

State of the Science: Walleye in the Lower Snake River Basin

Northwest Power and Conservation
Council Meeting

October 14, 2026, Cascade, Idaho



Snake River Basin Nonnative Piscivore Working Group

Origins and the Why

1. Data at Lower Granite Dam indicated that walleye abundance was increasing
 1. Other programs were seeing the same in other places
 2. Walleye is a concerning nonnative predator fish
2. The lower Snake River basin fisheries programs are managed by three States and Sovereigns
3. Information and funding was lacking
4. Process is slow



Problem Statement

Apparent increase in abundance and spatial expansion of nonnative predator fishes poses a high predation risk to ESA-listed juvenile salmonids and other native species

1. Research – What do we need to know?
2. Management – What do we need to do?
3. Social Facets – Who else matters?
4. Policy – What can we do?

Goals

1. Provide a forum to share information and ideas to better manage walleye abundance and distribution in the Snake River basin
2. Identify data gaps and solicit funding towards projects that can aid in suppression or eradication
3. Discussion and agreement among core agency representatives on policy recommendations
4. Develop a management strategy
5. Gain angling support through education, outreach, and incentive

Participating Entities (~40 folks)



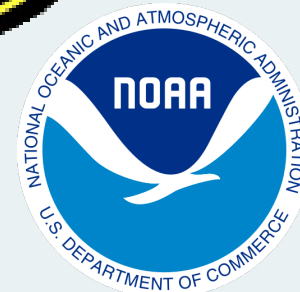
Bonneville
POWER ADMINISTRATION



Snake River
Salmon Recovery



Northwest **Power** and
Conservation Council



NOAA
FISHERIES

Up next:
Grant Waltz, ODFW



Northern Pikeminnow Management Program

Northwest Power and Conservation Commission Fish and Wildlife Committee

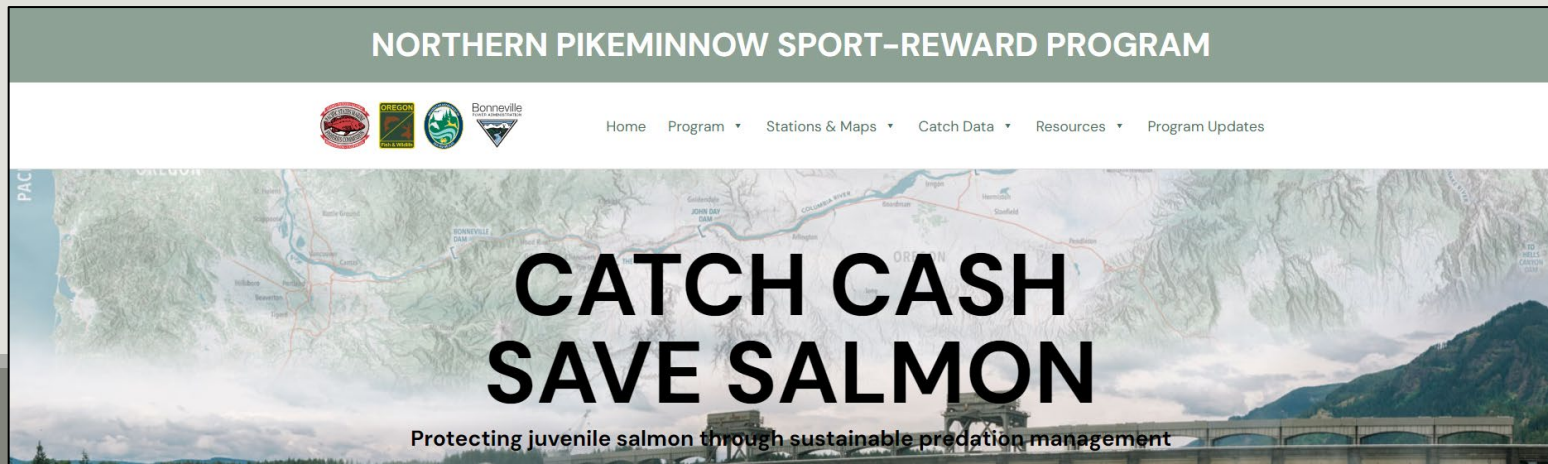
October 14, 2026

GRANT WALTZ

OREGON DEPARTMENT OF FISH AND WILDLIFE

Northern Pikeminnow Management Program

- Established in 1990
- Multi-agency collaboration
 - BPA funded
- Removing 10% -20% of fish over 11” reduced predation up to 40% on juvenile salmon and steelhead
- A sport reward fishery was initiated paired with biological monitoring and evaluation



Fishery

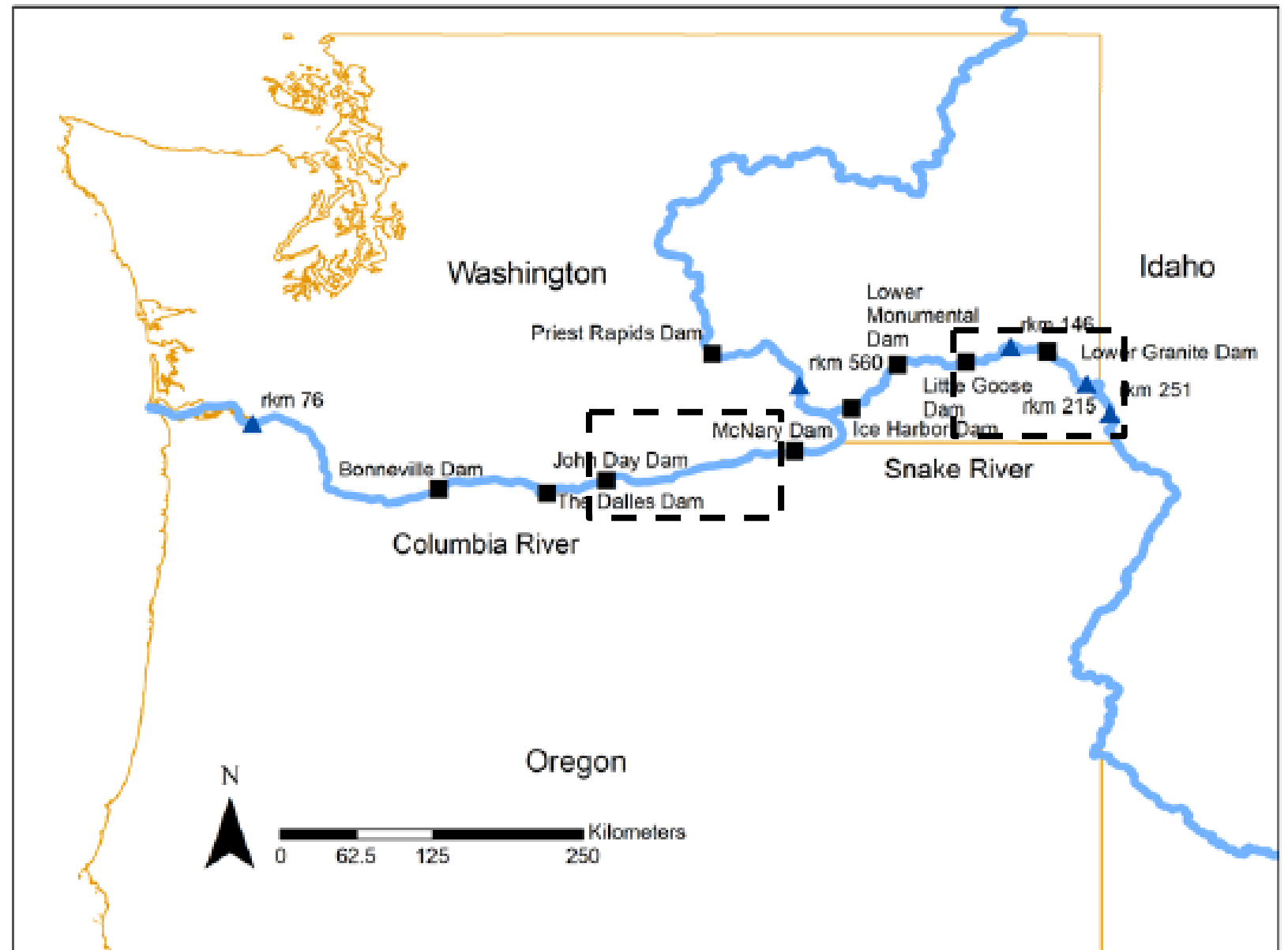
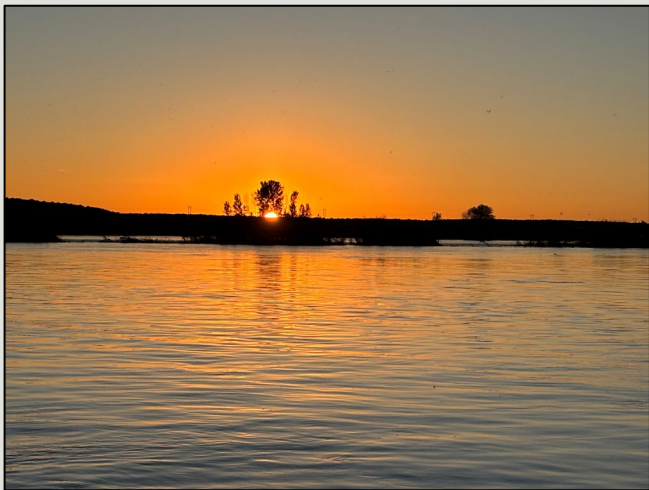


Figure 1. Study area in the Columbia and Snake rivers.

