StreamNet

Steering Committee Meeting
October 2-3, 2025

208 Badgely Hall
Eastern Oregon University
1 University Blvd
La Grande OR 97850

Microsoft Teams Need help?
Join the meeting now
Meeting ID: 241 968 735 287
Passcode: ok3LN6uR

Dial in by phone
+1 207-387-0436,,159626651# United States, Portland
Find a local number
Phone conference ID: 159 626 651#

Pacific States Marine
ALASKA · CALIFORNIA · HAWAII
IDAHO · OREGON · WASHINGTON
Fisheries Commission

Welcome!

In the interest of fostering an open and welcoming environment, StreamNet commits to making participation in our activities a positive and valuable experience to all:

Be Respectful   **Be Accountable**   **Communicate Effectively**   **Value Differences**   **Collaborate**
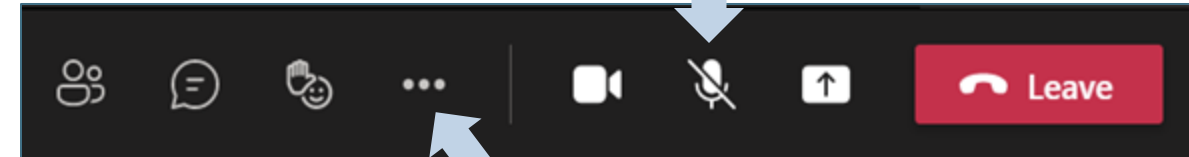
Welcome and Introductions

Please use the chat to introduce yourself (name and affiliation)

Please leave web cameras on to facilitate discussion
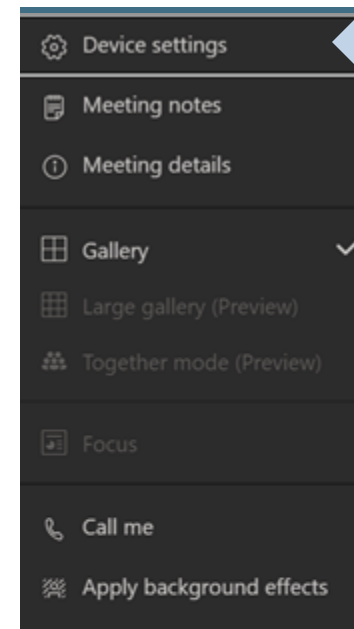
Please mute yourself when not speaking.
Use *6 to mute phone audio.
Use the microphone icon on the control bar to mute computer audio.

Check device settings
if you are having problems with audio/video

Agenda
(times are approximate, PACIFIC TIME ZONE)

TIME (Approximate)	AGENDA ITEM — DAY 1 October 2, 2025
9:00 am **PACIFIC TIME ZONE** (10:00 am MST)	Welcome and introductions (Meg Dethloff and Nancy Leonard) - Room and MS Teams - PNAMP is now part of PSMFC
9:15	Spotlight: ODFW's LSRCP Hatchery Assessment and Development Data Exchange – Progress to Date (Brittany Beebe and Kasey Bliesner, ODFW)
10:00	Spotlight: RShiny tools for Data Management, Sharing and Display in ODFW's LSRCP Hatchery Assessment and Development Project (Joe Dittmer, ODFW)
10:20	**Break**
10:35	CAP Strategic Plan Feedback (Nancy and Mari WIlliams)
11:20	Monitoring Resources Update (Sam Cimino and Mari)
11:30	**Lunch**
1:00 pm	Welcome back (Nancy)
1:10	QA/QC Tool Launch 2025 summary (Greg Wilke)
1:20	QA/QC discussion
1:40	Progress Update from StreamNet Tech Team (Sam)
2:10	**Break**
2:25	StreamNet Member Updates
4:00 pm	**Adjourn**

