



Priest Rapids Coordinating Committee Meeting

In person at Douglas PUD and Webex
Tuesday, May 23, 2023
9:00 a.m. to 11:00 a.m.

Meeting Minutes

PRCC Representatives and Alternatives

Curt Dotson, Tom Dresser (Alt), GPUD
Kirk Truscott, Casey Baldwin (Alt), CTCR
Tom Lorz, CTUIR
Scott Carlon, Justin Yeager (Alt), NMFS

Jim Craig, Bill Gale (Alt) USFWS
Chad Jackson, Andrew Murdoch (Alt) WDFW
Keely Murdoch, Brandon Rogers (Alt), YN

Meeting Attendees

Larissa Rohrbach, Anchor QEA
Bryan Nordlund, Facilitator
Curt Dotson, GPUD
Rod O'Connor, GPUD
Tim Taylor, GPUD
Scott Carlon, NMFS

Jim Craig, USFWS
Andrew Murdoch WDFW
Keely Murdoch, YN
Kirk Truscott, CTCR
Holly McLellan, CTCR

Action Items

- B. Nordlund will follow up with C. Jackson for final approval of March 21 and April 25 Priest Rapids Coordinating Committee (PRCC) meeting minutes.

Review Items

- The *Draft Study Plan for the Estimation of Juvenile Yearling Chinook, Sockeye and Steelhead Survival through the Priest Rapids Project in 2025-2027*, version 4.0 modified May 2023, is available for review with written comments due to C. Dotson by July 15.

Decisions and Approvals

- None.

I. Welcome, Announcements and Agenda Review

- No changes to the agenda were requested, and the PRCC approved the agenda.

II. Meeting Minutes Status

- Revised March 21 meeting minutes from the additional meeting on the 2023 Avian Predation Study Plan were distributed by L. Rohrbach on April 10, 2023, for approval. The draft April 25 regular meeting minutes were distributed on May 9 for review, and no substantive edits were received. The PRCC representatives that were present approved both sets of minutes without additional revisions. B. Nordlund will follow up with C. Jackson after the meeting to obtain WDFW's approval (C. Jackson approved on June 27, 2023).

III. Action Items Review

- T. Lorz will confirm that Brett Hall will serve as the Policy Representative for the Confederated Tribes of the Umatilla Reservation (CTUIR).
 - *B. Nordlund has confirmed that Brett Hall will represent CTUIR.*

IV. Policy Meeting Planning – Next Steps for Presentation Review.

C. Dotson reviewed the Juvenile Fish Passage Programs (Hydro) presentation, prepared for the July 20 policy representatives meeting, and originally distributed for review on April 18, 2023.

In the early 2000s, there was a push for a fish bypass structure to be constructed at Wanapum Dam (WAN) because tainter gate spill survival was actually lower than survival through the powerhouse, even though fish were not passing through turbines. The spill deflectors that were installed at the bases of spillways to maintain lower total dissolved gas (TDG) levels are like box-car-sized concrete structures; C. Dotson suspects that smolts encounter the deflectors at the bottom of the spillway, and the deflectors had negative effect on smolt survival. By agreement, water spilled for the purpose of juvenile salmonid out-migration (i.e., "fish spill") is now passed through the juvenile fish bypass instead of the spillway.

B. Nordlund said a surface collector (SC) was designed and mounted on the front of the WAN powerhouse, above the turbine intake openings, to collect juveniles but was ultimately not used; it borrowed a design based on successful hydraulics observed at Wells Dam, and that arrangement was attempted to be replicated at WAN. However, less than 0.10% of downstream migrating juveniles entered the SC, and it was ultimately abandoned. The lesson learned and applied successfully to other sites around the West was that collection efficiency is not just affected by entrance conditions, but also the bulk flow or attraction flow conditions leading to the bypass entrance. C. Dotson agreed the SC was a project that failed to pass many fish but was successful in terms of learned fish behavior; a study determined that bulk flow was the problem. It was Grant PUD's only project where a hydraulic model was not run before installation. It was modeled after the Wells Dam hydrocombine bypass entrance conditions; there were other differences between the hydroprojects in addition to bulk

flow differences. Specifically, the hydrocombine design of the Wells Project allowed bulk turbine flow for attraction to the bypass entrances that are located above turbine entrances. S. Carlon agreed that historical knowledge may again become important as the next phase of SC technology develops. B. Nordlund noted that the experience of designing the WAN fish bypass brought together state-of-the-art hydraulic engineers and experience.

V. Northern Pike Removal

H. McLellan, Principal Fisheries Biologist for the CTCR, gave a presentation entitled *Lake Roosevelt Northern Pike Suppression and Monitoring Program Update* (Attachment A), which is supported in part by the No Net Impact (NNI) Fund. H. McLellan also recognized co-author Shay Jasper. The following highlights were described, in addition to notes included on the slides:

- Suppression has mainly focused on gill netting in a manner that avoids bycatch, which could include White Sturgeon, Burbot, and Redband Trout.
- A major component of the project is public outreach; the worst case would be for the public to want a popular recreational Northern Pike fishery in Lake Roosevelt and for the suppression program to end.
- Two times per year, environmental DNA (eDNA) sampling is carried out: in the spring during spawning and in the fall when water levels are lower and eDNA is more concentrated.
- Deep-water drawdowns for salmon were so low this spring that crews were not able to launch boats, reducing their ability to capture fish. Water is being spilled at Grand Coulee now, which is rare, and increases the probability of Northern Pike entrainment to areas below the dam.
- There is some proportion of Northern Pike being captured by anglers and released; that number increased in 2022. Typically, they are caught as bycatch, and anglers release them unknowingly; outreach is targeted ensure anglers keep and kill any Northern Pike. There may be some anglers who release them intentionally because they would like a Northern Pike fishery.
- A reward program pays out cash for each Northern Pike caught and retained. B. Nordlund asked whether there is an index of the number of anglers targeting Northern Pike, suggesting that in recent years, perhaps only experts, who stop angling when they reach a maximum they may be paid out, are targeting the fish. H. McClellan said there are approximately 70,000 angler trips to Lake Roosevelt each year; the Northern Pike are mostly caught as bycatch in bass, burbot, walleye fishery.
- DNA testing of the fish has been carried out to understand relatedness to populations in other waterbodies in Montana, Idaho, and Washington and potential introduction pathways into Lake Roosevelt. The Lake Roosevelt fish were not closely related to the Lake Washington population but were closely

related to the population in the Pend Oreille River, suggesting that once fish were present in the Pend Oreille River as a result of human transport, the population expanded downstream.

- A Mid-Columbia River Northern Pike Rapid Response Plan was prepared by Dr. Erika Rubenson, with the vision that the plan sits with participants (e.g., Washington State Department of Fish and Wildlife (WDFW), the PUDs, and federal agencies) with a response call list that is updated as the normal turnover occurs in staff positions.
- The Grant PUD NNI funding is specifically used to operate two boats in the spring to intensify monitoring and suppression activity when water levels are lowest.

J. Craig asked whether there are opportunities to time reservoir drawdowns intentionally to desiccate eggs. H. McLellan said monitoring has been done in some mud flats to monitor these locations and retain live-stranded Northern Pike; there are many pressures on Lake Roosevelt management during spring runoff, but the CTCR have worked with Bureau of Reclamation (BOR) to identify the elevation of benches where Northern Pike become stranded. The water year forecast determines the flood control curve for Lake Roosevelt that the BOR will follow; whether that curve matches the optimal timing for dewatering the eggs or strand fish depends on the year. It does make a difference to allocate additional effort for monitoring at those key times of the year.

VI. Steelhead Fallback – Ongoing Coordination and Discussion.

A. Murdoch said WDFW responded with presentations last month to address both the Habitat Conservation Plan (HCP)-Coordinating Committee (CC) and PRCC's concerns, although most concerns were brought by the HCP-CC.

C. Dotson asked whether last month's presentation answered Douglas PUD's questions. A. Murdoch said Douglas PUD was trying to understand what effect harvest may be having on steelhead overshoots; an opportunity to test the effect occurred with a period of no sport fisheries from 2016 through 2022. No other questions were asked, and it is an ongoing discussion at this time. It was helpful to hear the feedback and questions in last month's meeting, and WDFW addressed what we could with the data in the second presentation, which include related radiotelemetry data to tell the stories without implementing a specific study or modeling.

A. Murdoch said Chelan PUD and Douglas PUD are considering preparing a response on spill for fallbacks. It is uncertain at this time how they may respond.

A. Murdoch said that within Grant PUD's spill program, there are opportunities to explore best use of the 75 days of spill provided. C. Jackson and T. Dresser have discussed some ideas to maximize the benefit at Priest Rapids Dam (PRD) and WAN. Within the Columbia Basin Collaborative Forum, WDFW is working with other groups to adaptively manage federal projects and form a work group to identify the effects. There are data from the past 2 years of spill to analyze (spill at the downstream federal projects occurs for 4 hours per day, 3 days of the week, on non-consecutive days).

S. Carlon said Chelan PUD is not covered under the HCP for Snake River steelhead that overshoot, and he has concerns about their Endangered Species Act (ESA) coverage for those fish. Incidental take statements for ESA-listed species are only about HCP-covered species.