Methods: Biological Monitoring

Evaluation



Tag (mark) fish



Fish recovered



Exploitation



Predation reduction



Methods: Biological Monitoring

Evaluation



Tag (mark) fish



Fish recovered



Exploitation



Predation reduction

Biological Monitoring



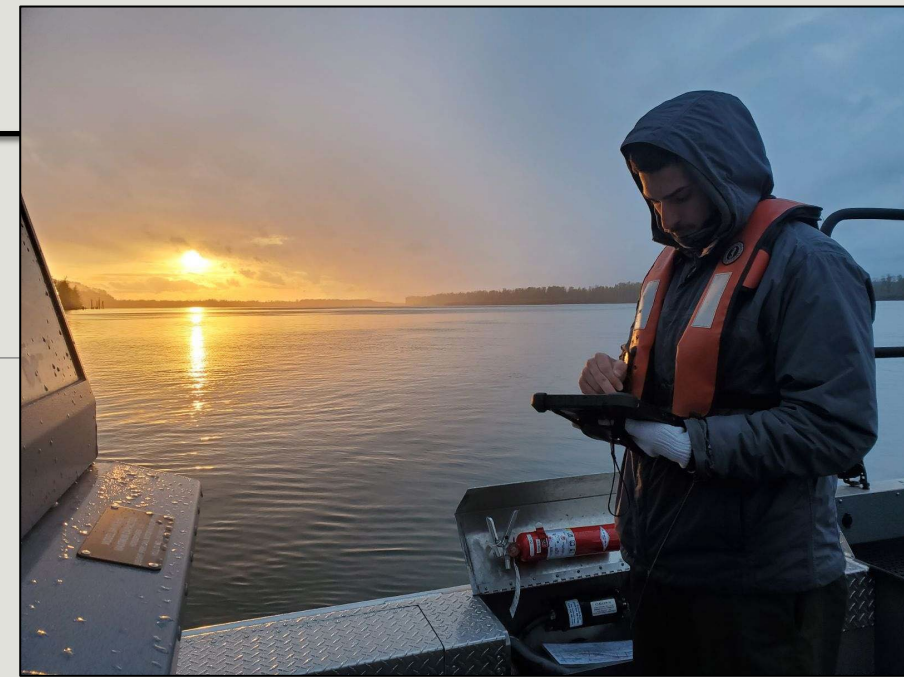
Consistent sampling



Length
Weight
Abundance
Diet
Time sampled

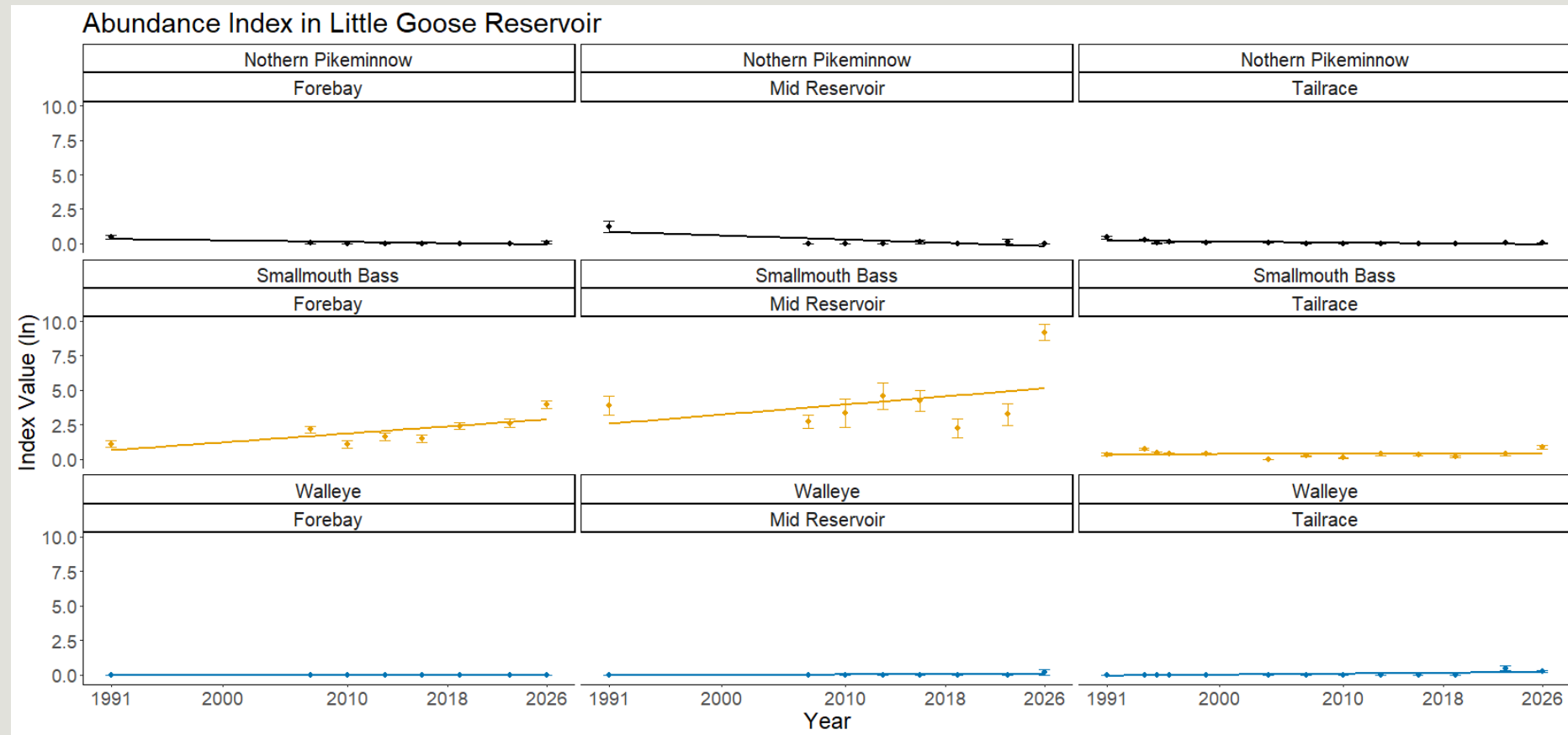


Long-term biological trends



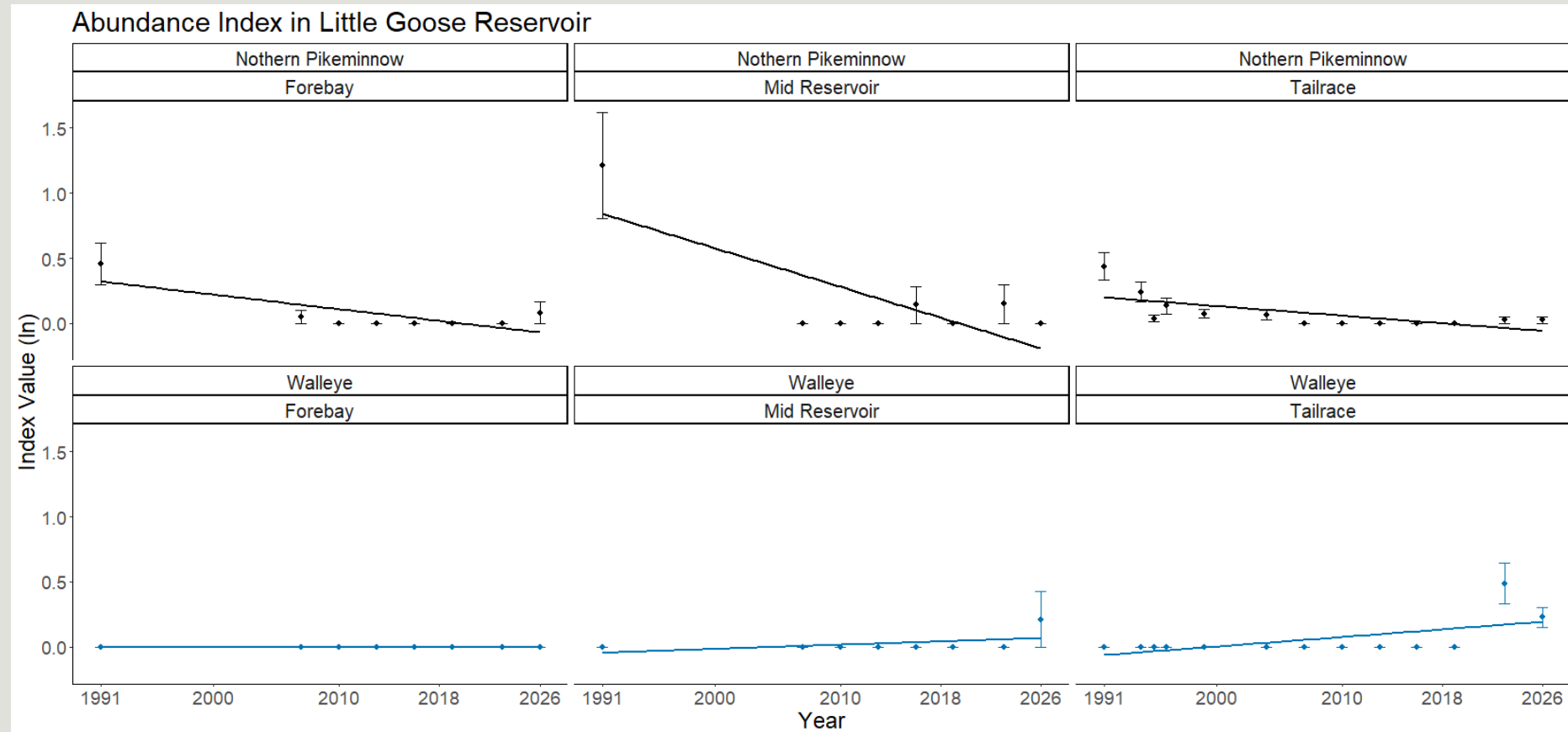
Abundance: Little Goose Reservoir

- General decline of Northern Pike minnow abundance
- Long-term increases in Smallmouth bass abundance
- Notable increases in Walleye abundance in the mid-reservoir and tailrace areas



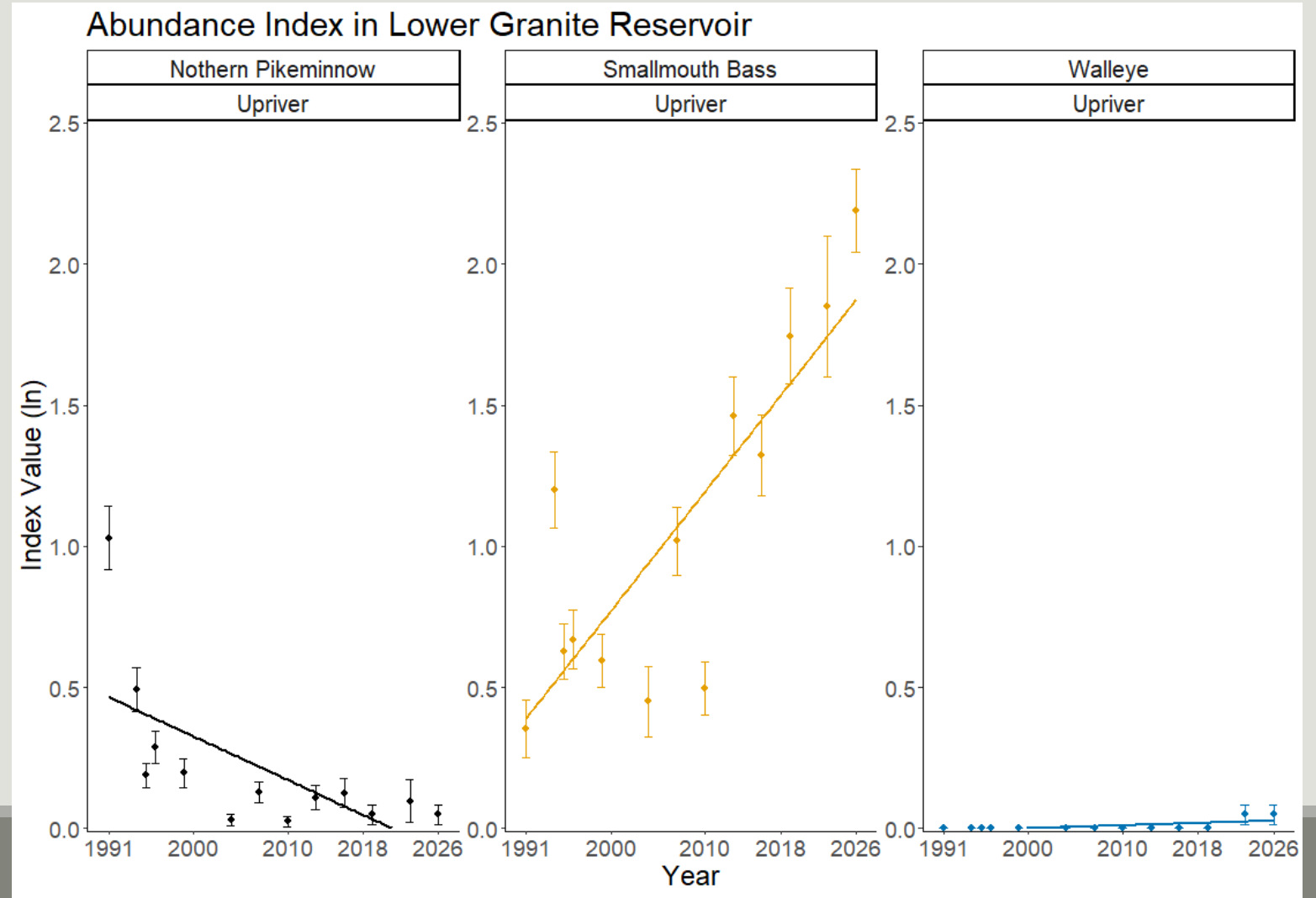
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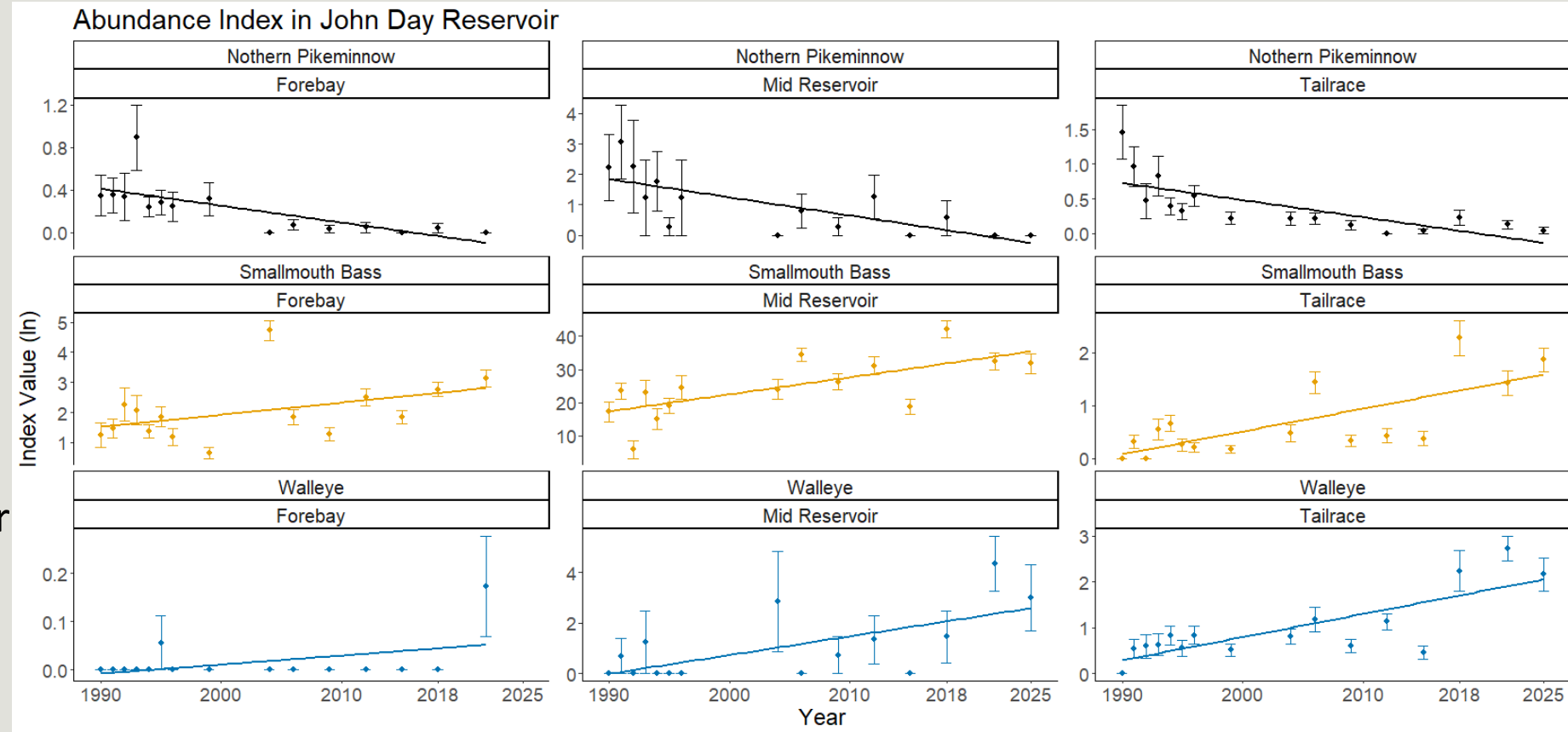
Abundance: Lower Granite Reservoir

- Generally, low Northern Pike minnow abundance
- Long-term trend of increasing Smallmouth bass abundance
- No Walleye detected until 2023 and again in 2026 (n = 2)



Abundance: John Day Reservoir

- General decline of Northern Pike minnow abundance
- Long-term increases in Smallmouth bass abundance
- Notable increases in Walleye abundance in the mid-reservoir and tailrace areas



Diet

- Proportion of predator fish with prey items
- Walleye are piscivorous
 - Proportionally more Walleye with salmonids in their digestive tracts
- Sample size of Walleye vs Northern pikeminnow

Spring 2023		Little Goose Reservoir						
Species	n	$\hat{p}_{\text{food}}$	$\hat{p}_{\text{fish}}$	$\hat{p}_{\text{cray}}$	$\hat{p}_{\text{crust}}$	$\hat{p}_{\text{insect}}$	$\hat{p}_{\text{sal}}$	$\hat{p}_{\text{lam}}$
Northern Pikeminnow	3	0.67	0.33	0.00	0.00	0.33	0.33	0.00
Smallmouth Bass	126	0.97	0.38	0.21	0.62	0.07	0.10	0.02
Walleye	56	0.84	0.64	0.02	0.09	0.04	0.30	0.13

Spring 2023		Lower Granite Reservoir						
Species	n	$\hat{p}_{\text{food}}$	$\hat{p}_{\text{fish}}$	$\hat{p}_{\text{cray}}$	$\hat{p}_{\text{crust}}$	$\hat{p}_{\text{insect}}$	$\hat{p}_{\text{sal}}$	$\hat{p}_{\text{lam}}$
Northern Pikeminnow	27	0.37	0.11	0.04	0.00	0.30	0.04	0.00
Smallmouth Bass	61	0.84	0.69	0.07	0.23	0.11	0.15	0.00
Walleye	2	1.00	1.00	0.00	0.50	0.50	0.50	0.00

Spring 2025		John Day Reservoir						
Species	n	$\hat{p}_{\text{food}}$	$\hat{p}_{\text{fish}}$	$\hat{p}_{\text{cray}}$	$\hat{p}_{\text{crust}}$	$\hat{p}_{\text{insect}}$	$\hat{p}_{\text{sal}}$	$\hat{p}_{\text{lam}}$
Northern Pikeminnow	11	0.91	0.00	0.09	0.09	0.64	0.00	0.00
Smallmouth Bass	129	0.99	0.36	0.43	0.44	0.42	0.09	0.00
Walleye	105	0.99	0.72	0.02	0.41	0.14	0.30	0.04



Summary

- NPMP provides Northern pikeminnow suppression through a reward fishery to reduce predation to juvenile salmon and steelhead
- Biological monitoring has demonstrated changes in the abundance and distribution of piscine predators over time
 - John Day, Little Goose, and Lower Granite reservoirs
- Patterns suggest compensatory responses that could be driven by a suite of factors like:
 - Changes in physical conditions
 - Northern pikeminnow reward fishery
 - Food web alterations
- Next Steps: trends, data gaps, active management



Questions

Up next:
Marika Dobos, IDFG



Evaluation of Walleye in the Lower Snake River

Projects

- Lower Granite Dam Study
- Public Outreach and Angler Reporting
- Wild Juvenile Steelhead Survival Model

Lower Granite Study Objectives

1. Examine population demographics of walleye
 - Age and growth
 - Sex composition and maturity
2. Examine movement of walleye through PIT tag detections
 - Immigration and emigration rates