TIME (Approximate)	AGENDA ITEM — DAY 2 October 3, 2025
9:00 AM **PACIFIC TIME ZONE** (10:00 AM MST)	Welcome (Meg/Nancy)
9:15	Spotlight: E-Creel Methods for Estimating Steelhead Harvest in the Grande Ronde Basin (Mike Greiner and Kasey Bliesner, ODFW)
10:00	HCAX Tabular Query Development (Jason Edwards)
10:30 am	**Break**
10:45	GIS Update (Van Hare)
11:15	PNAMP Fish Monitoring Work Group Updates (Meg)
11:25	Rotary Screw Trap Dashboard (Sam)
11:40	Fish and Wildlife Program: Focal Species Draft Polygon Maps (Nancy)
12:00	2026 Conferences (Mari)
12:15 pm	**Adjourn**

Pacific States Marine Fisheries Commission

pacific northwest aquatic monitoring partnership

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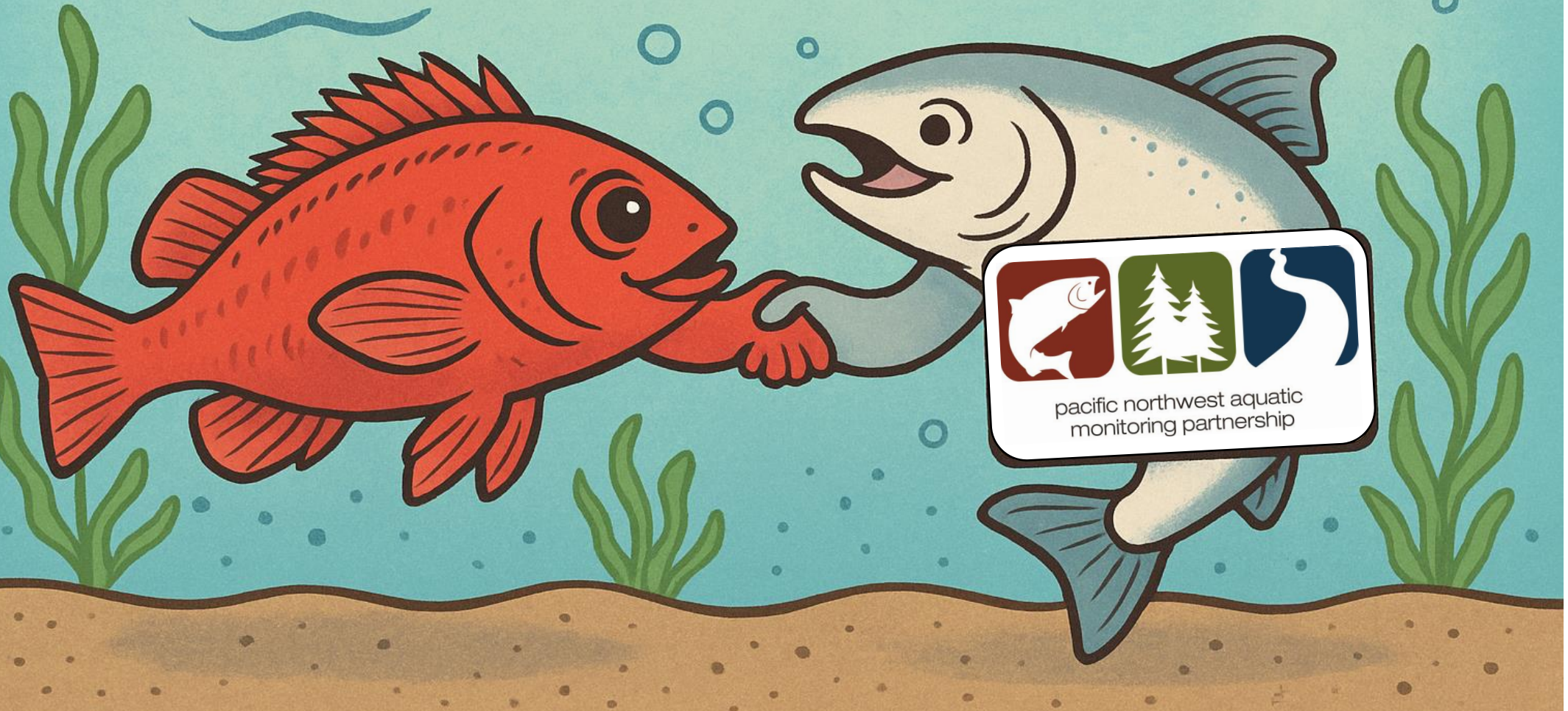
Review of Current Memberships