VII. Spill Committee Representative

B. Nordlund reviewed that the Spill Committee helps make in-season decisions when Grant PUD project juvenile bypass operations are not going to be able to meet Priest Rapids Salmon and Steelhead Settlement Agreement obligations. S. Carlon said the committee is a remnant from pre-Settlement Agreement spill management, when there were more TDG problems to manage.

Another volunteer is needed to take the place of T. Skiles, who left the PRCC.

K. Truscott volunteered. The Spill Committee will consist of C. Dotson, S. Carlon, and K. Truscott.

VIII. 2023 Fish Passage Operations Report

Fish passage operations have started their 2023 season, summarized in the following subsections.

Fish Ladder Inspections

B. Nordlund asked whether there will be a replacement for T. Skiles for in-season ladder inspections. K. Murdoch said she will be carrying out the inspections and will be meeting with personnel from the Fish Passage Center and Mike Clement from Grant PUD to learn how to do those inspections.

Fish Spill Updates

C. Dotson said that now, during the out-migration season, turbines at both Grant PUD powerhouses (WAN and PRD) are operating in Fish Mode. He receives reports from the previous week that would indicate if they are taken out of Fish Mode and for how long.

There has been no change to planned fish spill as of the start of the spill season.

Fish Counts for 2023

C. Dotson said adult fish counts started on April 15 at PRD/WAN. Counts are being done by their contractor, Four Peaks Environmental.

There is a new logbook for documenting the frequency and duration of crowder openings to clear debris, which could inadvertently cause fish to bypass the counting station. To date, crowdors have not been opened this year. The movement of overwintering steelhead within the Priest Rapids Project may be a factor in the higher numbers passing in the early season. The numbers look clean so far—for instance, there are higher numbers of Chinook Salmon being counted passing over PRD than Rock Island Dam (higher numbers counted at upstream dams was one of the indicators of fish count problems last year).

The following are fish counts as of May 27, 2023:

Project	Spring Chinook Salmon (Adult + Jack)	Summer Chinook Salmon	Fall Chinook Salmon	Sockeye Salmon	Coho Salmon	Steelhead
Priest Rapids	6,331	0	0	1	0	26
Wanapum	5,079	0	0	0	3	50
Rock Island	3,700	0	0	0	2	126

IX. Survival Study Plan Revisions

C. Dotson presented the most recent revisions to the Priest Rapids Project Survival Study Plan (version 4.0). Two main items of concern were the detection array locations and the size of fish that would be tagged. Revisions include the following:

- The plan includes all three species (yearling Chinook Salmon, steelhead, and Sockeye Salmon), and implementation dates have been expanded to incorporate study years for all three.
- The plan excludes more downstream detection points and adds more within reservoirs to be able to identify locations where passage problems may occur within projects.
- Minimum fish length/size has been adjusted from a 110-millimeter (mm) fork length down to 95 mm. Limiting tagging to a minimum fish size (weight) of 15.6 grams (g) for spring Chinook Salmon, as in past studies, will miss a significant portion of the population, specifically the small smolts in the earlier part of the season. Based on 4 years of yearling Chinook Salmon size data from the Rock Island Dam smolt trap (roughly 22,000 smolts), 4.2% of the out-migration of yearling Chinook Salmon would have been below the 15.6-g size cutoff and would have been excluded from the study. Based on a 10-year dataset for steelhead (which are a larger-sized smolt at out-migration), a much smaller proportion of the population would have been excluded. When using the 95-mm (fork length) minimum, only 49 fish would have been excluded, which is less than 1% of the population (0.06%).
- Fish will not be selected based on weight factor of 15.6 g, but a tag burden of not greater than 3% will still be adhered to. There has been a new tag designed since the last survival study in 2017. Tag weight has been reduced by 32%; they were 0.47 g in the past and are now 0.32 g, which is within tag burden of 3% for nearly all fish greater than 95 mm. The old tags were 11.1 mm in length; now they are 15 mm in length but lighter. There is some concern that if surgically implanted, the tags could have an effect on the body cavity, such as in swim bladder function, especially in the smallest fish. Based on the 4 years of yearling Chinook Salmon data at the Rock Island Dam smolt monitoring, from 2013 to

2016, April 10 to June 15, about 99% of the population would meet these criteria for tagging fish.

- A page for comments and responses will be included with the study plan; it is in progress and has not been forgotten.
- Appendices of the statistical analysis model to be used will be included in the next version.

S. Carlon asked whether other groups provided any feedback on the tag length.

C. Dotson said Brown et al. published a report in 2011 regarding the tag length and weight and effects on growth and mortality. Cory Wright at Blue Leaf Environmental said there was some research in California on tag length and weight, but results have not been published yet.

The revised survival study was distributed following the meeting. C. Dotson has asked for additional written comments to be provided to him by July 15.

X. Quarterly Report Balances

There are three funds reported on in quarterly report balances distributed by Grant PUD. For the PRCC, the focus is the NNI Fund (601). The PRCC Habitat Subcommittee has two funds available to them (602 and 603).

Unencumbered balances are approximately \$4.7 million for the NNI Fund, \$8 million for the Habitat Supplemental Fund 602, and \$2.1 million in Habitat Fund 603. The total funds associated with the PRCC are \$14.7 million.

Updates

XI. Review of Outstanding NNI-Funded Projects

- **Lower Wenatchee Instream Flow Enhancement Project Phase II**

No update.

- **Northern Pike Removal (2022 to 2024).**

H. McLellan gave a virtual presentation in today's meeting.

- **WDFW PIT-Tag Detection Barge.**

Presentation forthcoming in summer 2023.

- **Quincy Northern Pikeminnow Derby (planned for May 12 to 14).**

Update to be provided in the next meeting.

- **2023 RTR Avian Predation Study.**

C. Dotson said the avian predation study kicked off last month. The first aerial monitoring flight occurred last week. Coordination with BOR on Goose Island adaptive management has occurred with monthly calls; there has been much better communication and coordination between BOR, Real Time Research, and the U.S. Department of Agriculture, which is doing deterrent work for BOR.

XII. Subcommittee Updates

B. Nordlund has forwarded the subcommittee distributions received to date via email to PRCC members and alternates.

- Priest Rapids Fish Forum – met May 3, next meeting June 7.
- Habitat Subcommittee – met May 11, no June meeting, next meeting July 13.
- Fall Chinook Work Group – met May 2, next meeting October 3.
- Hatchery Subcommittee – next meeting June 21.

XIII. SOAs Discussed in 2023

SOA number	Key Words	Last Discussed	Status
2022-03	Fish Mode revision	January 24, 2023	Closed
2023-01	Sockeye Salmon Program	January 24, 2023	Closed
2022-02	Hatchery Production Objectives, 2024–2033	February 28, 2023	Closed

XIV. Next Meetings

The next PRCC meeting is scheduled for June 27 at 9:00 a.m., in person, at the Douglas PUD Auditorium and on Webex.

The July 25 meeting will meet in person in the afternoon at Wanapum HB 103.

Lake Roosevelt Northern Pike Suppression and Monitoring Program Update



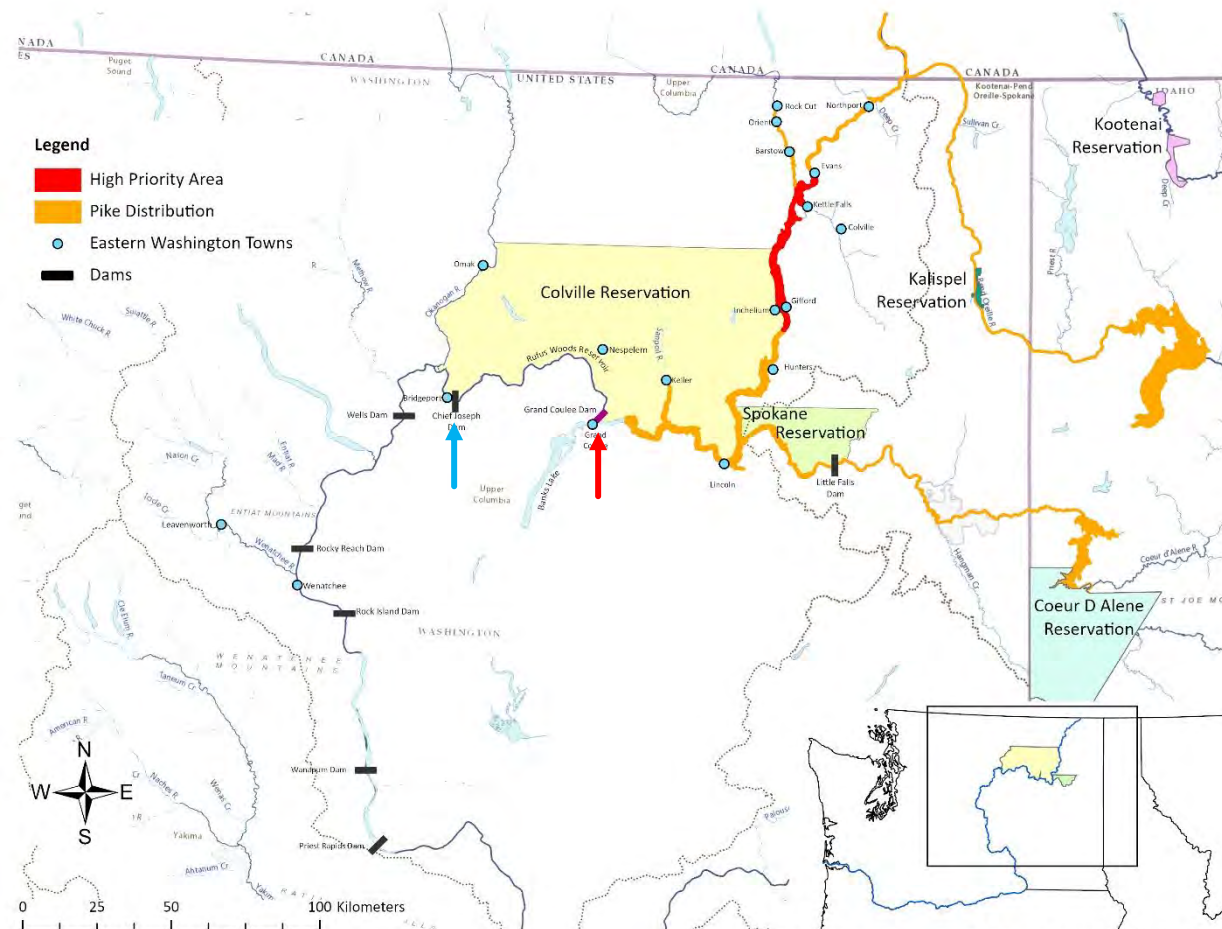
Presented by:
Holly McLellan and Shay Jasper
Confederated Tribes of the Colville Reservation