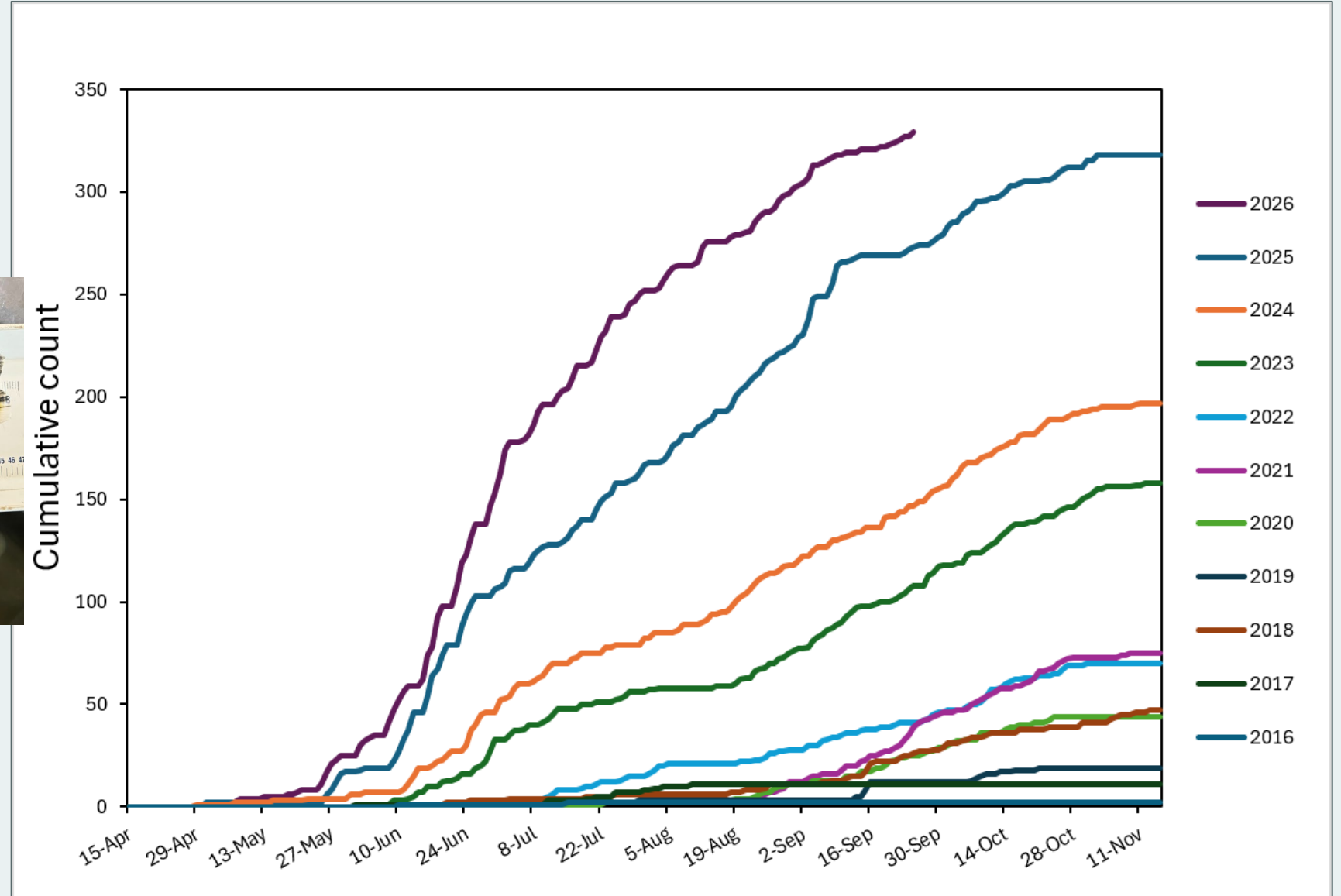
Lower Granite Dam



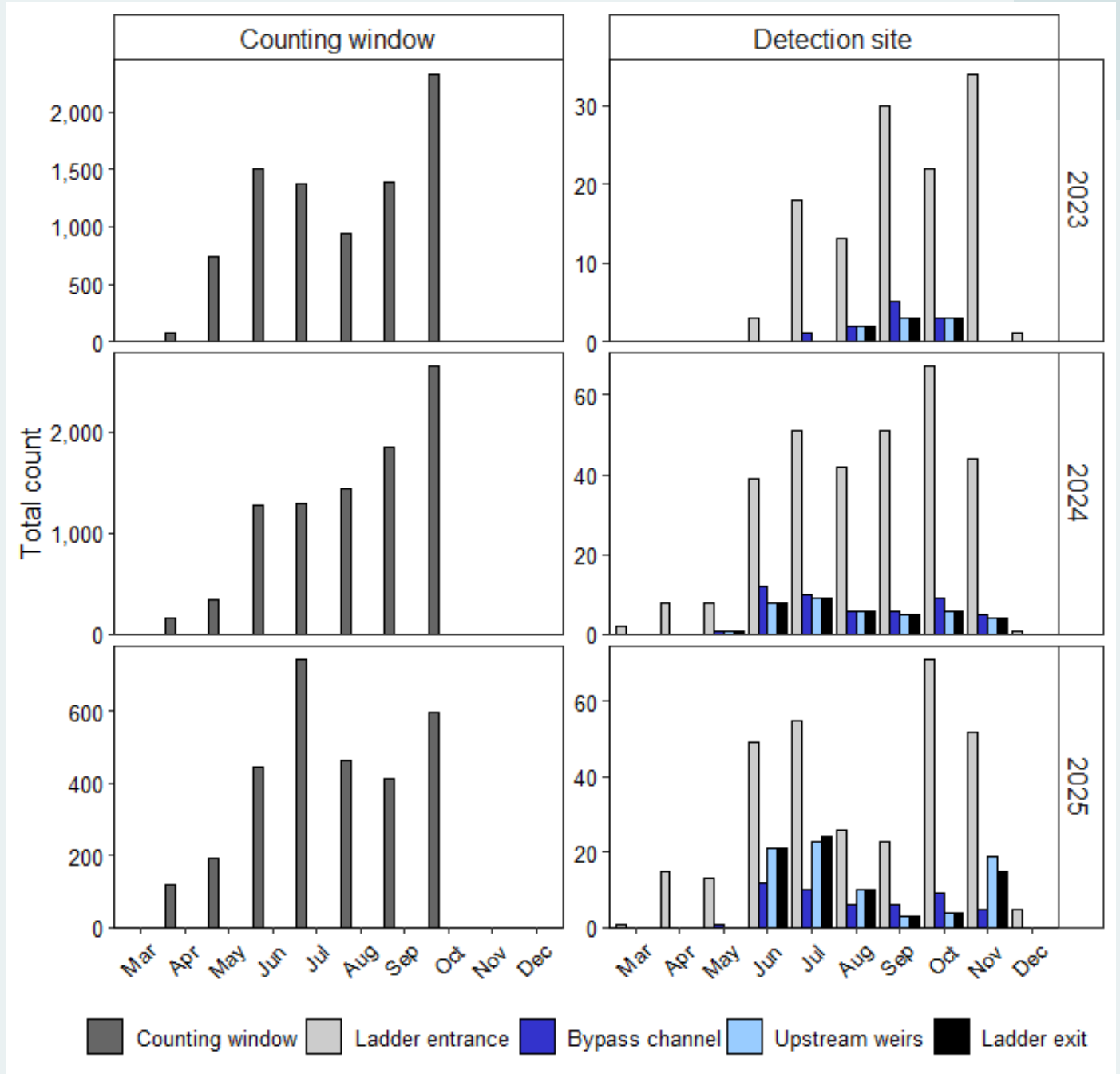
Bypass Channel and Trapping



Walleye Trapped at Lower Granite Dam



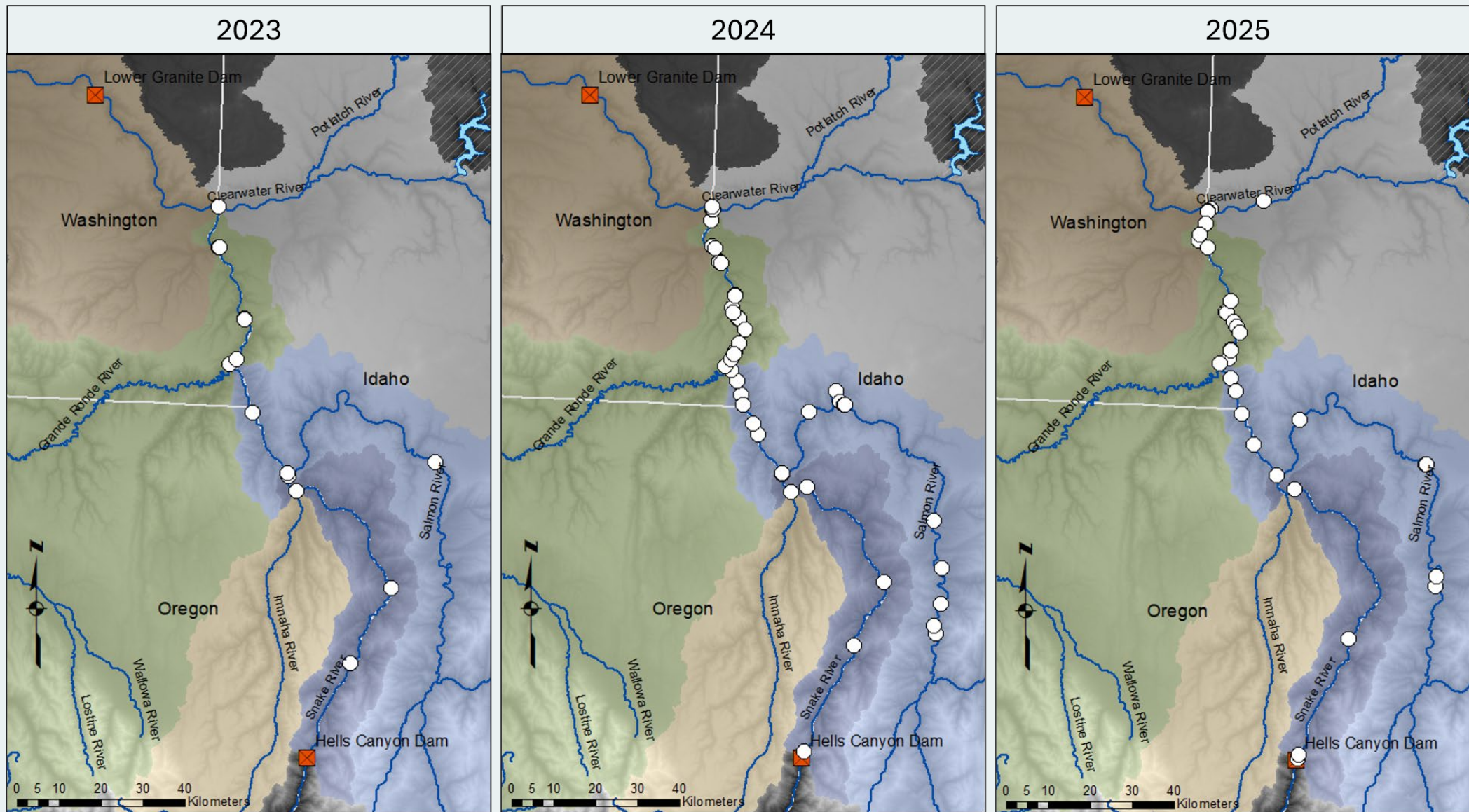
Window Counts and Detections



Public Outreach Goals

1. Start the message early, hit it hard, and be consistent
2. Utilize angler reporting to understand distribution of walleye encounters upstream of Lower Granite Dam

Spatial Expansion of Angler Caught Walleye



2026 Catches

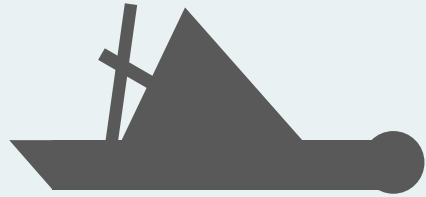


Steelhead Survival Study Objectives

1. Estimate brood year cohort survival of juvenile steelhead in freshwater systems
 - Integrate age and uncertainty
 - Account for movement transitions across time (life history)
2. Examine biological and environmental covariates that influence juvenile survival