[StreamNet Steering Committee - StreamNet](#)

[SN Tech Team](#) / [SN DDT](#)

Natural [CA DDT](#)

Hatchery CA DDT (web list in development)

Name and Affiliation	SN SC Role	SN TT	SN DDT	NCA DDT	HCA DDT	CAP Core Team
Nancy Leonard (PSMFC)	Chair			Observer		Member
Angie Schmidt (IDFG)	Member					
Brady Allen (BPA)	Member					
Brodie Cox (WDFW)	Member			Member		Member
Dawn Anderson (MFWP)	Member	Yes	Yes			
Evan Brown (IDFG)	Member	Yes	Yes	Observer	member	Member
George Batten (CCT Consultant)	Member	Yes	Yes	Member	member	
Jon Bowers (ODFW)	Member					Member
Katie Barnas (NOAA NWFSC)	Member			Member		Member
Kris Homel (NPCC)	Member					
Lara Erikson (PSMFC)	Member					
Mari Williams (PSMFC)	Member	Yes	Yes	Member		Member
Russell Scranton (BPA)	Member			Member		Member
Sheryn Olson (CRITFC)	Member			Email	Email	Member
Tami Wilkerson (CRITFC)	Member	Yes				
Todd Gilmore (FWS)	Member	Yes	Yes		member	
Bekki Waskovich (IDFG)	Observer	Yes	Yes	member	member	
Chris Harrington (IDFG)	Observer	Yes	Yes			
Jacob Chambers (ODFW)	Observer	Yes	Yes	Member	member	
Kasey Bliesner (ODFW)	Observer	Yes	Yes	Member	Observer	
Kurt Tardy (SBTRIBES)	Observer	Yes				
Leslie Sikora (WDFW)	Observer	Yes	Yes			
Michelle Groesbeck (WDFW)	Observer	Yes	Yes	Observer		

Hatchery Assessment Program: EPA Exchange Network Grant Update and Integration with the Fish Inventory System (FINS)