*Presented to the Priest Rapids Coordinating Committee
May 23, 2023*



Lake Roosevelt Fishery

- Lake Roosevelt was created by Grand Coulee Dam
- Fisheries are co-managed by Colville Tribes, Spokane Tribe, and WDFW
- Management Goals: Provide fishing opportunities while protecting native fishes
- Tribes and State invest over \$8M a year into the Roosevelt fisheries
- The fishery provides an estimated economic input of \$16M to local economies



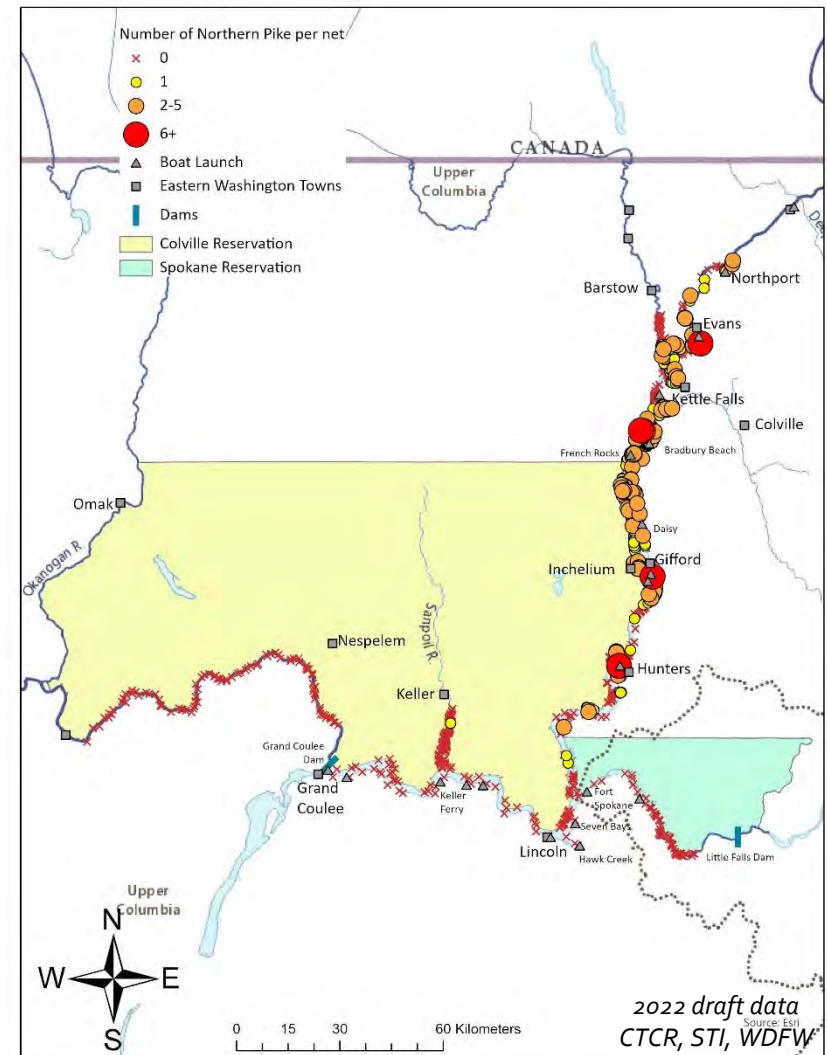
Northern Pike Suppression Annual Work Plan

- NP L. Roosevelt Technical Team Developed a Plan, McLellan et al. 2018 [Northern Pike Suppression and Monitoring Lake Roosevelt](#)
- Implemented annually since 2017

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Suppression												
Gillnetting (All)			X	X	X	X	X	X	X	X	X	
Electrofishing (CTCR/STI)							X	X	X	X		
Fyke/Seine Netting (CTCR/STI)						X	X					
Reward Program \$10/Pike (CTCR)	X	X	X	X	X	X	X	X	X	X	X	X
Setlines (CTCR)								X	X			
All Hands On Deck (All)					X							
Research/ Monitoring												
Monitoring survey (WDFW)										X	X	
Microchemistry (CTCR)									X	X	X	X
eDNA and DNA Studies (CTCR)					X				X			
Reservoir Op./Stranding (CTCR/WDFW)			X	X								
Harvest via Creel (STI)	X	X	X	X	X	X	X	X	X	X	X	X
Public Outreach (All)	X	X	X	X	X	X	X	X	X	X	X	X
Preventative Measures												
AI plant removal – Okanogan <small>Flowering Rush Removal</small>									X			
AI plant removal – FDR ongoing				X	X	X						

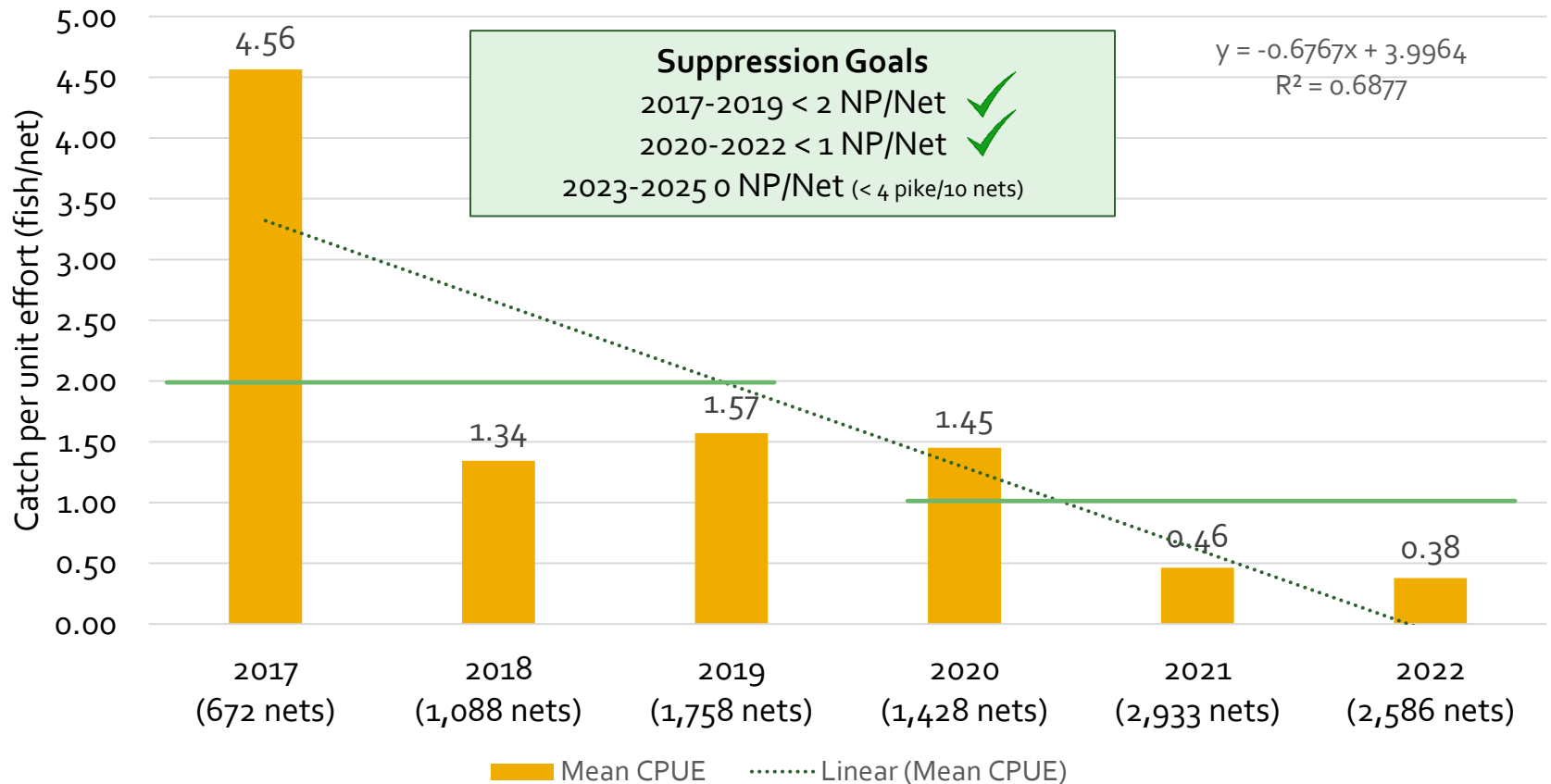
Suppression and Distribution

- Since 2015, co-managers have removed **19,248** Northern Pike
 - Approx. 1,500 nets/yr by all agencies
- Majority of Pike are captured in upper half of the reservoir
- Pike are spawning in the Kettle River area
- Exceptional growth rates
 - 10 mm/wk post hatch (June)
 - 130 mm or 5 in by September



Promising News?