Expanded Multi-State Mark-Recapture Model

Brood year
2015



2015



Age 0

2016



Age 1

2017



Age 2

2018



Age 3

1. Movement and rearing
2. Freshwater survival
3. Smolt productivity
4. Trends in life history strategies

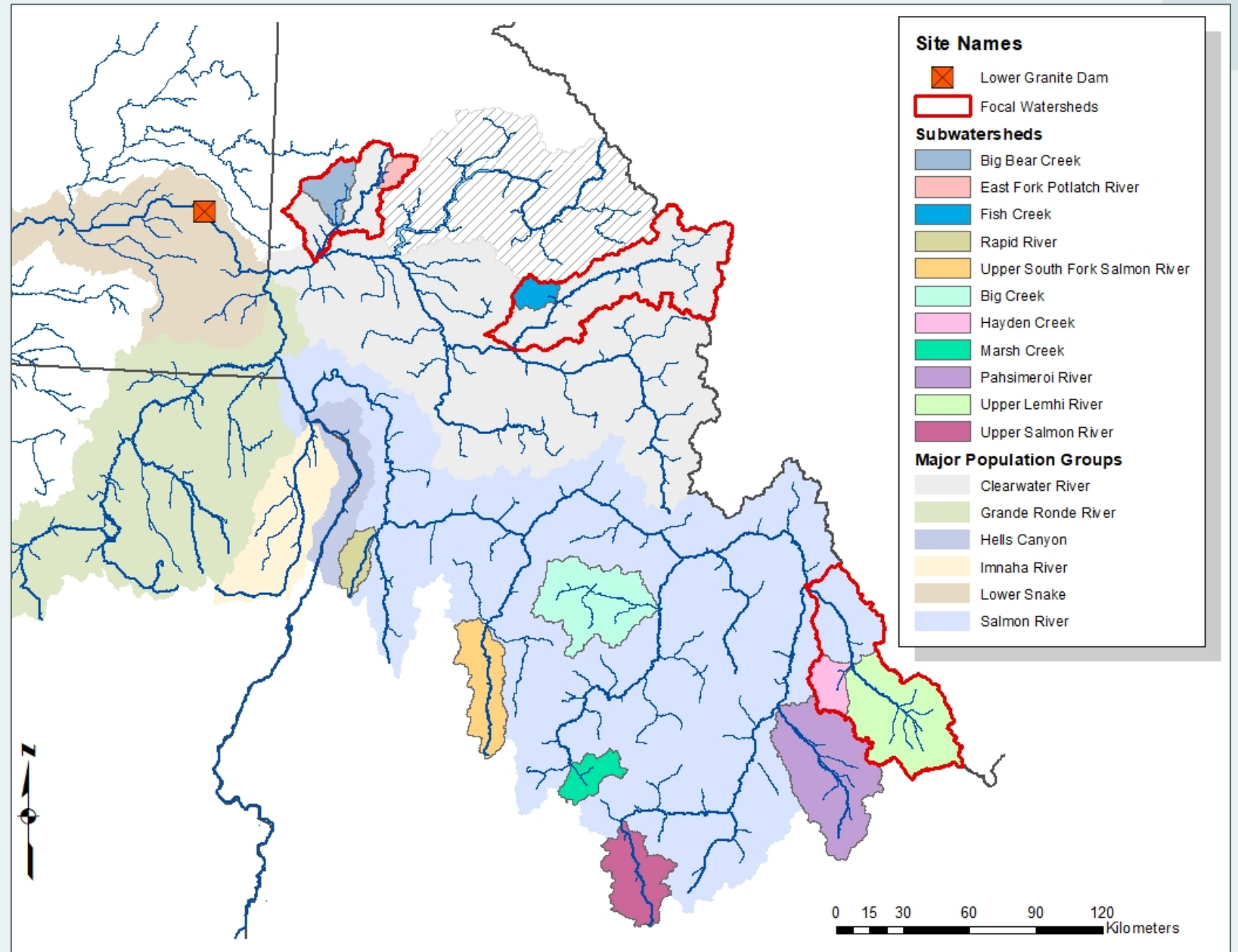
2016 →

2017 →

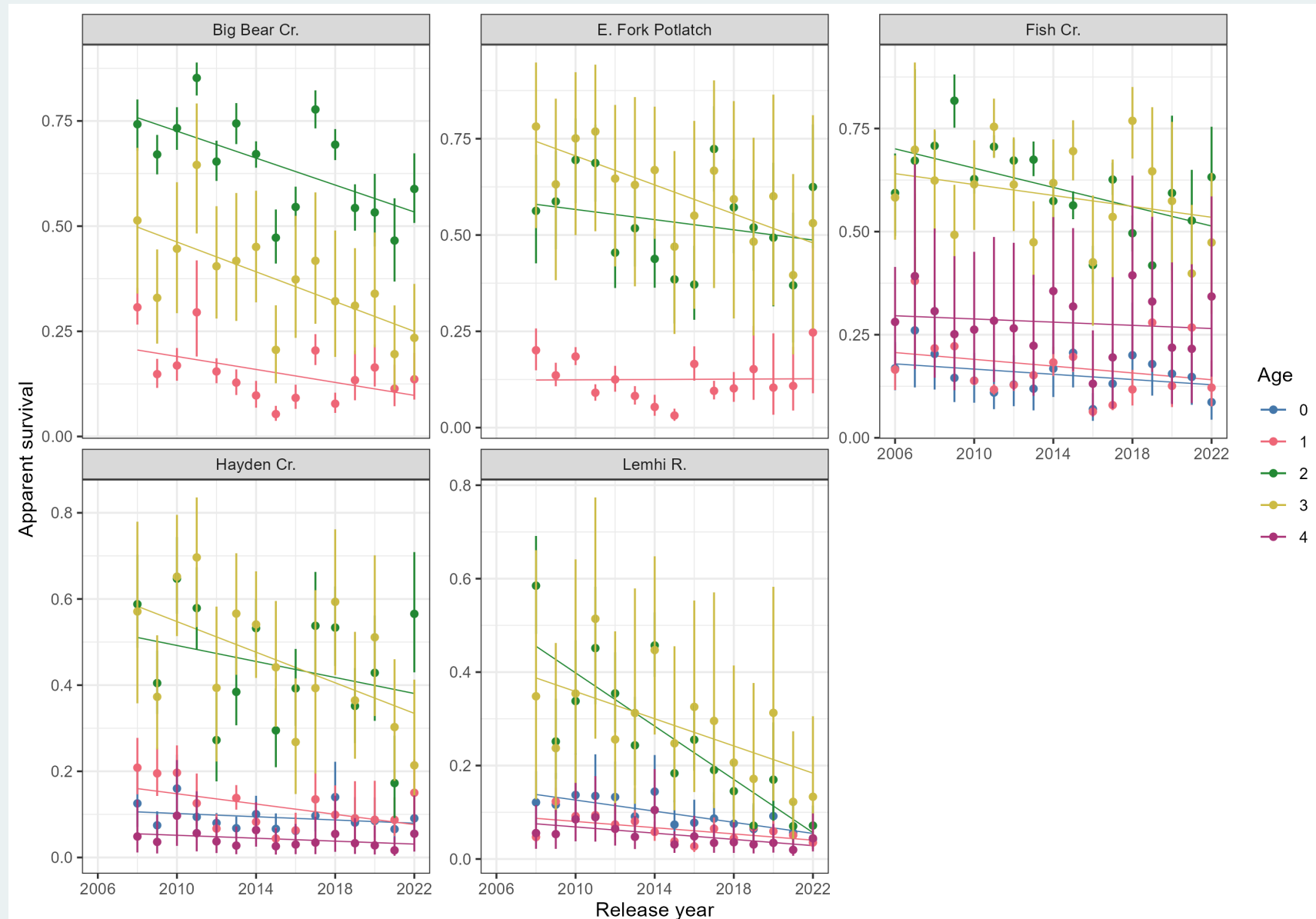
2018 →



Study Area



Declining Survival in Juvenile Steelhead



Vosbigian et al. *In Prep*

Concluding Thoughts

1. Data continues to show increase of abundance and spatial expansion of walleye in the lower Snake River basin
2. Survival of juvenile salmonids are decreasing in the freshwater system
3. Action needs to be taken
 1. What do we need to know?
 2. What do we need to do?
 3. How do we get there?

Up next:
Jason Vogel, NPT

Nez Perce Tribe Aquatic Invasive & Nuisance Species Program: Protecting Nimiipuu Country

invasives@nezperce.org

npt-invasives.org

RESEARCH DIVISION DIRECTOR: JASON VOGEL

PROJECT LEAD: CLARK WATRY

BIOLOGIST I: ANTHONY CAPETILLO

BIOLOGIST I: SKYLER WHITE TEMPLE

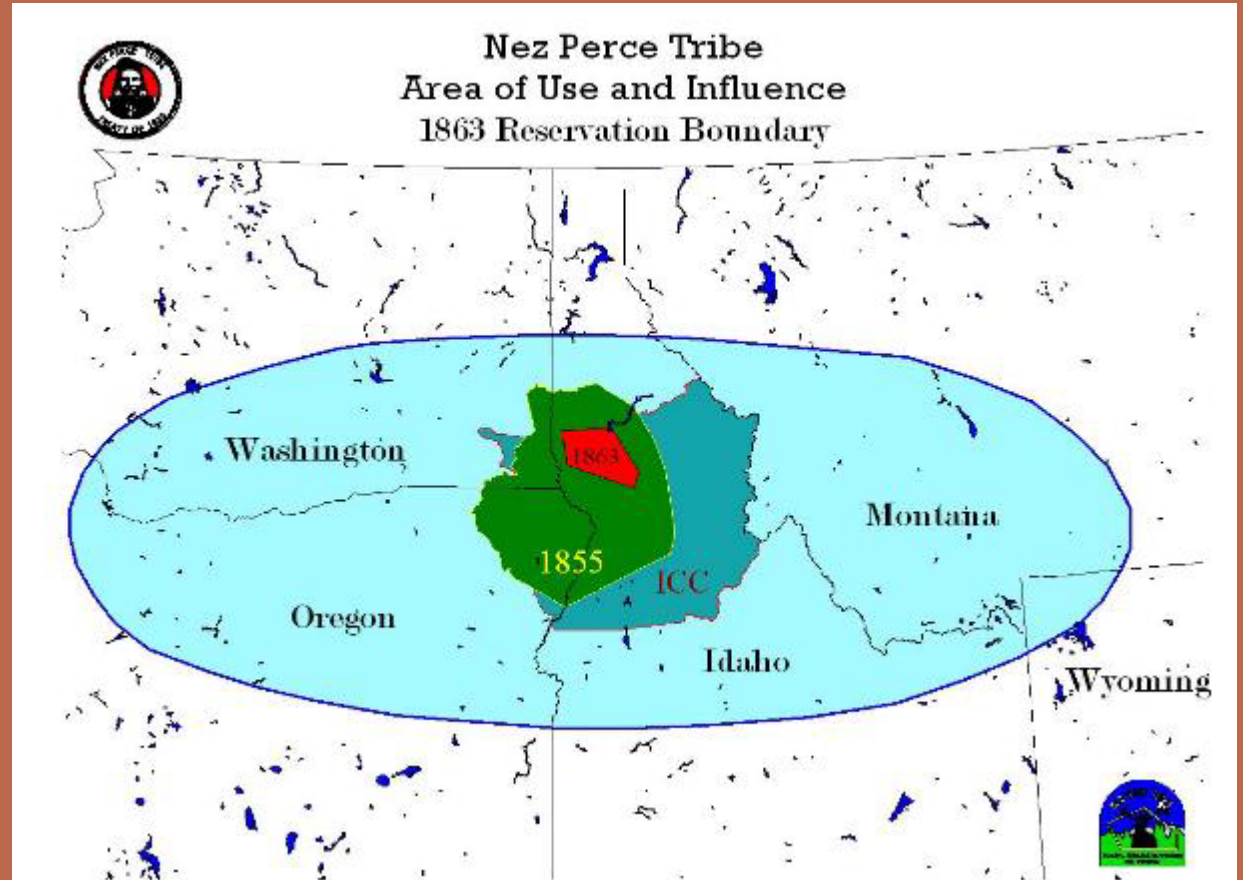
BIOLOGIST I: KYLIE BALL –CANINE HANDLER

EDUCATIONAL OUTREACH COORDINATOR:
SAMANTHA SMITH



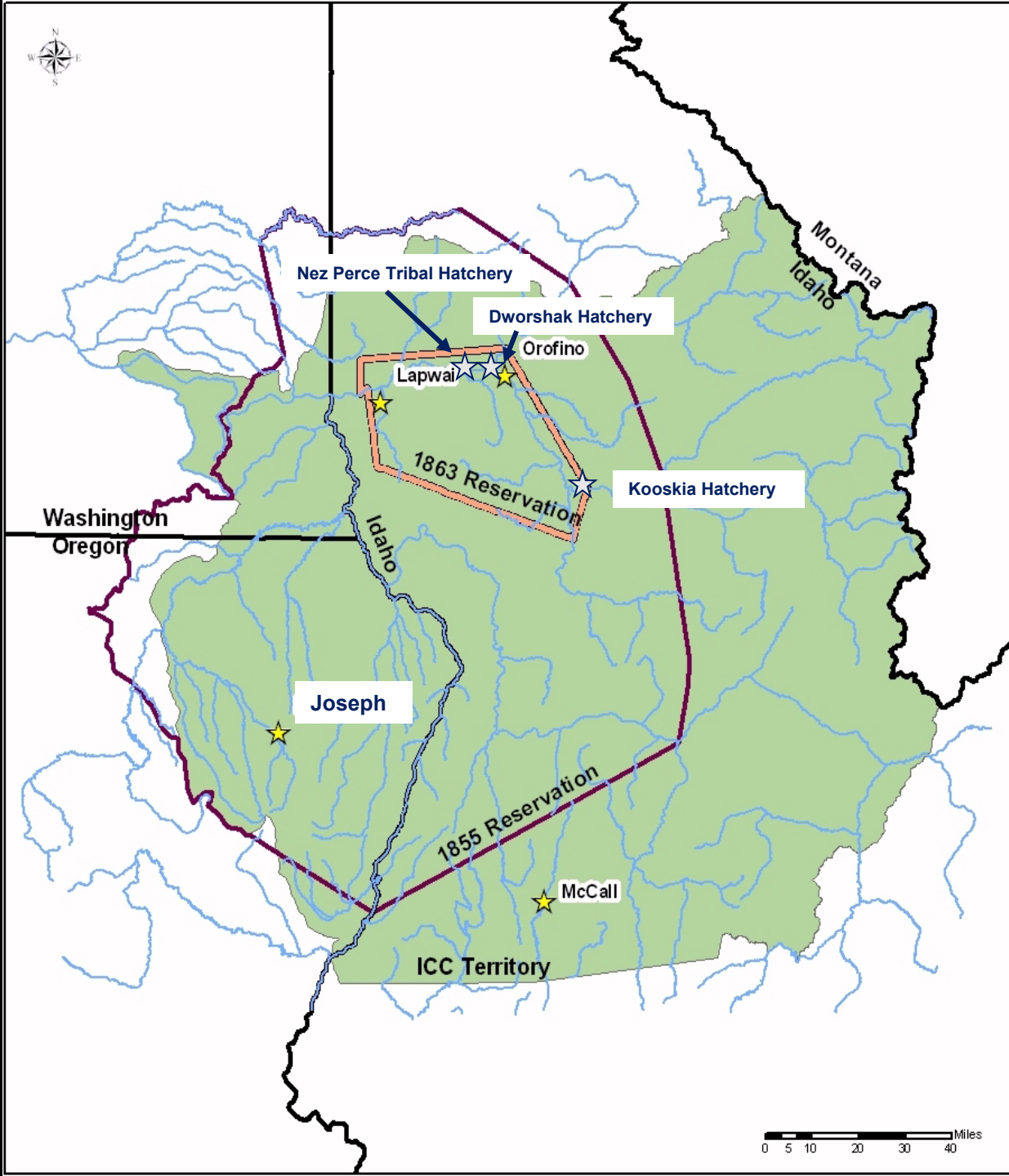
Short History of the Nez Perce Tribe and the Department of Fisheries Resources Management

- 🐟 Treaty of 1855 & Treaty of 1863
- 🐟 Indian Claims Commission (1946)
- 🐟 Nez Perce Tribe Constitution and Bylaws adopted 1948
- 🐟 US vs Oregon (1968)
- 🐟 Columbia River Inter-Tribal Fish Commission (1977)
- 🐟 NPT Dept. of Fisheries Resources Management (early 1980's)

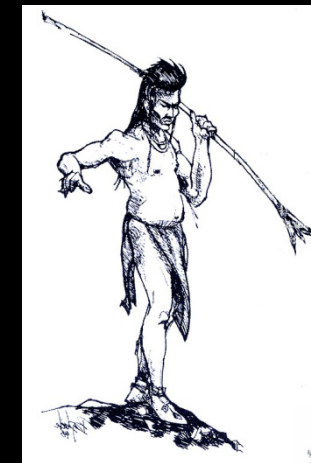


"... fish provide us with both physical and spiritual sustenance... our fate and the fate of the fish are linked."

- Jaime Pinkham



Department of Fisheries Resources Management





Mission

To recover and restore all populations, all species, of both anadromous and resident fish within the Nez Perce Territory.