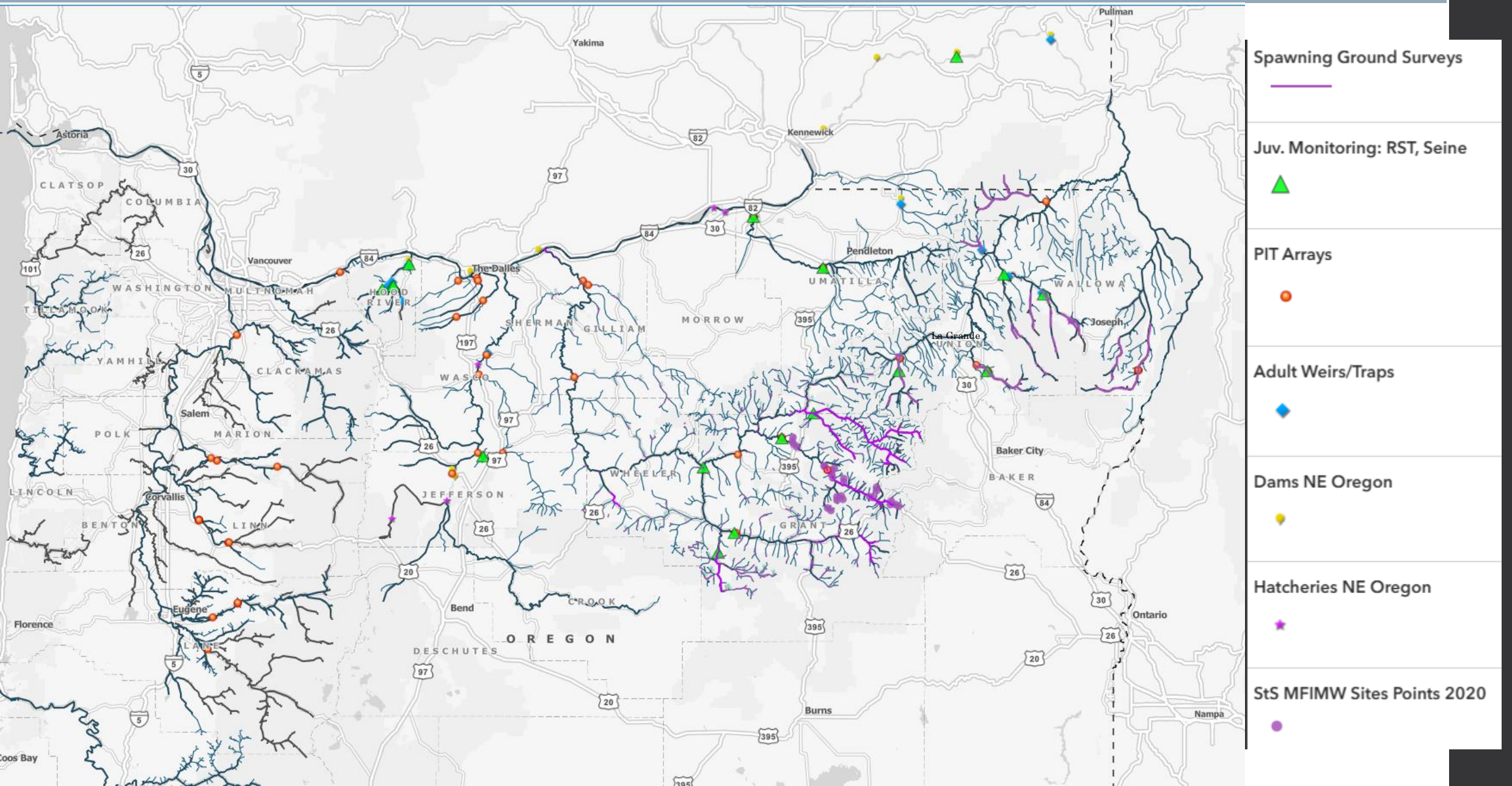Oregon Department of Fish and Wildlife