2017-2022 Annual Gillnet Suppression_ All Agencies



Actions to reduce Bycatch

- Net material (multi-filament)
- Net mesh size
- Nets set in < 30 ft of water
- Nets set on slopes <20% slope
- Bycatch limits
 - If limits are met, crews stop netting in the area and move to another area
- Limited data collected on bycatch
 - Release quickly back into the water
 - Bycatch mortalities fit for consumption brought back to the Tribal Membership for subsistence



Lake Roosevelt Suppression

All Hands on Deck Survey

Multiagency Effort

Extra effort during pre-spawn period to remove fish before they spawn

Colville Tribes, Spokane Tribe, Kalispel Tribe, WDFW, Chelan PUD, Grant PUD, Bureau of Indian Affairs, National Park Service, Bureau of Reclamation

Dates	# Nets	# Pike	Pike/Net
May 6-9, 2019	475	448	0.94
COVID-2020	--	--	--
April 25-May 6, 2021	642	207	0.32
April 25-May 7, 2022	671	272	0.40
April 24-May 5, 2023	595	169	0.28



47 in and 27.78 lbs = 140,620 eggs



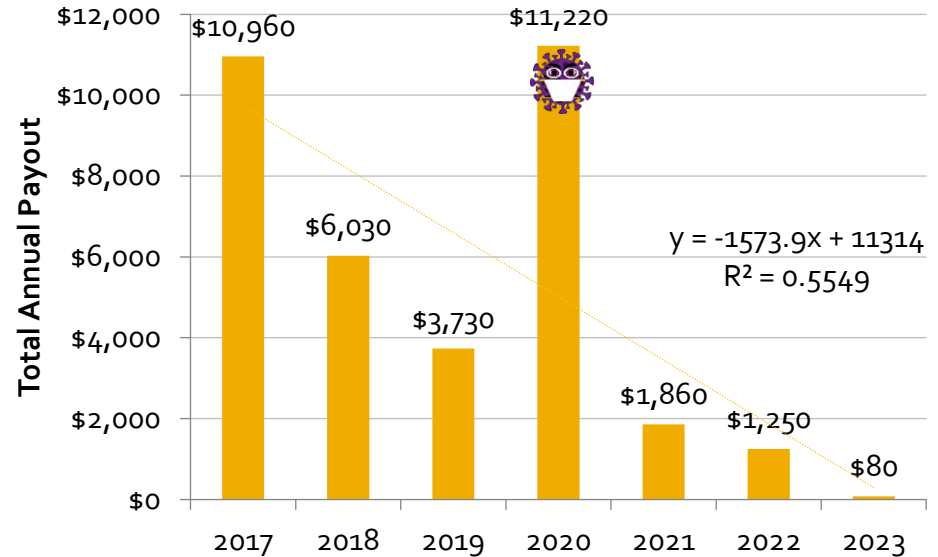
Reward Program/Public Outreach

Reward Program

- Program started in May 2017
- \$10/ Pike head (gift cards)
 - Allowed 59 fish per angler per year
- Total payout to date \$35,130

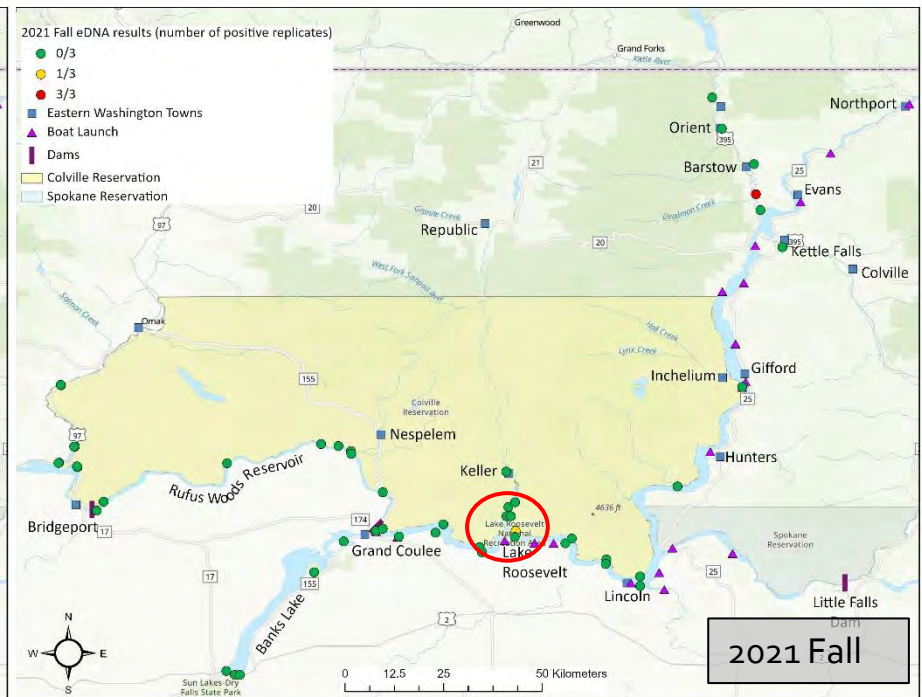
Public Outreach

- Similar signs posted at all boat launches in Roosevelt and Rufus Woods
- Participated in public outreach events



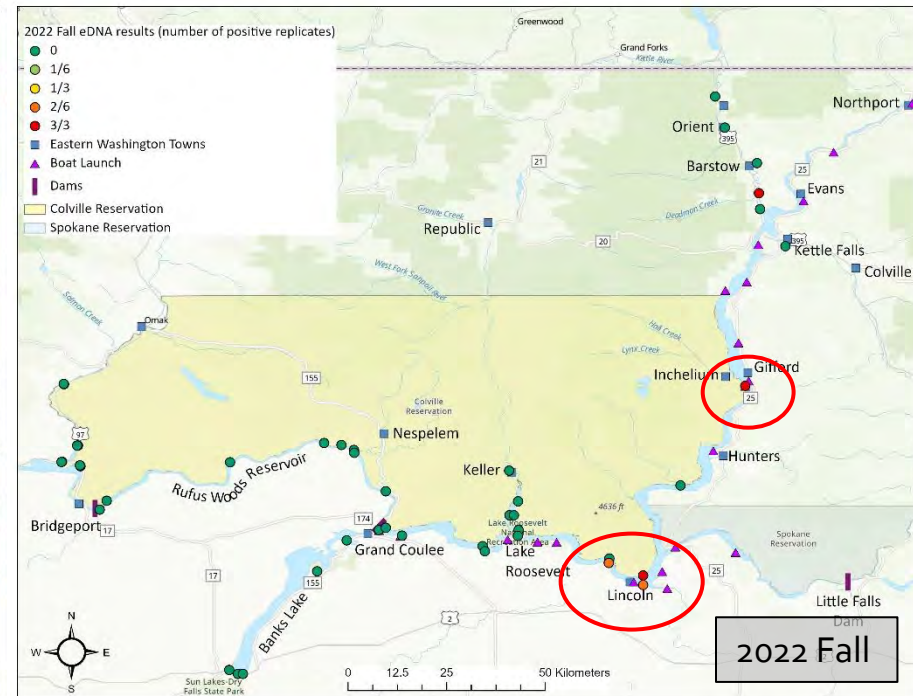
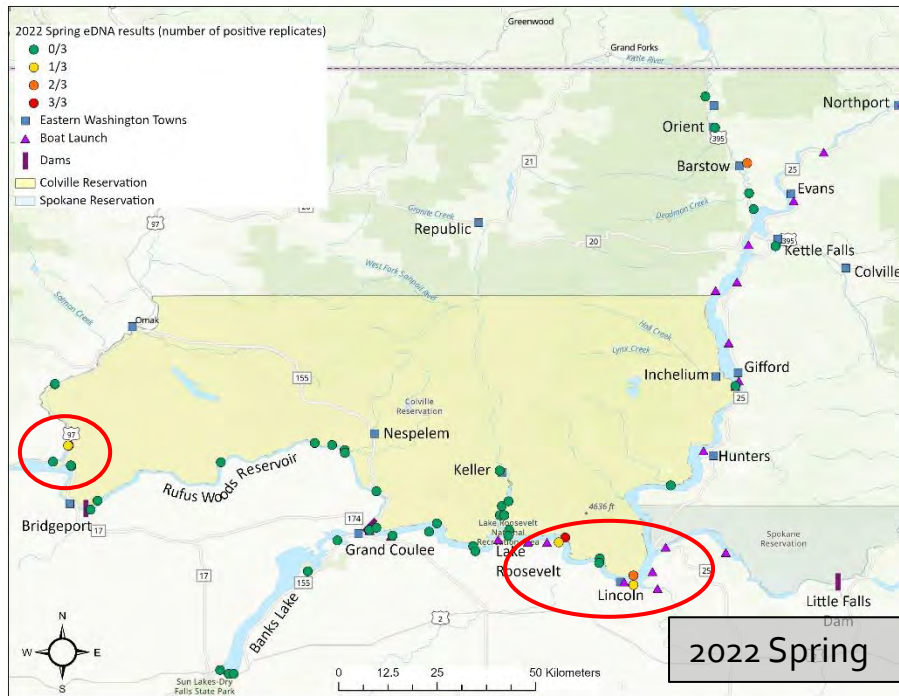
eDNA 2021

