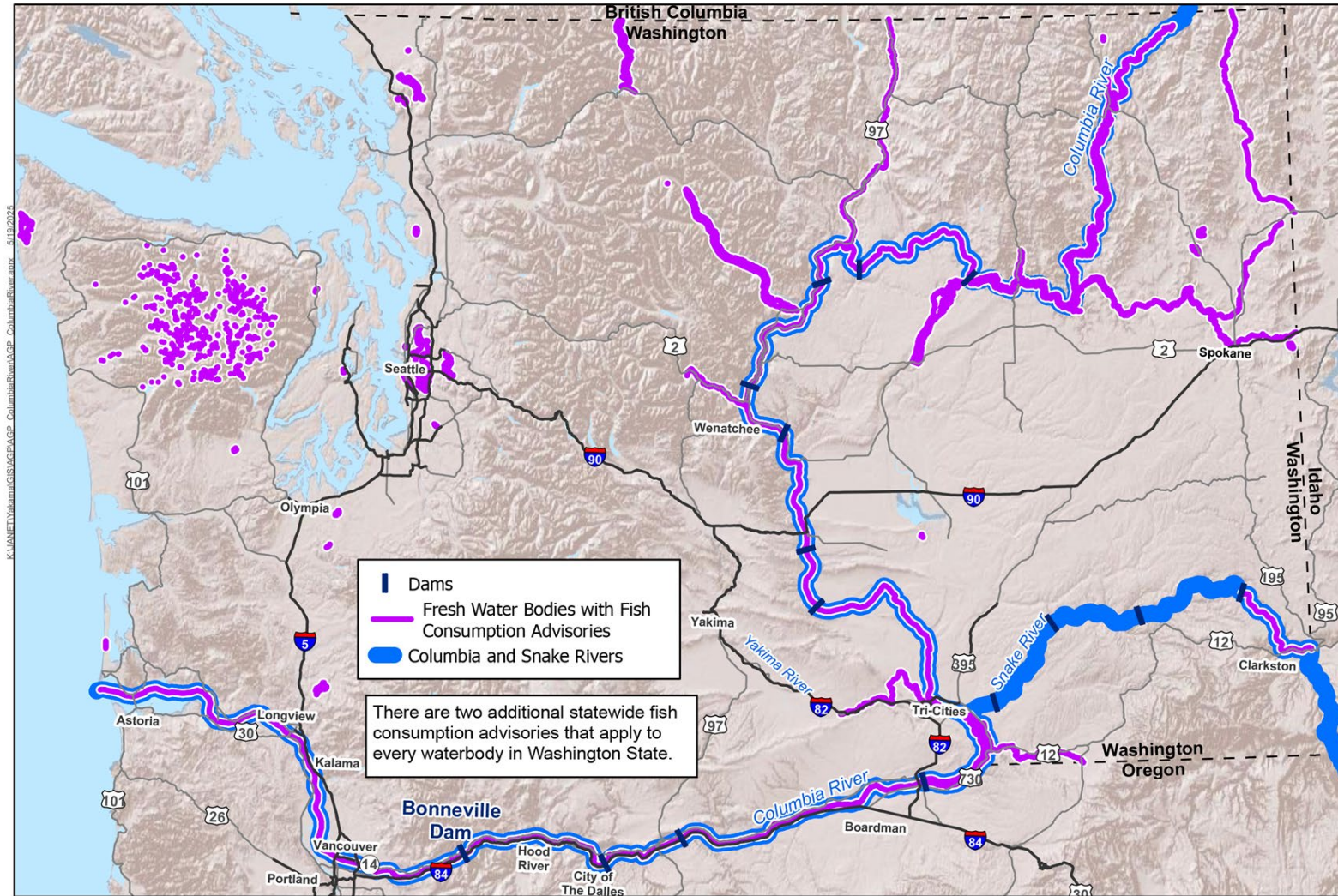
Resources

- Confederated Tribes and Bands of the Yakama Nation - <https://www.yakama.com/>
- Yakama Nation Fisheries - <https://www.yakamafish-nsn.gov/restore/projects/columbia-river-mainstem-water-quality-monitoring-program>

Email Contacts

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- Laura Shira, shil@yakamafish-nsn.gov

Fish Consumption Advisories Throughout the Entire Columbia River Mainstem & Tributaries