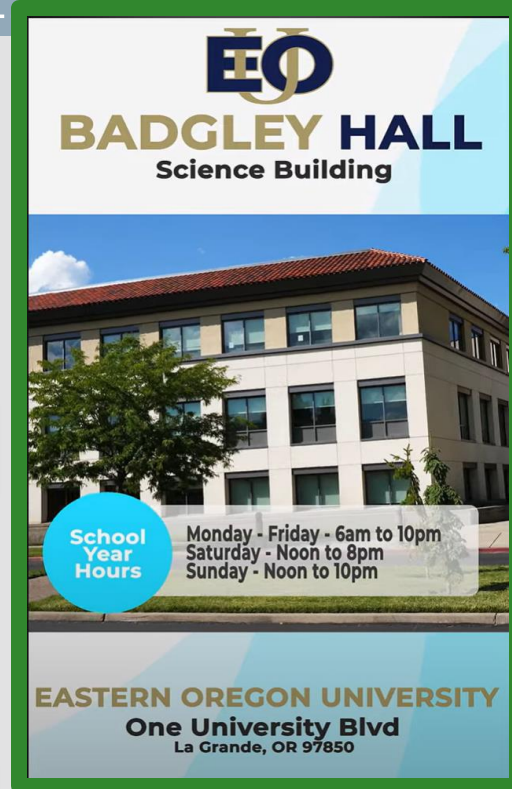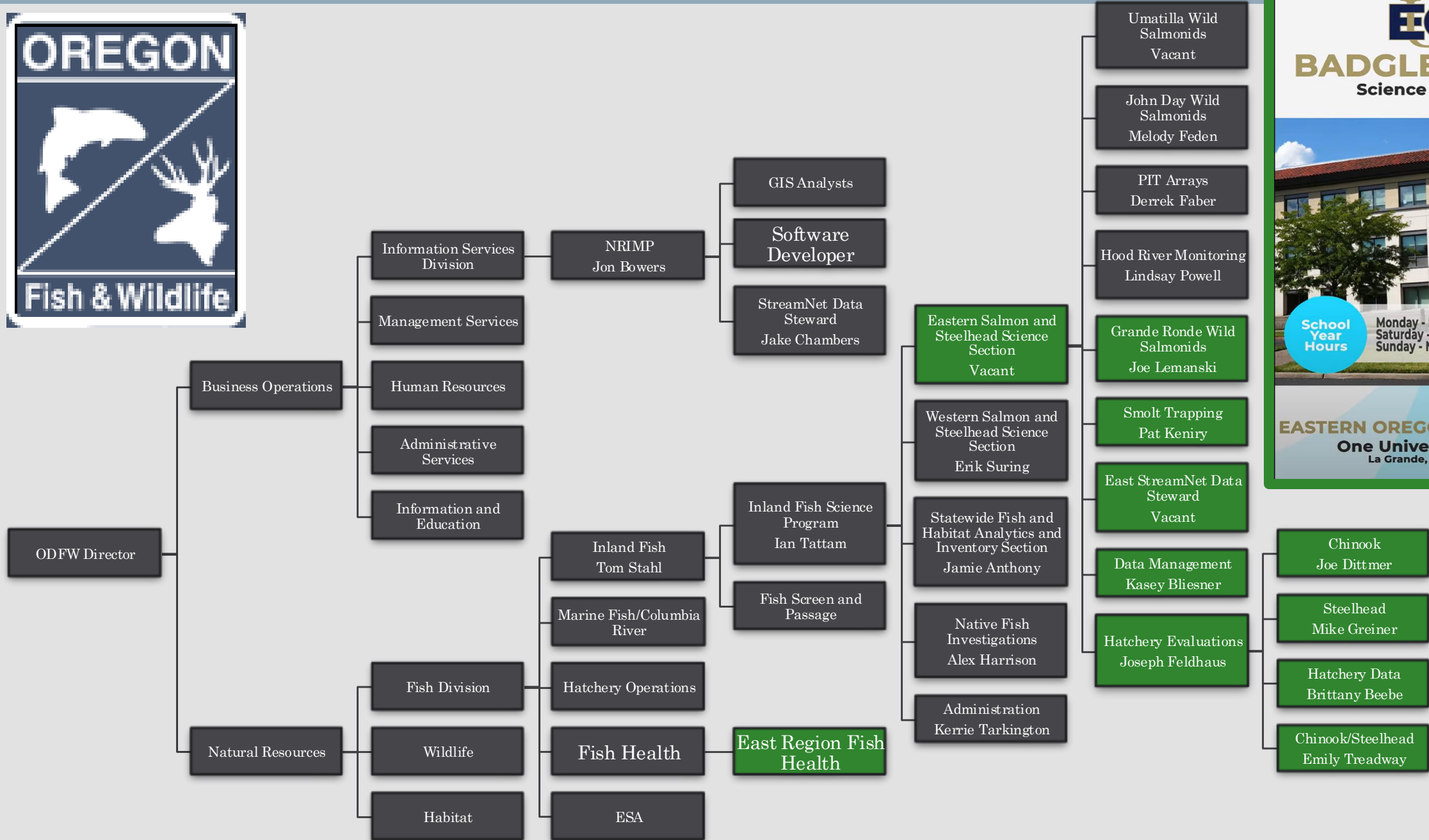
Brittany Beebe