Aquatic Invasive & Nuisance Species (AINS) Program Focus

Predator Control

-  Predatory Fish – Walleye, Smallmouth Bass, others
-  Avian Predators – American White Pelican, Double-Crested Cormorants, Gull spp., Great Blue Herons

Invasive Freshwater Mussels

-  Prevention – Watercraft Inspection and Decontamination
-  Early Detection Monitoring
-  CD3 Wayside Stations and Check-in/Check-out signs
-  Canine Team

Other Species Reports

-  Serve as point of contact for Tribal members to report sightings of potential invasive species

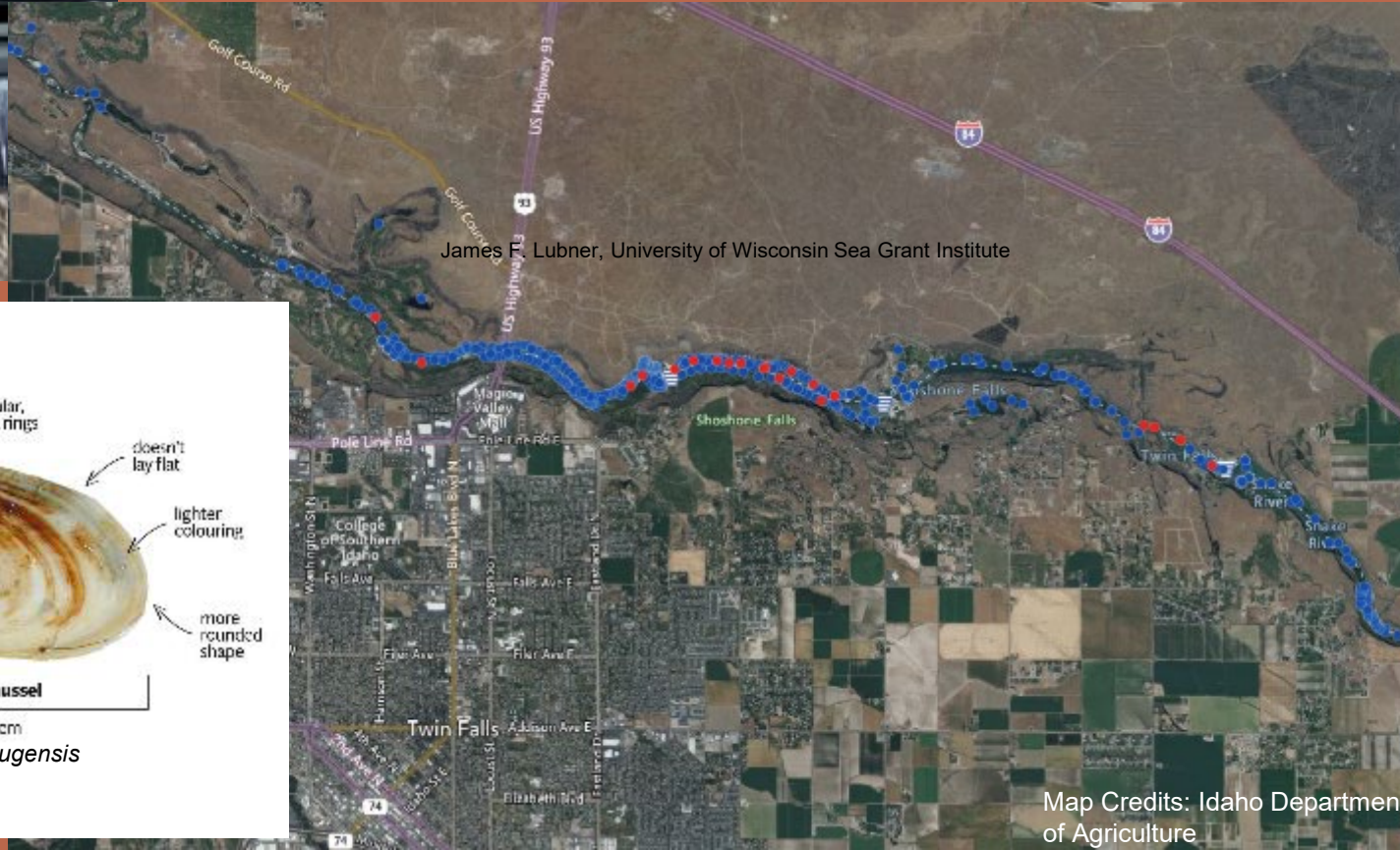
Outreach & Education

-  npt-invasives.org
-  School classrooms and groups, STEM and Career Fairs, festivals and other events

Quagga-Zebra Mussel in Idaho in Sept. 2023



Idaho Department of Agriculture



2023 ISDA
Monitoring
Locations

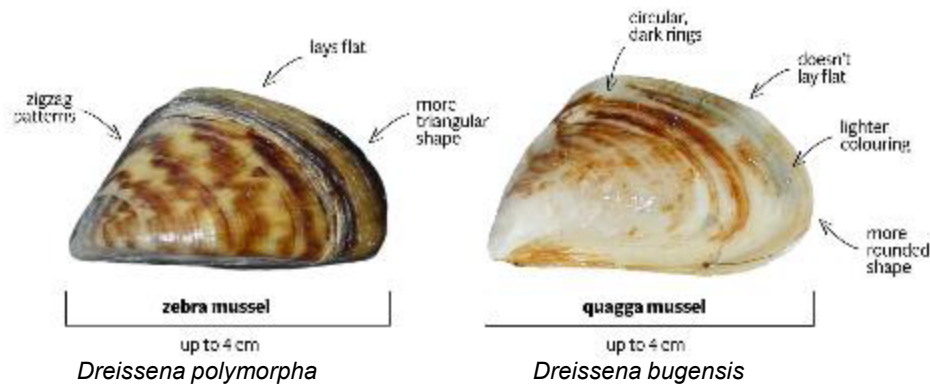


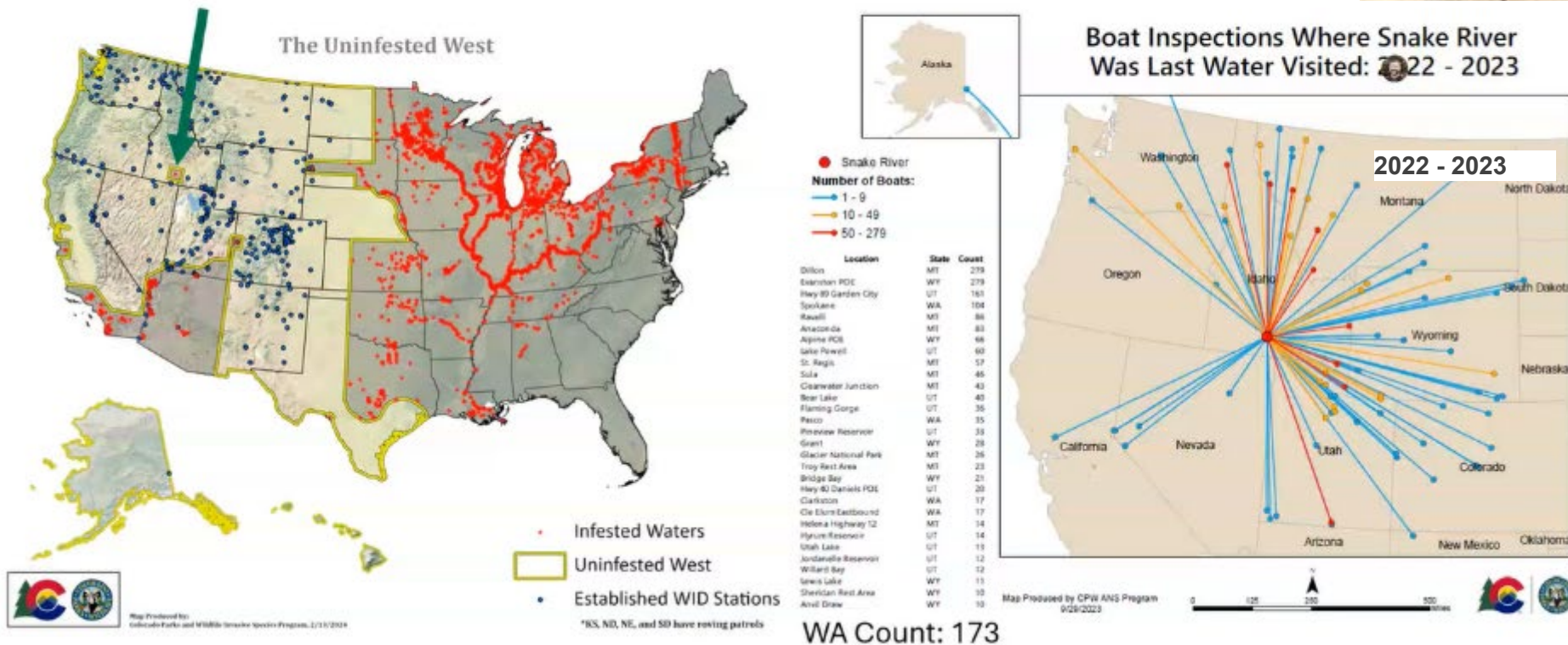
Photo Credit: Invasive Species Institute

Map Credits: Idaho Department
of Agriculture

Invasive Freshwater Mussels: Invading the West



Multiple Threat Pathways



Risk to Treaty Protected Resources

Human Health Threat

Cultural Concerns

Economic Impacts

Ecological Imbalance

Loss of Recreational Opportunities

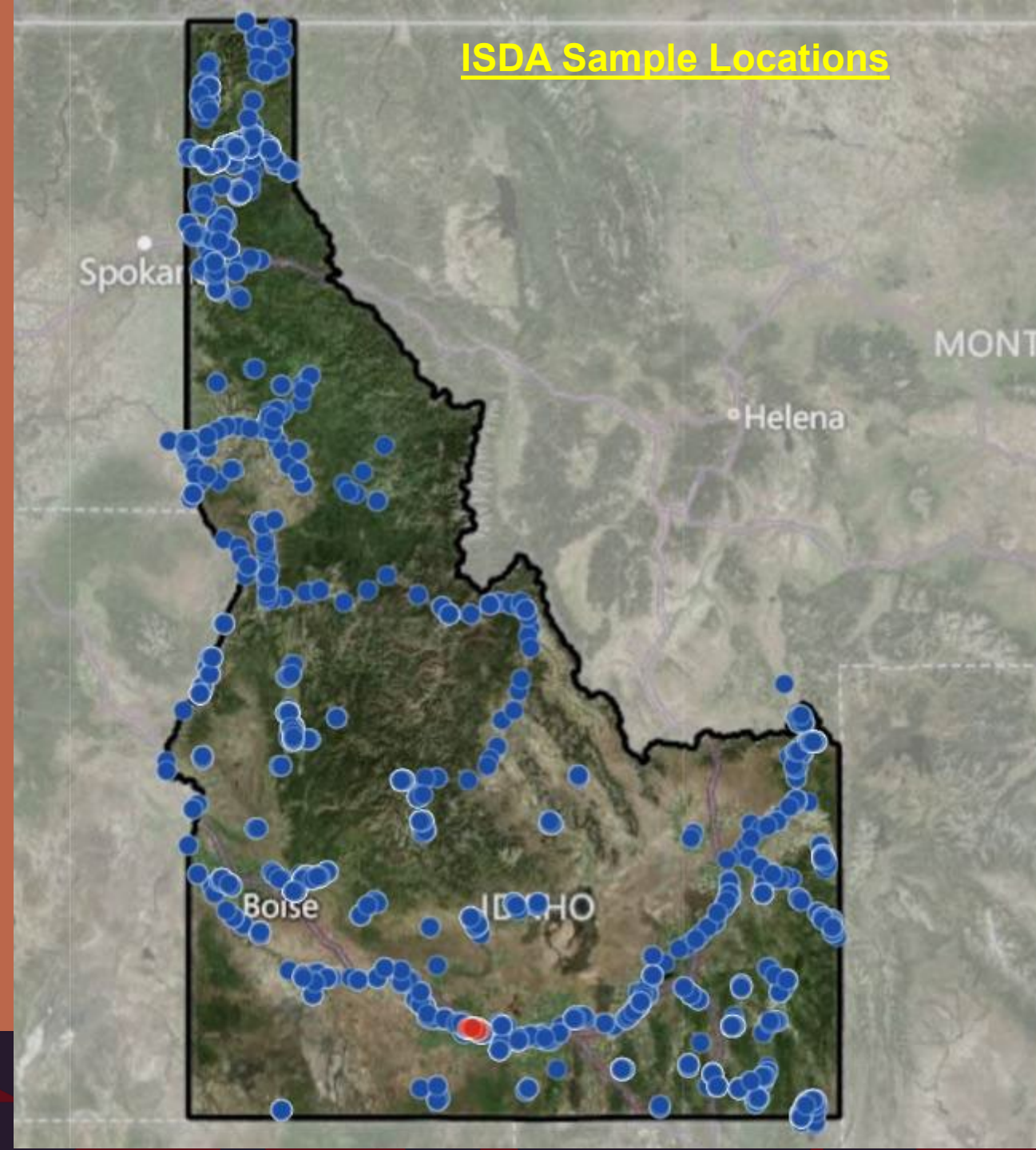
Rapid Spread/Colonization

https://youtu.be/lngSkxy_mrQ

ISDA Monitoring



ISDA Sample Locations



2024 Quagga Mussel Detection

Quagga Mussel Detection (72 miles)
No Quagga Mussel Detection

51% Reduction!

2025 Quagga Mussel Detection

Quagga Mussel Detection (3.5 miles)
No Quagga Mussel Detection

Still Upstream...