Impacts from Contaminated Sediment Sites

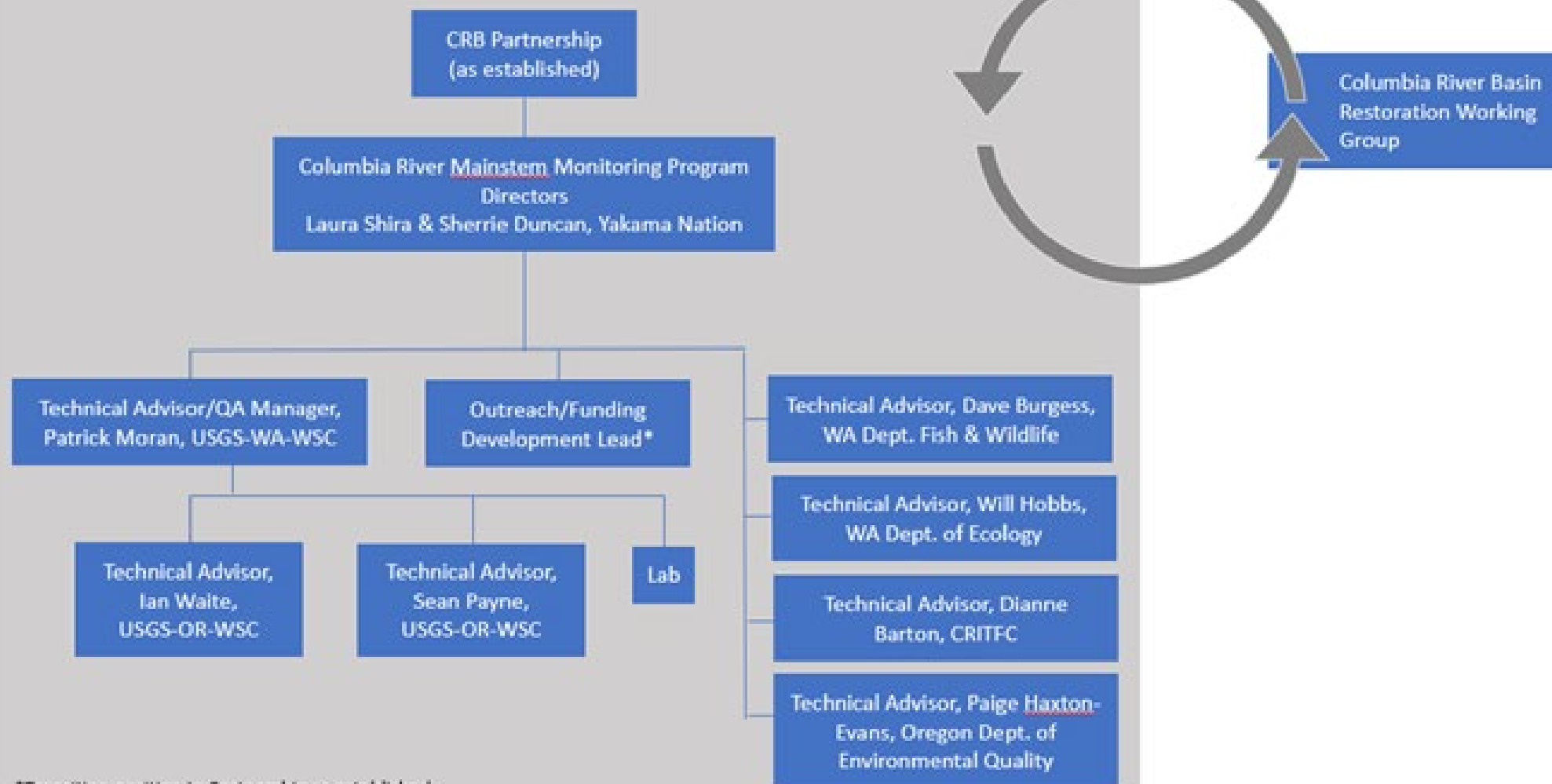


Above. Two Yakama girls cradle Asum for release into the Yakima River.

- Contaminated sediments result in contaminated fish.
- Tribal populations (including children) consume significantly more fish than other populations.
- There are extensive fish advisories on the Willamette and Columbia rivers.
- Risks from contaminated sediments and fish have negative impacts to health and well being.
- Contamination of First Foods is a form of violence and injustice experienced specifically by Indigenous people.



Columbia River Mainstem Monitoring Program – Phase 1



*Transition position to Partnership as established