- Colville Tribes monitor 50 sites twice a year in the upper Columbia River
 - Okanogan River upstream to the Canadian border (and Kettle River) since 2018
 - 2021 – added more sites in Rufus Woods Reservoir
 - Kettle River – always positive – index site
 - 2022 Spring – increase in DNA in the lower middle area



eDNA 2022

- Spring sampling - 4 sites in middle reservoir switched to positive
 - Weak positive in Monse Bridge (Okanogan River)
 - Additional sampling events were all negative
- Fall sampling
 - Middle reservoir continued to be positive in the fall sampling
 - Increase in DNA at the Gifford area
- 2023 spring sampling planned for June 12-15

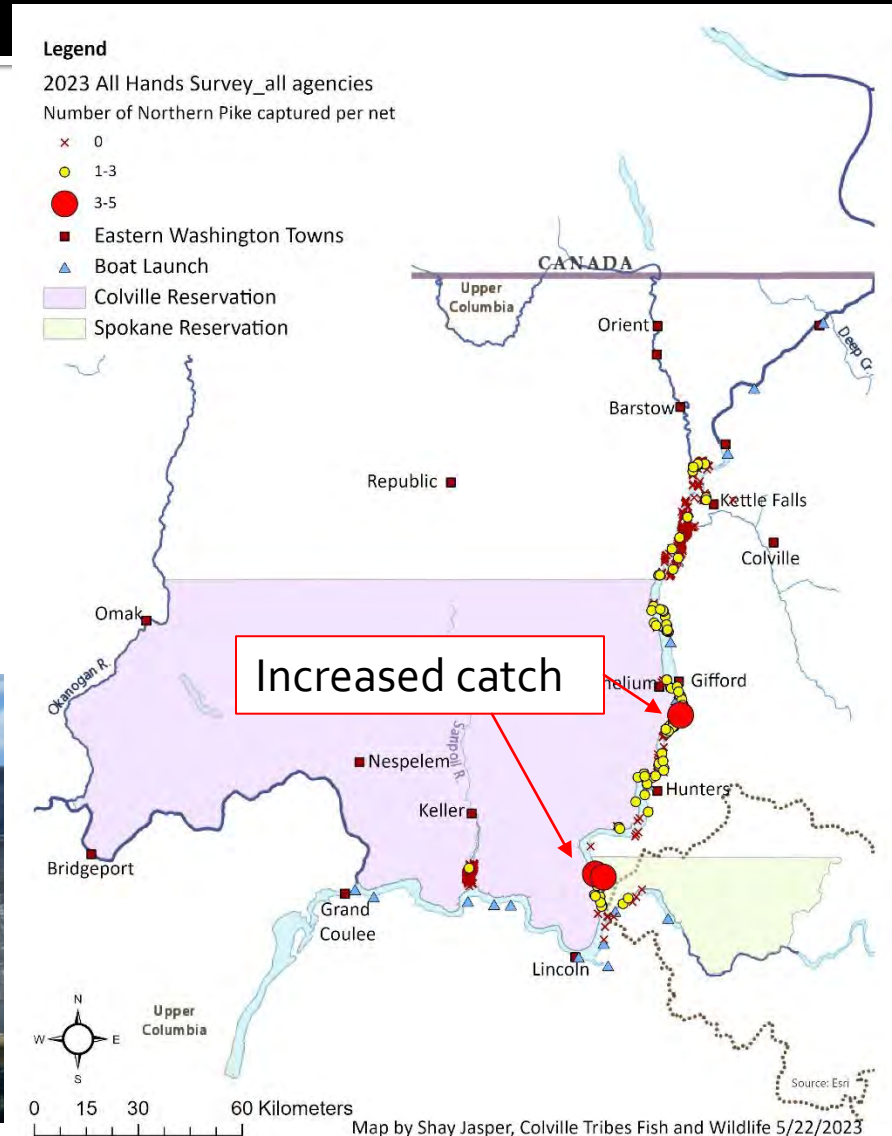


2023 All Hands Survey

- Highest density of Pike was in Gifford and 6-Mile Areas
- Captured one in the Sanpoil
- Deep drawdowns and extra drawdowns for salmon not good for suppression
 - Reduce access during the spring
- High flows will likely increase entrainment