Freshwater Invasive Mussels

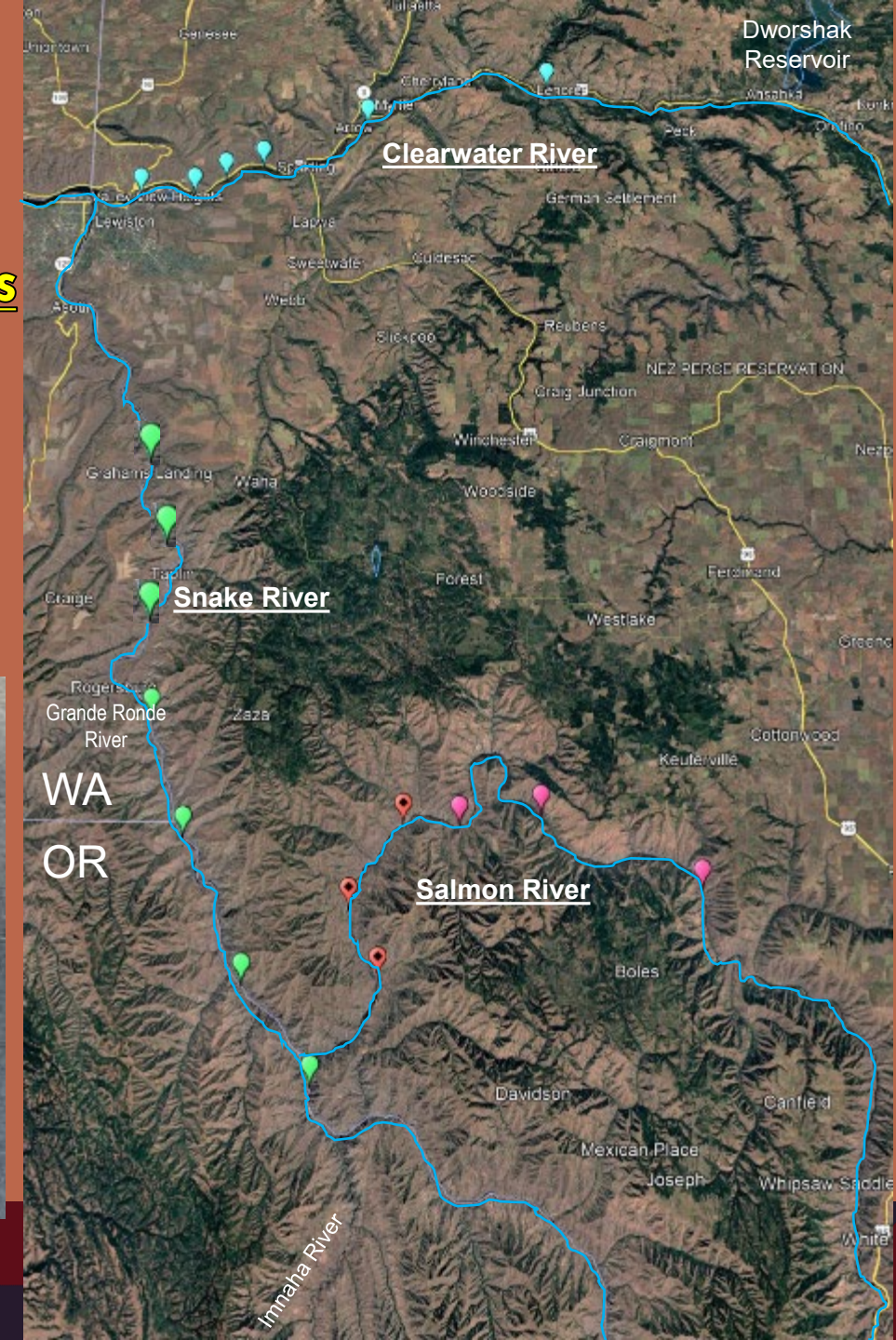


Inspection Stations

Montana: 38 in 2025

Washington: 127 in 5yrs

Idaho: 28 by mid-2025



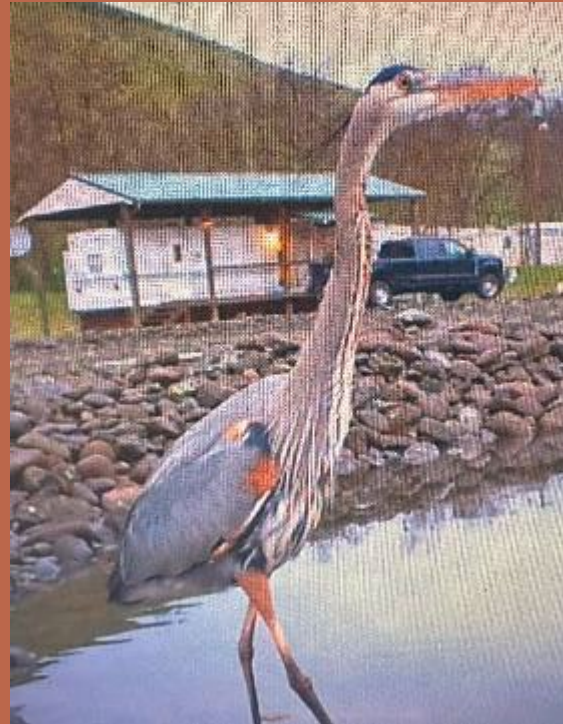
NPT AINS Avian Predator Focus

Great Blue Heron

Double-Crested Cormorant



American White Pelican



Great Blue Heron feeding in North Lapwai Valley acclimation pond.



Gulls



npt-invasives.org

Monitoring & Hazing

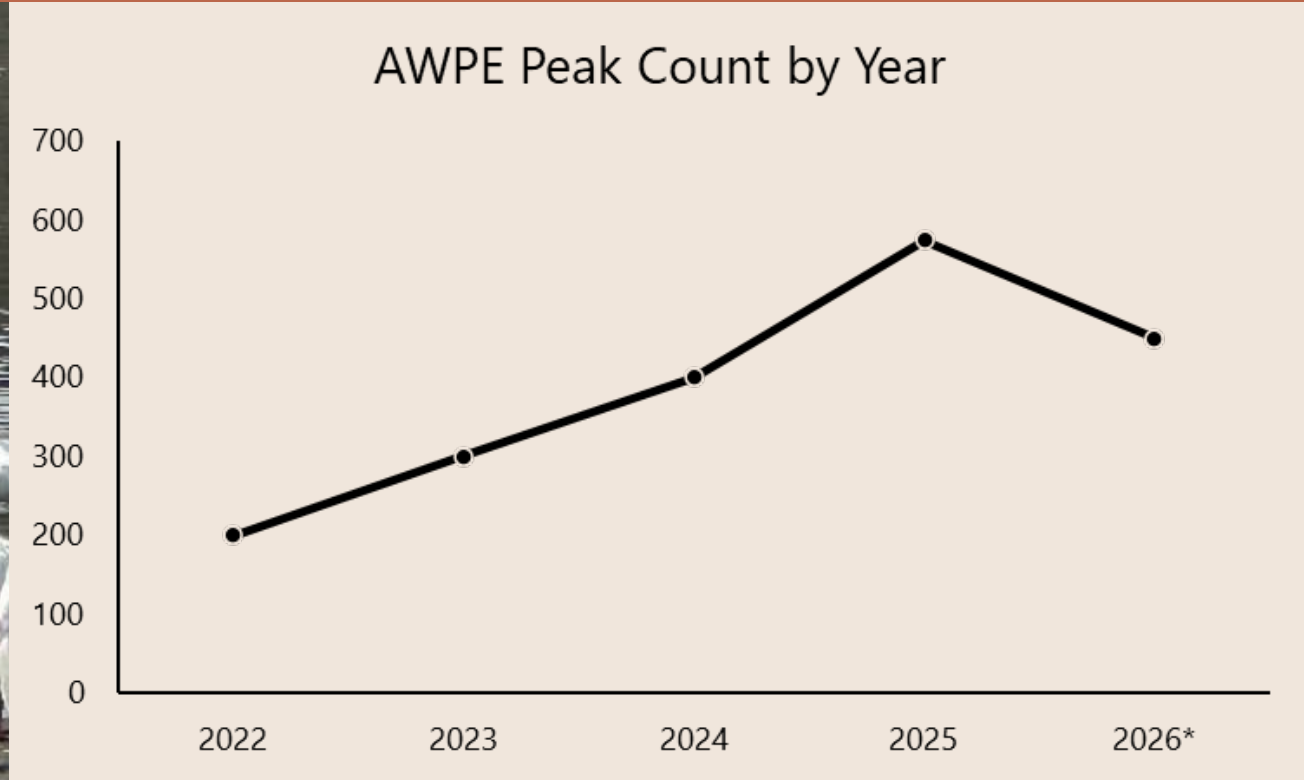


Daylight and Evening Hazing Efforts



- Pyro
- Physical Tactics
- Effigies
- Green Lasers

LCV Predatory Bird Presence & Timing



Impacts to Juvenile Salmonids

1,471 unique PIT tags under one of the heron rookeries at Spalding Park

- Release years 2014-2024
 - 874 Chinook salmon
 - 419 steelhead
 - 165 coho salmon
 - 10 sockeye salmon
 - 1 lamprey
 - 1 pikeminnow

296 unique PIT tags on bar/island on Clearwater River

- Release years 2018-2023
 - Primarily occupied by gulls and pelicans
 - 111 Chinook salmon
 - 167 steelhead
 - 18 coho salmon



WANTED

WALLEYE



CATCH, KILL, REPORT

HOW TO REPORT

IDAHO

SEND PHOTO TO IDAHO FISH AND GAME BIOLOGIST MARIKA
DOBOS AT THE LEWISTON REGIONAL OFFICE AT
MARIKA.DOBOS@IDFG.IDAHO.GOV, OR CALL (208) 750-4220.

OREGON AND WASHINGTON

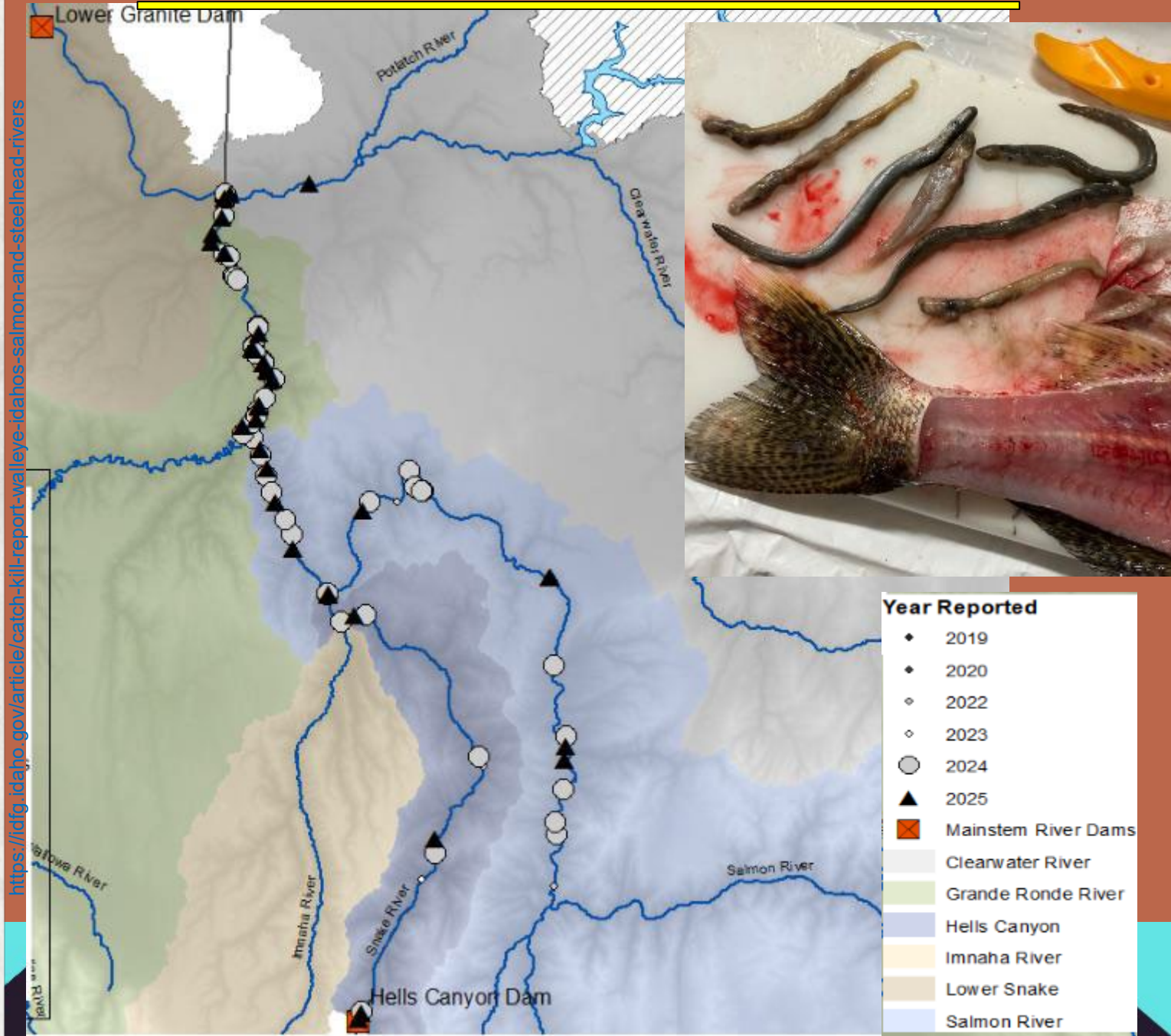
REPORT TAGGED WALLEYE TO YOUR DEPARTMENT OF FISH AND WILDLIFE
OREGON: WWW.DFW.STATE.OR.US/
WASHINGTON: HTTPS://WDFW.WA.GOV/

HTTPS://INEZPERCE.ORG/

CONTACT US

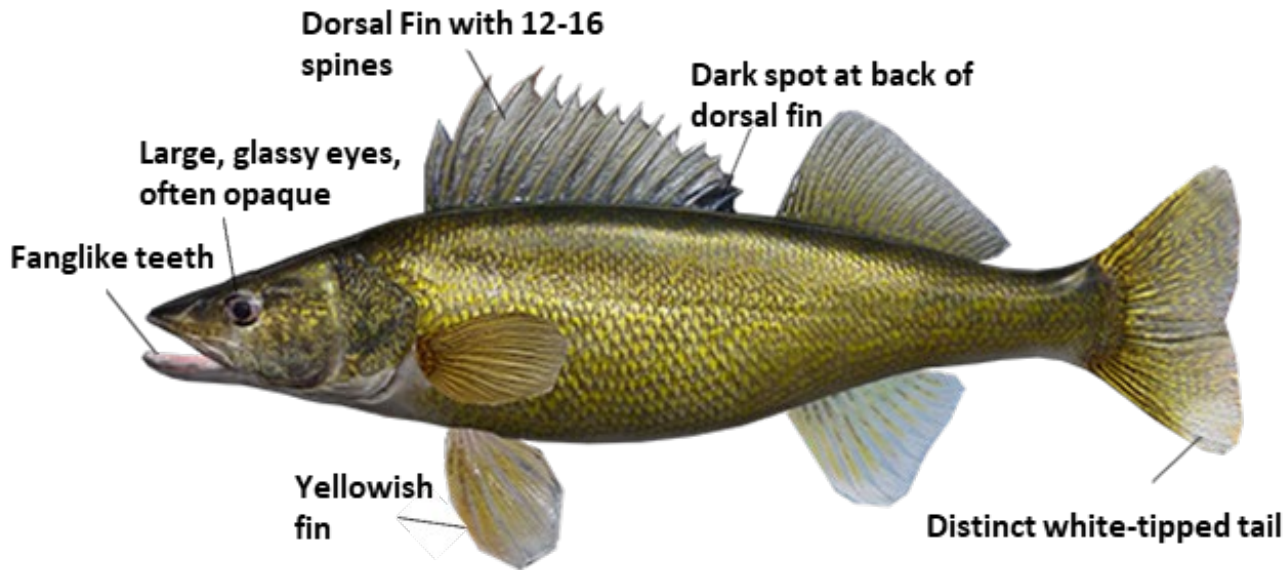
INVASIVES@INEZPERCE.ORG

Piscine Predator Control

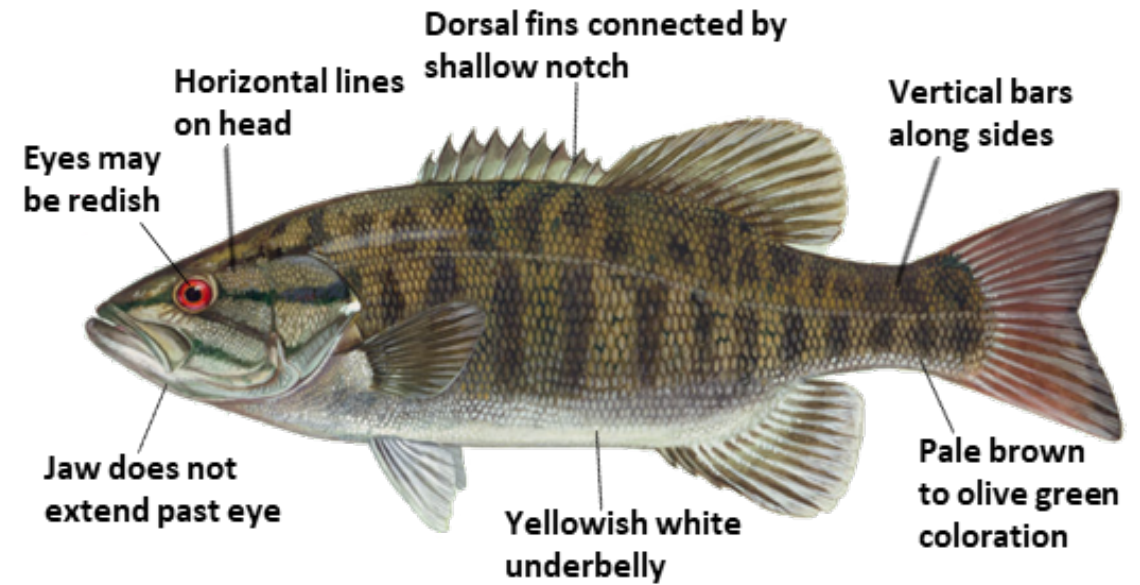


Spiney Rayed Fish Identification

Walleye (*Sander vitreus*)



Smallmouth Bass (*Micropterus dolomieu*)



Walleye can account for ~1/3 of annual salmonid predation loss in the Columbia River

As of July 2025, spearfishing for walleye and smallmouth bass legal in many Idaho waters!

860k+ sub yearlings lost to SMB predation annually in the Snake River Basin above Lower Granite Dam

Gillnetting & Indexing Coordination

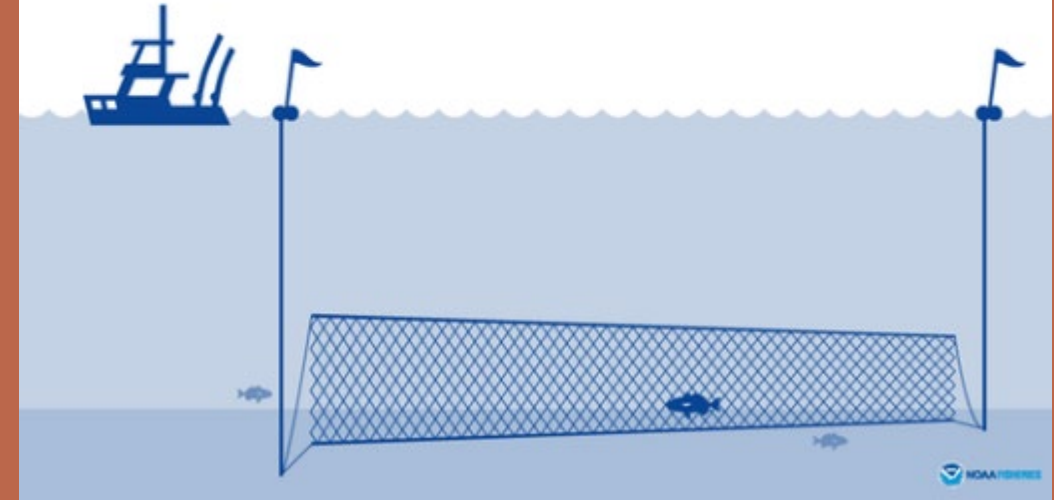
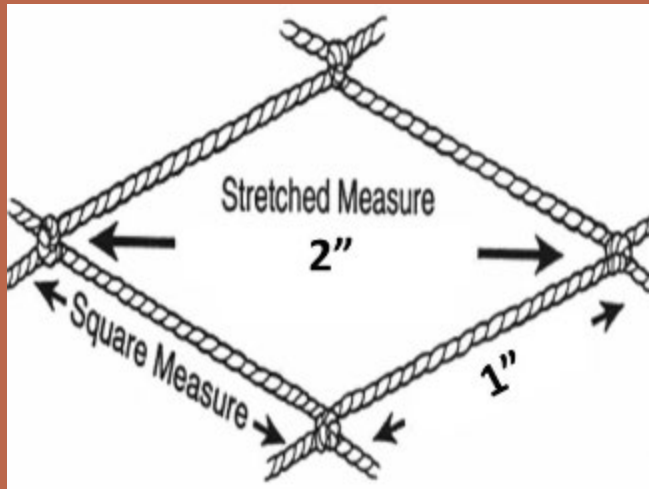


- Coordination with ODFW & NOAA on predator index pilot study and LG telemetry study
- Encourage tribal members to hook-n-line and/or gillnet walleye
- Provide information to, and assist tribal members interested in targeting walleye



Assisting Lee Whiteplume on his walleye permit with volunteer Lamont Phillips

Gear



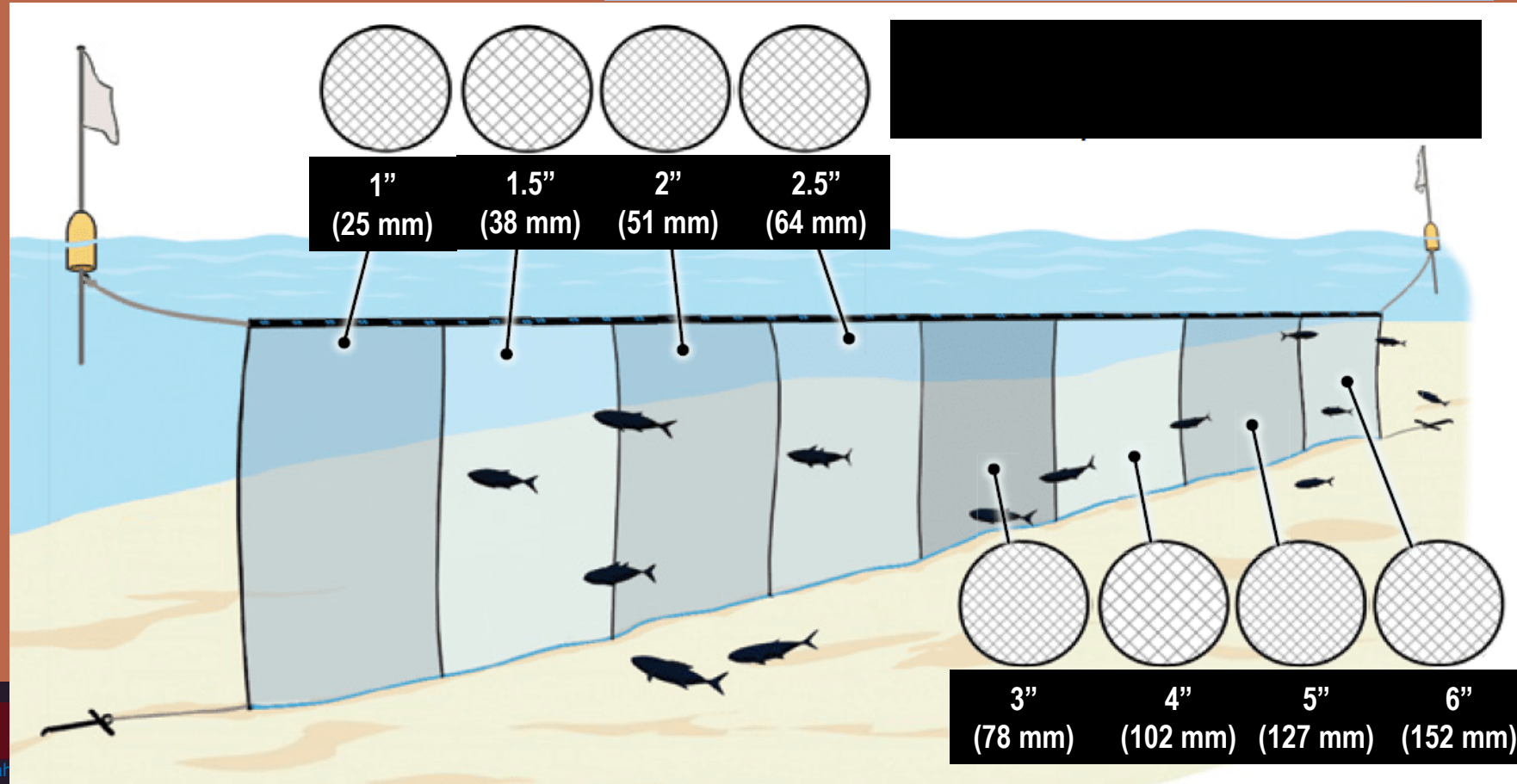
Net Gang Specs:

- 200' (61 m) long
- 6' (1.8 m) deep
- 8 mesh sizes, 25' (7.6 m) panels
- Monofilament diameter x4 (0.23 mm to 0.52 mm)

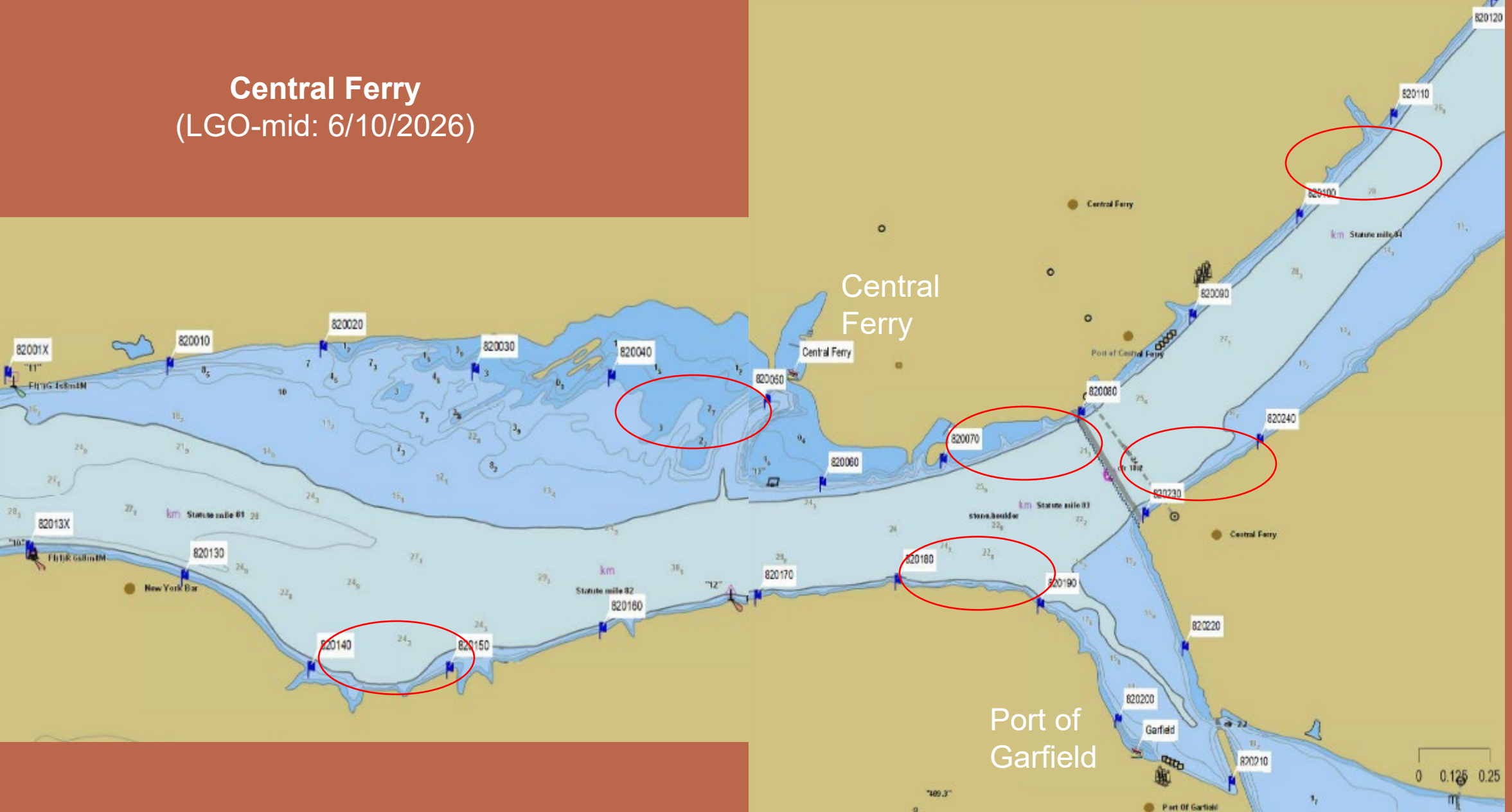
Sampling Design:

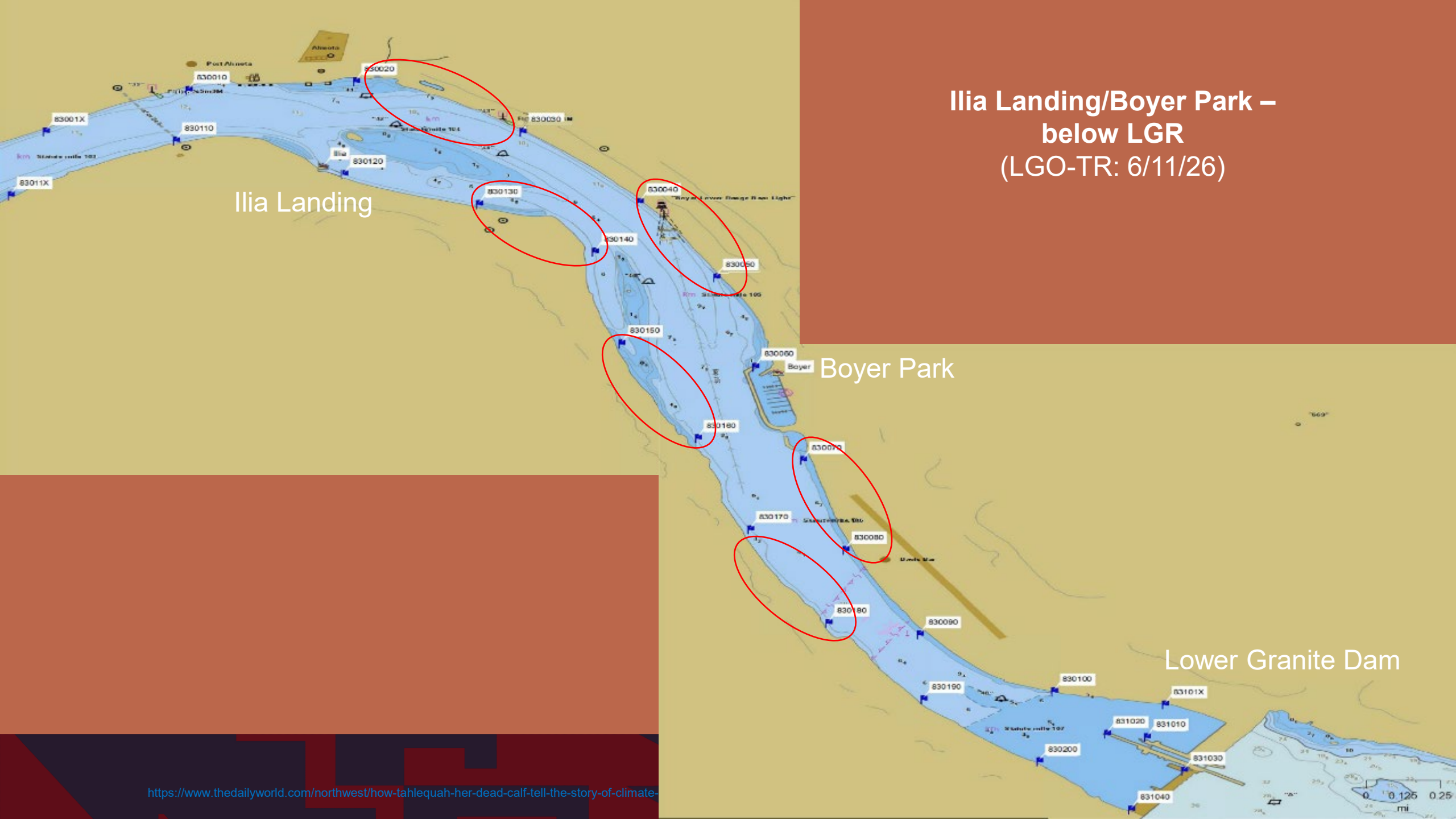
- 2 depth strata: 3 – 6 m and 6 – 15 m
- 1 net in each strata (when possible)
- Nets set after 9pm
- Soak nets between 4 and 8 hrs