May 21, 2023 – Grand Coulee Dam



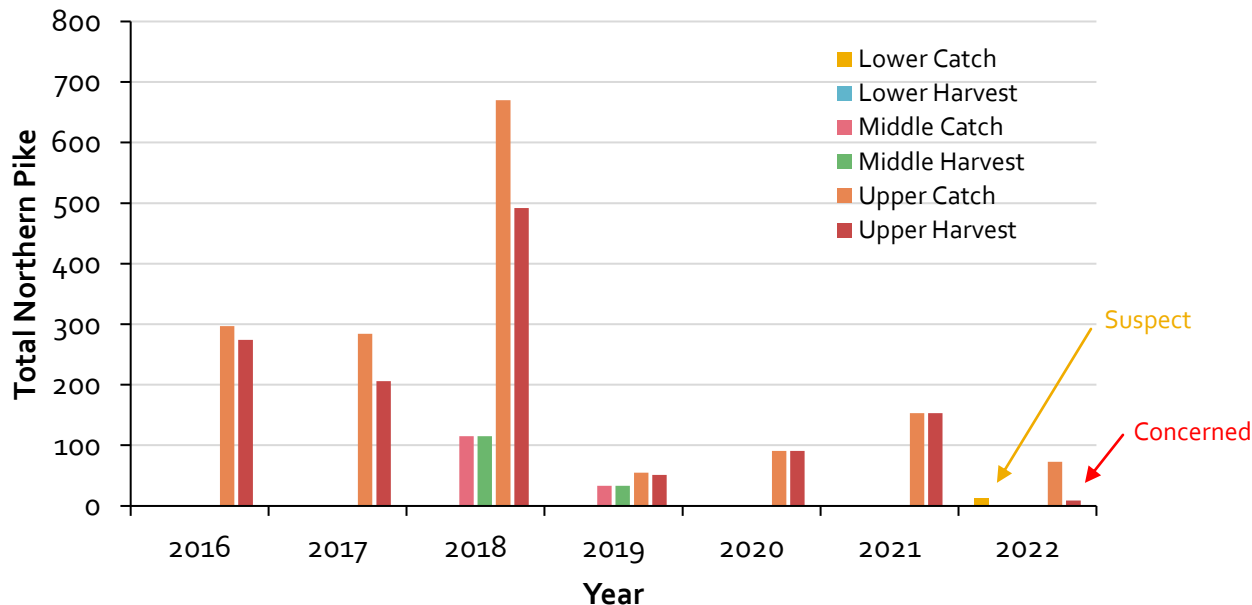
Creel Survey

Year long reservoir wide creel survey managed by the Spokane Tribe

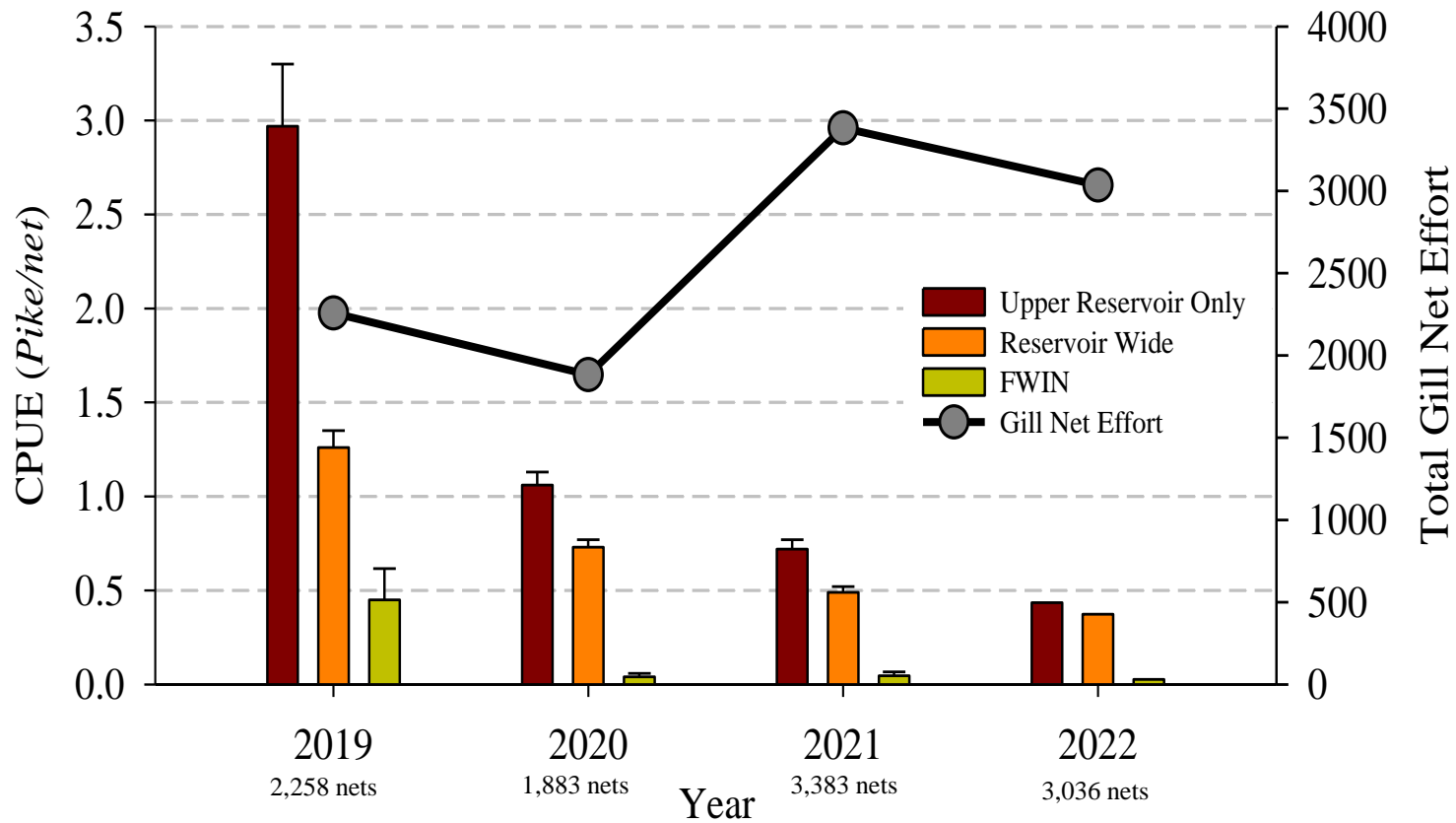
- 25 sites monitored throughout the reservoir by co-managers
- Pike harvest was steadily increasing between 2016-2018
- Pike harvest dropped after 2018
- No harvest in the middle and lower sites after 2020 (2022*)
- Want catch and harvest to be the same.
 - Concerned about the 2022 release (only 10% harvested)



Northern Pike Catch and Harvest



Reservoir Wide Standardized Surveys



Data provided by WDFW, Tyler Parsons

Northern Pike DNA Study

Northern Pike DNA database developed by Rocky Mountain Research Station, Missoula

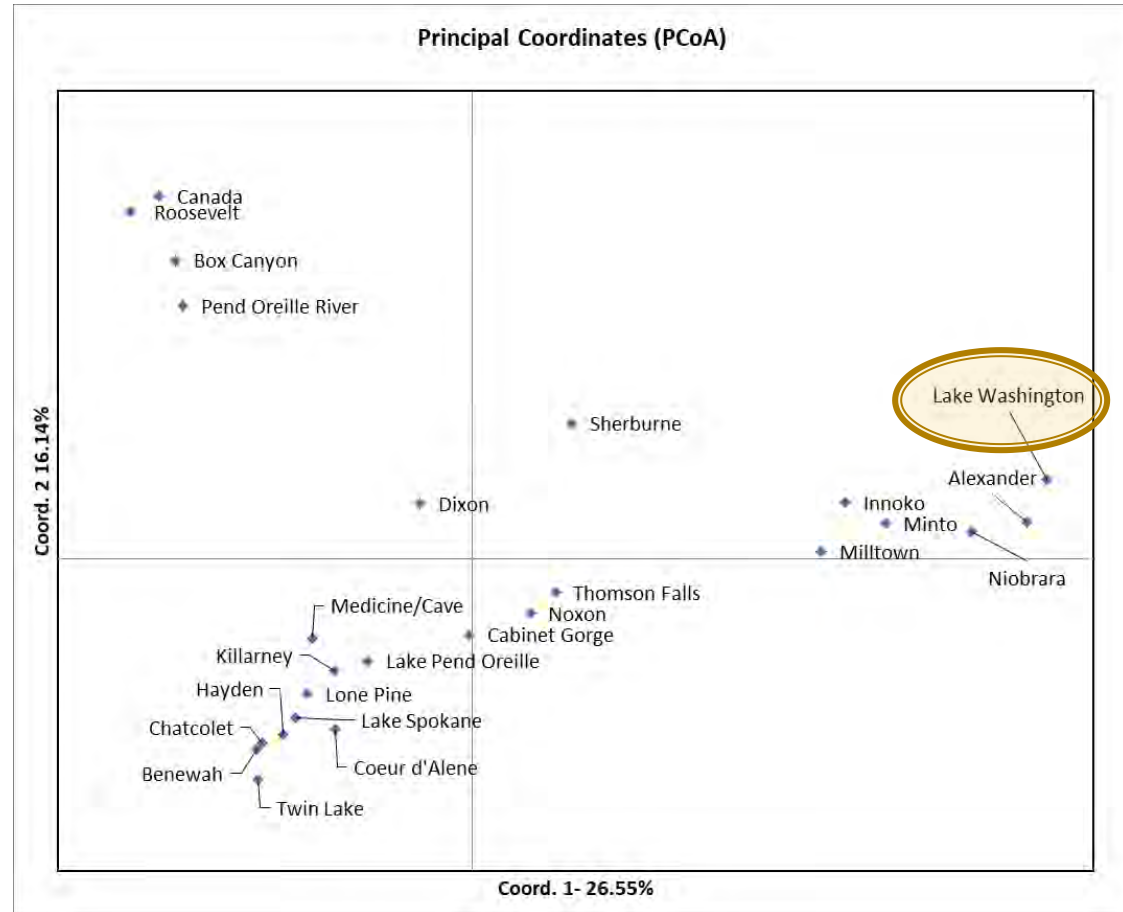
- Dr. Carim - 2018- Collaborative effort with Colville, Kalispel, Spokane and Coeur d'Alene Tribes, and Idaho, Montana, Minnesota and Alaska Fish and Game
- Database now has 34 populations
- Originally developed to help understand the invasion pathways
 - Used to confirm Roosevelt Pike came from PO population
 - Used to confirm some of PO fish originated from Lake Coeur d'Alene populations
- Muckleshoot Tribe has captured 5 Northern Pike in Lake Washington
 - 2017: n=3; 2022: n=2

State	Native	Nonnative	Grand Total
Alaska	2	1	3
British Columbia		1	1
Idaho		9	9
Minnesota	9		9
Montana		7	7
Washington		4	4
Wyoming		1	1
Grand Total	11	23	34