<https://www.thedailyworld.com/northwest/how-tahlequah>



Central Ferry (LGO-mid: 6/10/2026)





Ilia Landing/Boyer Park –
below LGR
(LGO-TR: 6/11/26)

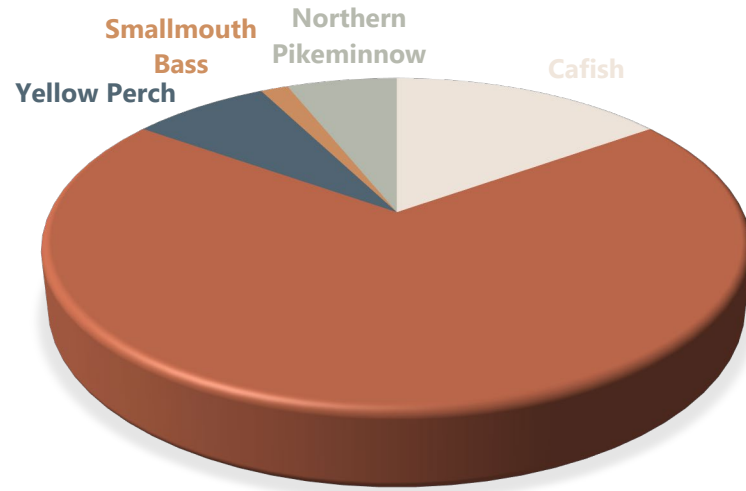
Ilia Landing

Boyer Park

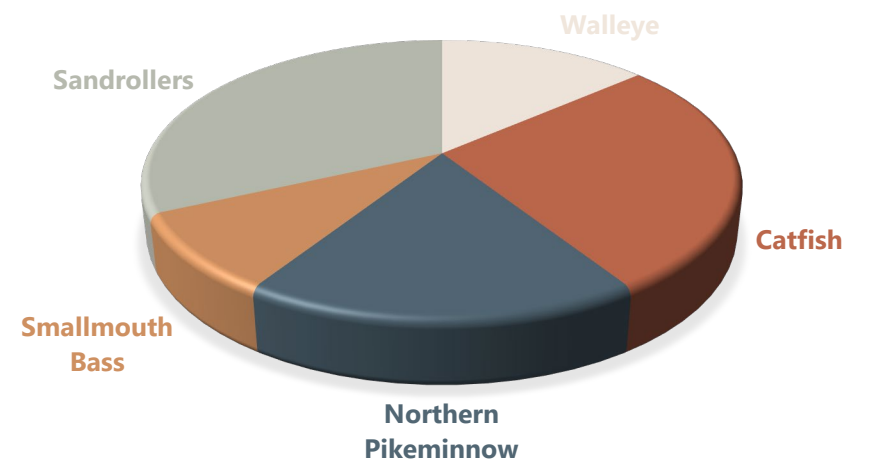
Lower Granite Dam

Species Composition

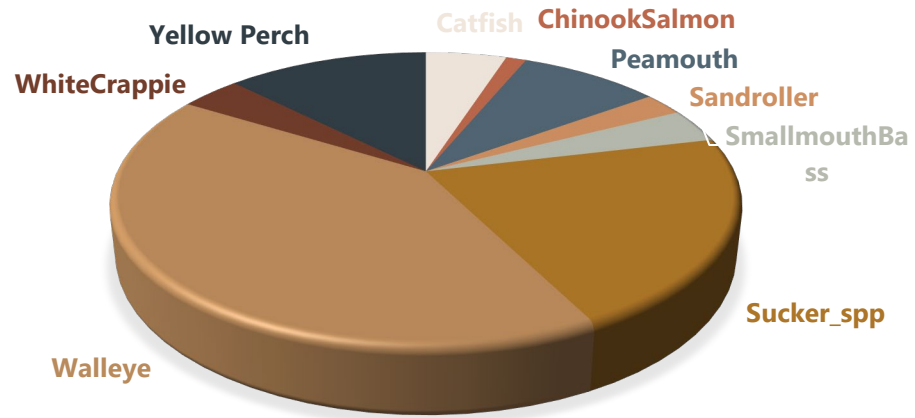
LYONS FERRY (5/19/2026)



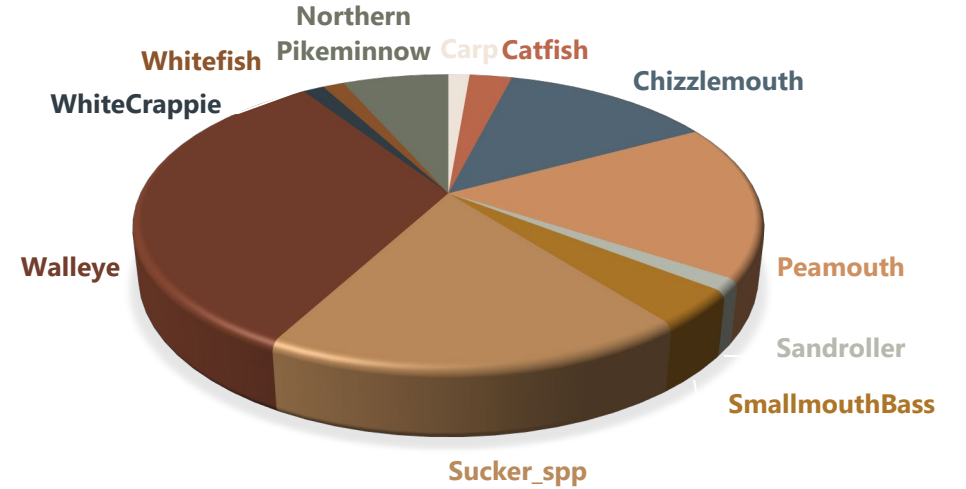
LGR-UP (5/28 - 5/29, 2026)



LGO-MID (6/10/2026)



LGO-TR (6/11/2026)



PIT Tag Recoveries at Lyons Ferry

Tag Code	Species-Run	Mark Site	Release Location	Release Date	Predator	Length (mm)
3DD.0078F9AD44	Hat Summer Steelhead	Tucannon R Hatchery	Tucannon R Hatchery	4/14/2026	Walleye	680
3DD.0078CB0167	Hat Spring Chinook Salmon	Rapid River Hatchery	Rapid River Hatchery	3/16/2026	Walleye	755
3DD.0078F6EB2F	Hat Spring Chinook Salmon	Lookingglass Hatchery	NA	NA	Walleye	300
3DD.0078F9B462	Hat Summer Steelhead	Tucannon R. Hatchery	Tucannon R. Hatchery	4/14/2026	Walleye	590
3DD.0078C88699	Hat Summer Sockeye Salmon	Springfield Fish Hatchery	Redfish Lake Creek	5/5/2026	Walleye	330
3DD.00780887DA	Hat Summer Sockeye Salmon	Springfield Fish Hatchery	Redfish Lake Creek	5/5/2026	Walleye	340
3DD.0078FD9E03	Hat Spring Chinook Salmon	Grande Ronde Trap	Grande Ronde Trap	5/11/2026	Walleye	320
3DD.0078C8BA39	Hat Summer Sockeye Salmon	Springfield Fish Hatchery	Sawtooth Hatchery	5/5/2026	Walleye	540

Outreach & Education: Sharing the Nimiipúu Perspective



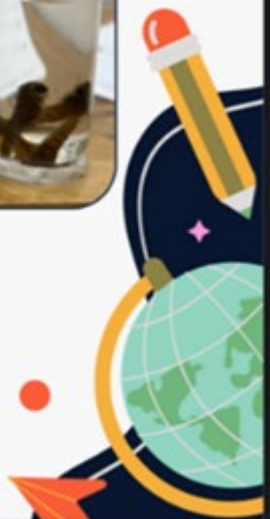
qe'ciyew'yew'
Anthony Capetillo

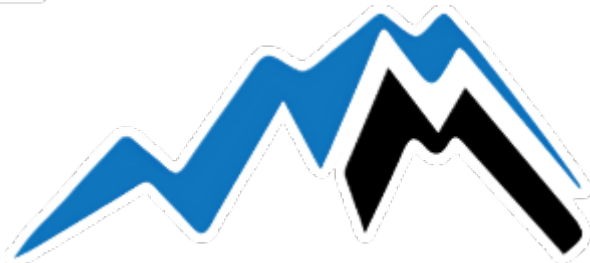
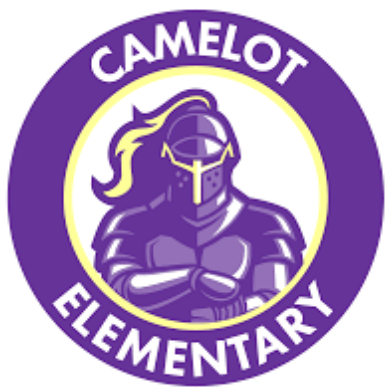
Lapwai Elementary 1st Grade Classes are researching salmon. A Wildcat thank you to Anthony Capetillo of Nez Perce Tribal Fisheries for sharing with our student scientists.



Thank you Mrs. Rabaiotti
for sharing pictures!

Nez Perce Cultural Principle:
Community Orientation





School Visits: Grades

1st-12th

- Stream Observations
- Fish Dissections
- Career Fairs
- STEM Fairs
- Steelhead/Salmon in the Classroom
- AIS Outreach Presentations
- Cultural Classroom Presentations



Tribal & State



WASHINGTON STATE UNIVERSITY
EXTENSION



University of Idaho
Extension





WORKING DOGS
for CONSERVATION

WASHINGTON STATE
RECREATION AND CONSERVATION OFFICE

Washington Invasive
Species Council



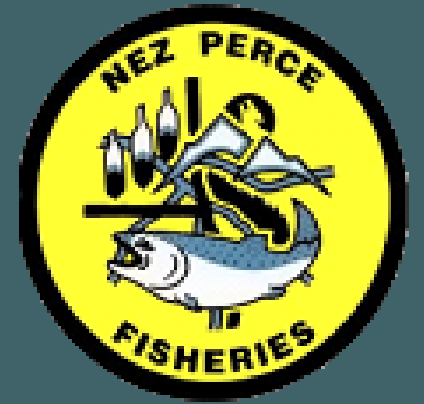
Other Local, Federal,
& State

Thank You!!!



Accomplishments Through Collaborative Effort

Bonneville
POWER ADMINISTRATION



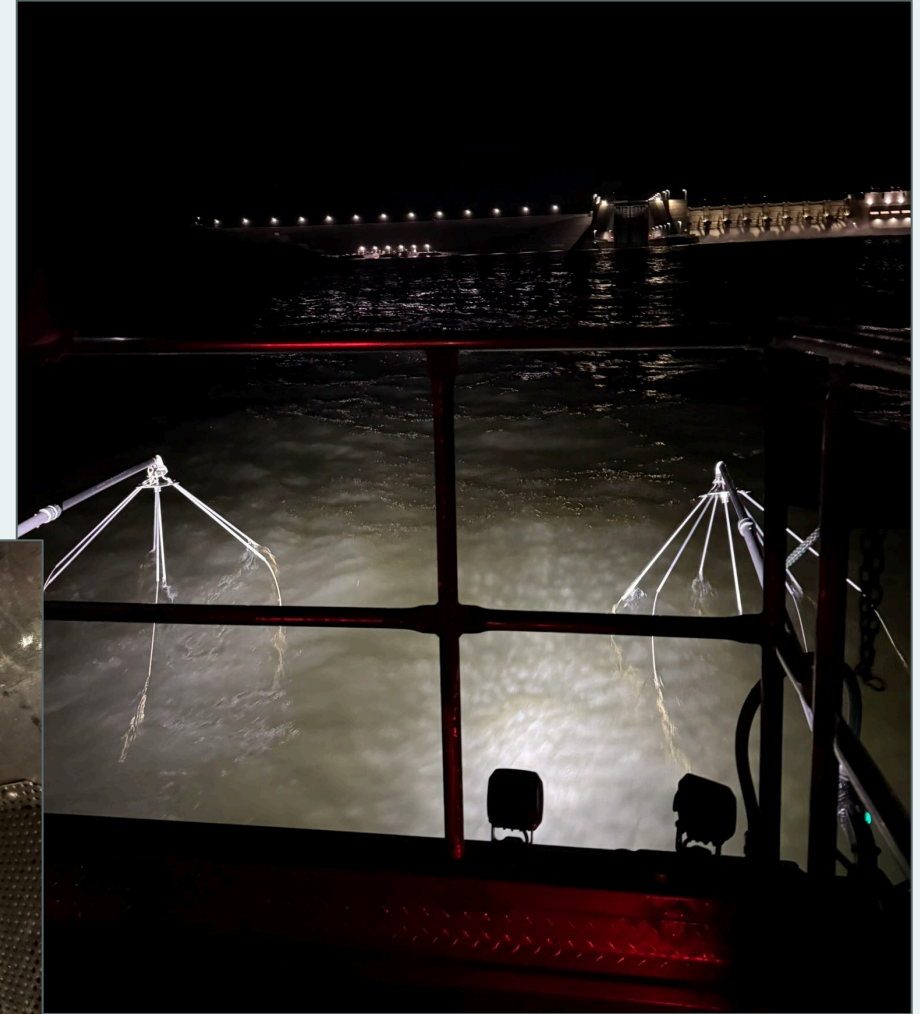
Policy Statement

Idaho, Oregon and Washington (three States) consider walleye in the Snake River reach between Lower Granite Dam and Hells Canyon Dam as an incompatible species with native salmonids. The presence of walleye within this reach compromises salmon and steelhead recovery. In response, the three States plan research and management actions aimed at reducing the walleye population. To help support these efforts, we encourage anglers to harvest the walleye they encounter.



Electrofishing and Tagging Effort

1. Examine broader movement of walleye through PIT tags
2. Examine catch and harvest through angler reporting



Number of Walleye Found

Method	LGR (tagging)	LGS (tagging)	LGR (index)	LGS (index)	Total
Tagged (Floy and PIT)	66	61	2	13	142
Tagged (PIT only)	0	58	0	0	58
Double tagged (Floy)	11	9	0	0	20
Fin sample	66	119	2	13	200
Dorsal spine removal	0	204	0	0	204
Length only	0	44	0	0	44
Escaped or undersized	6	1,231	0	43	1,280
Total	72	1,598	2	56	1,728

Having the Hard Discussions

1. Can changes be made to the Columbia basin predation program?
2. What kind of management tools should we use?
 1. Regulations
 2. Suppression
 3. Incentive

Moving Forward From Here

1. Strategic Plan for the Lower Snake River basin
2. Continued collaboration among fish managers
3. Funding and policy support is needed
4. Involve the public



Thank You!