Lake Washington Pike

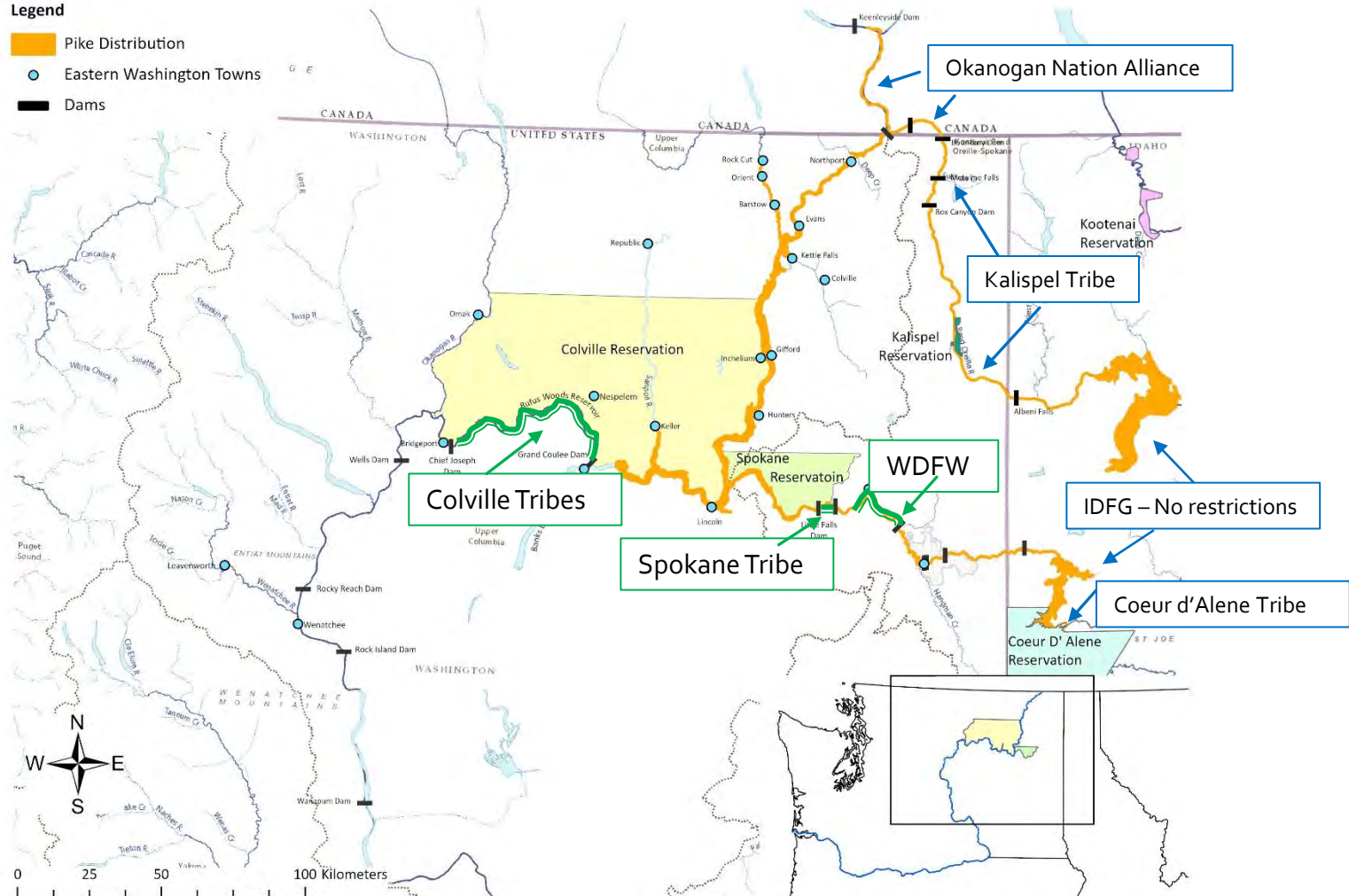
- The Lake Washington Pike
 - Are not related to any of the Pike in the database
 - Have alleles that are not found in any of the Pike in the database
 - Are more related to each other than any other population
 - Have a higher genetic diversity than the non-native populations
 - Only grouping because of the high genetic diversity
 - Genetic assignment is zero to the next closest populations
 - The mystery continues....



2022 Additional Surveys

Legend

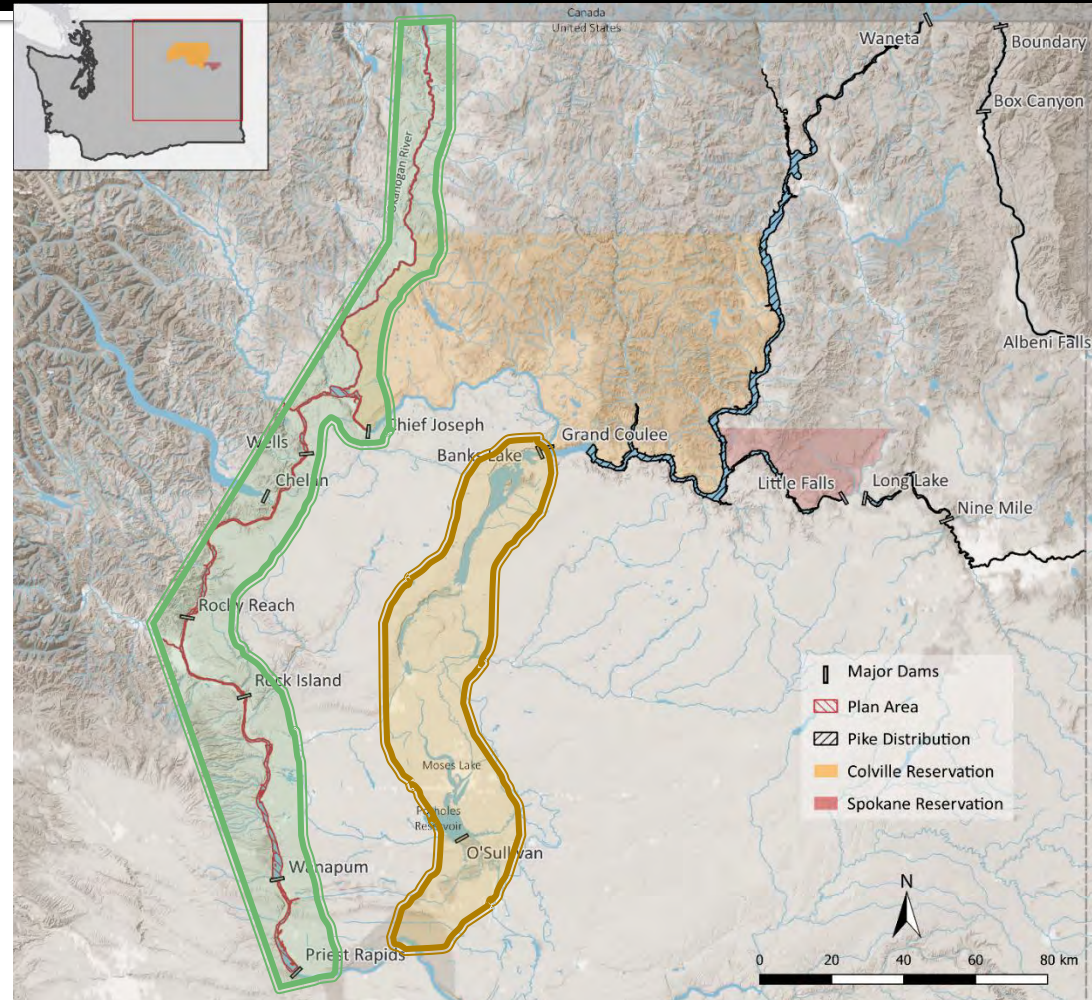
-  Pike Distribution
-  Eastern Washington Towns
-  Dams



Map by: Shay Wolvert, Colville Tribes Fish and Wildlife 5-17-2023

Northern Pike Mid-Columbia River Rapid Response Plan

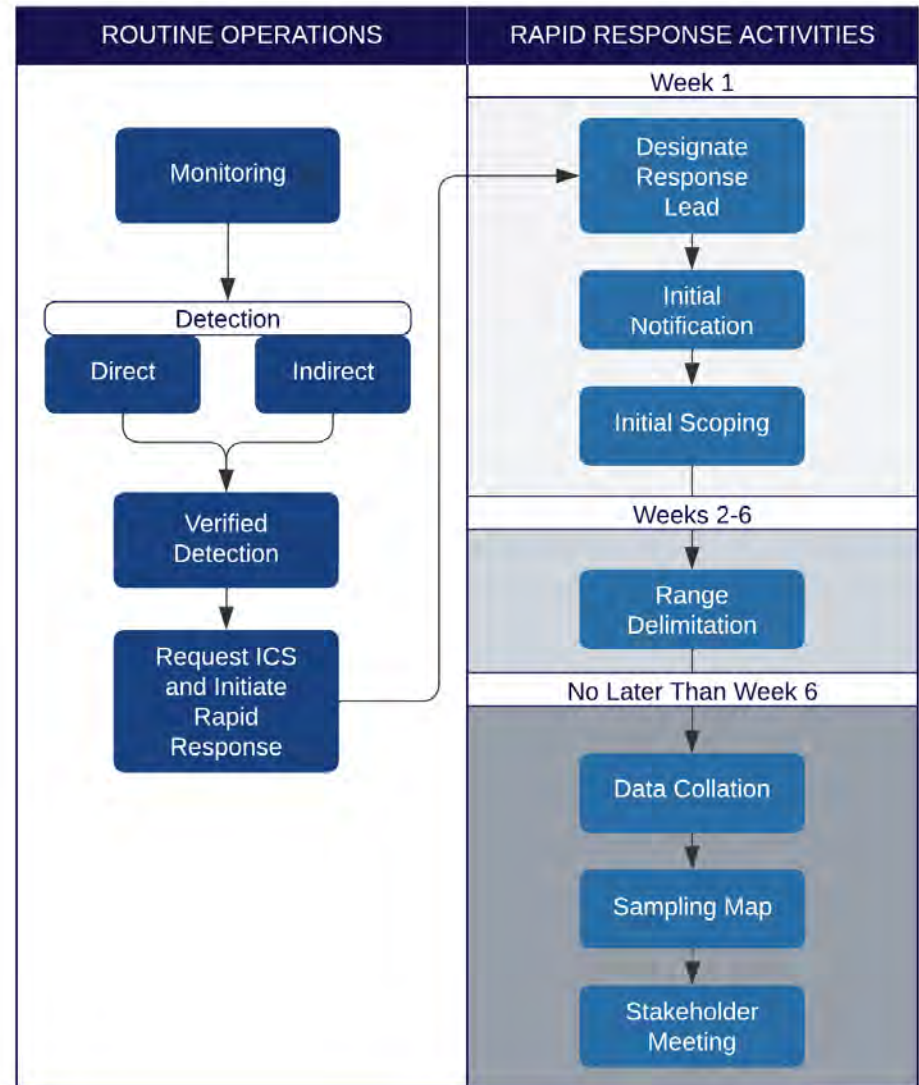
- Since eDNA monitoring began in 2017, various false detections
 - Need a plan that would guide communications and a response if Pike are confirmed in new areas
- Colville Tribes contracted with Four Peaks Environmental in Oct 2021
 - Dr. Erika Rubenson
 - Finalized in Oct 2022
- Vision
 - Plan sits under the larger WDFW State wide
 - Need specific plans for regions
 - Roosevelt, Rufus, Mid- C
 - *Banks Lake – Columbia Basin



Northern Pike Mid-C Rapid Response Plan

- Identifies key players
- Describes invasion pathways and current monitoring
- Detection
- Rapid Response Activities
- Fish Sampling Guidelines
- Public Outreach

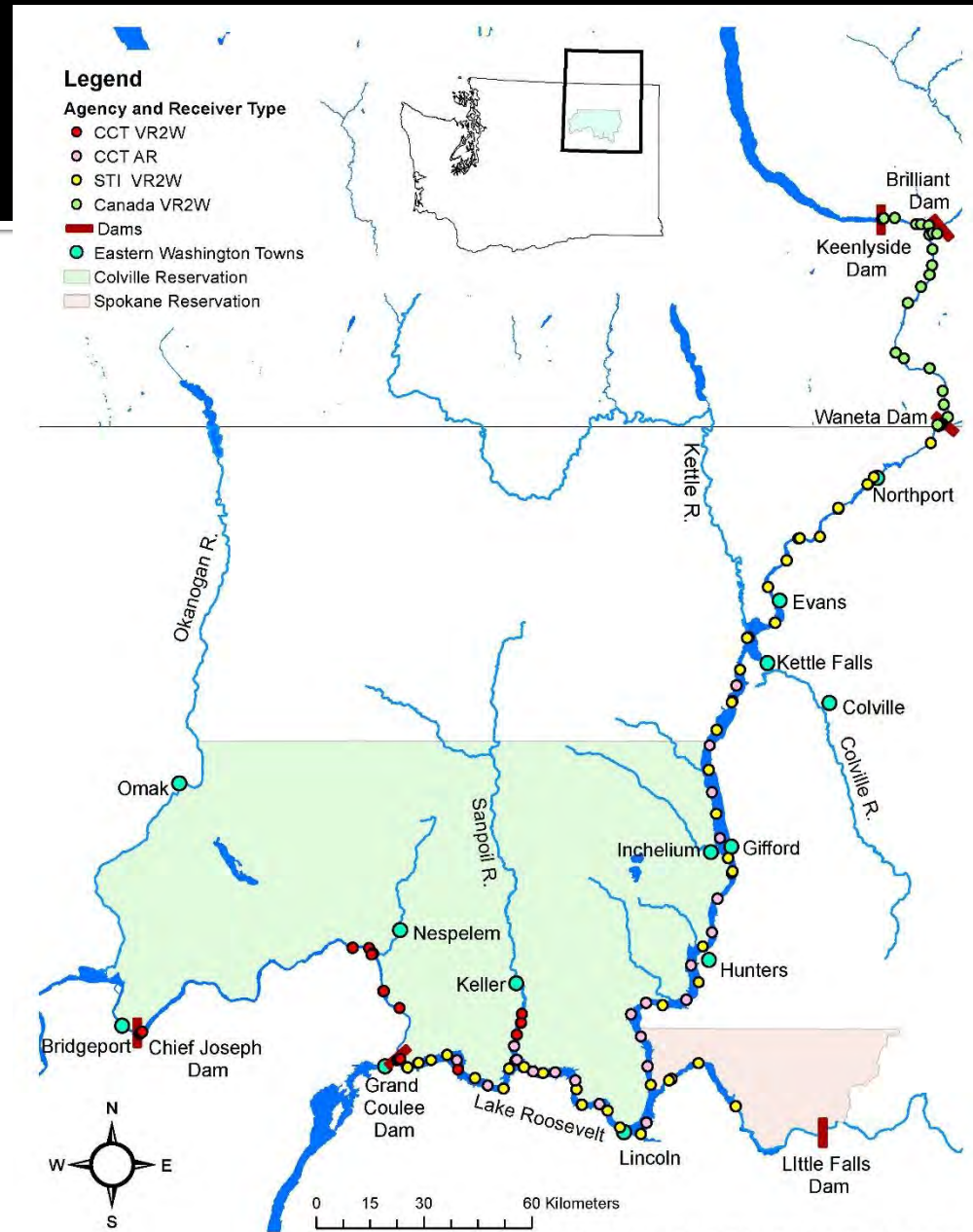
- The Plan:
 - On CTCR website www.cct-fnw.com/northern-pike
 - Provided to Northwest Regional Northern Pike Coordination Forum
 - Provided to PUDs
 - Douglas PUD, Aquatic Settlement Work Group
 - Chelan PUD, Rocky Reach Fish Form
 - Grant PUD, Priest Rapids Coordinating Committee



New in 2023/24

Received funding from the National Park Service to conduct acoustic study on Northern Pike

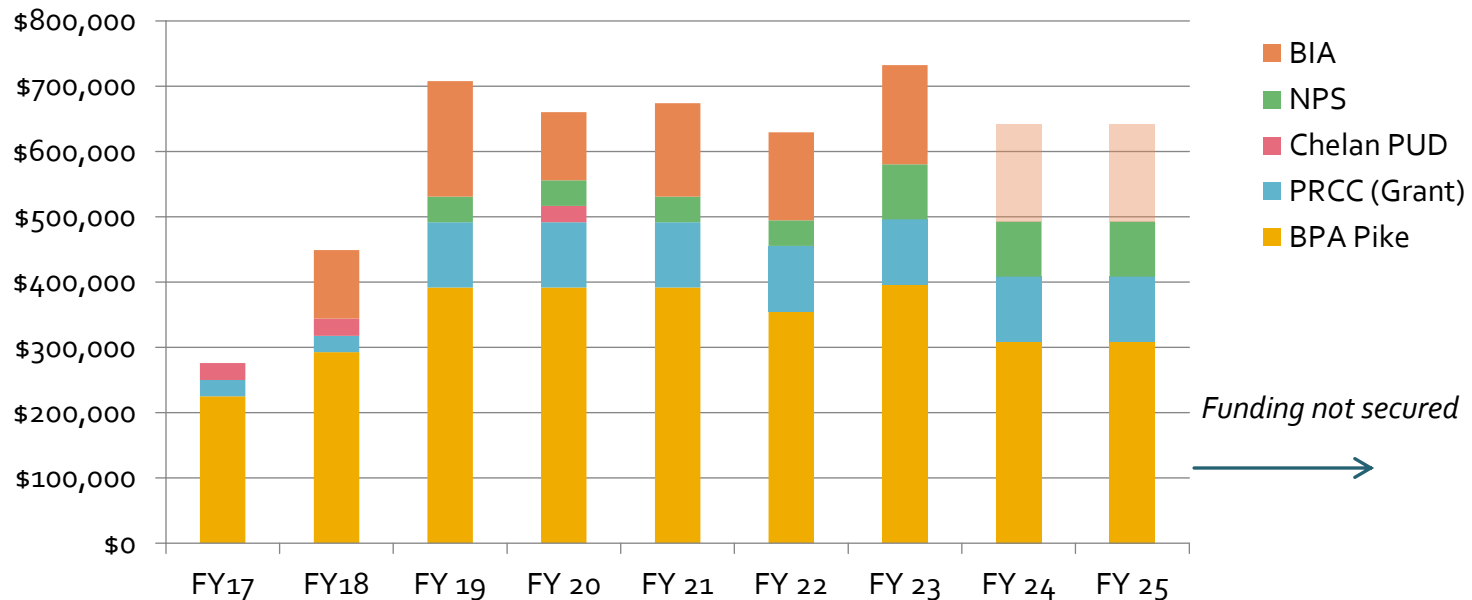
- Summer habitat use
 - Summer catch rates low
- Understand habitat overlap with White Sturgeon and Walleye
 - Catch rates are low, not sure where they are go
 - Assume deep, but may overlap with Sturgeon
- Spring spawning movements



Map by Shay Wolvert, Colville Tribes Fish and Wildlife 1/26/2021

CTCR Funding - update

- Between 2017-2022 CTCR spent \$3.39 M combating the spread of N. Pike
- Mean annual CTCR program is \$600,000 to operate
 - Secured FY22-25 Grant PUD \$100,000/yr (Priest Rapids Coordinating Committee)
 - NOAA, USFWS, WDFW, CCT, YN, CT of Umatilla, Grand PUD)
 - CTCR BPA: Secured \$350,000/yr through FY25. Negotiating MOA 2026-28
 - BIA: annual request (\$151,000/yr)
 - NPS: secured additional \$135K. Will continue to request \$50,000/yr



Program Accomplishments

- Identified spawning locations
- Removed 9,623 females, up to 442 million eggs
- Developed a eDNA monitoring program with partners
- Engaged the public with the Reward Program and outreach materials
- Contained the spread of Northern Pike in Lake Roosevelt and tributaries and stopped the spread into downstream water bodies
- Developed a N. Pike DNA database that can be used to assign fish to natal populations
- Finalized a Mid-Columbia Rapid Response Plan
- Protecting the Lake Roosevelt fishery
- In 2023, planning an acoustic tracking study with funding from the NPS
- Plan to continue the suppression and monitoring program through 2025



Questions?

- Many thanks to our many partners