Joseph Feldhaus

Kasey Bliesner

Eastern Salmon and Steelhead Science Section

Lower Snake River Compensation Plan – ODFW Hatchery Assessment and Development Program

- Program started in in ODFW in1986 with Rich Carmichael

- Current project lead: Joseph Feldhaus

- Chinook and Steelhead Hatchery monitoring and evaluation

- Funding through Lower Snake River Compensation Plan

Objectives include:

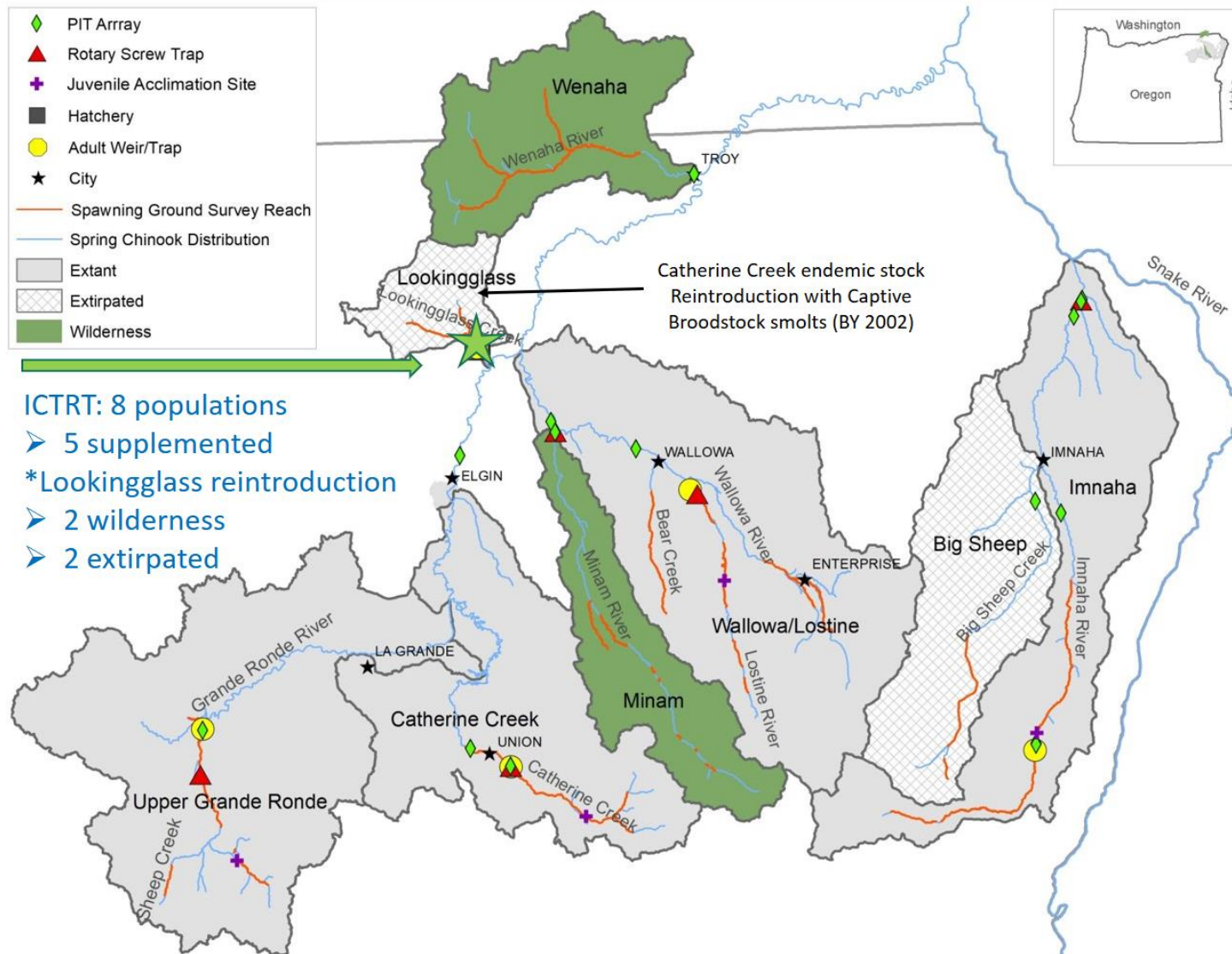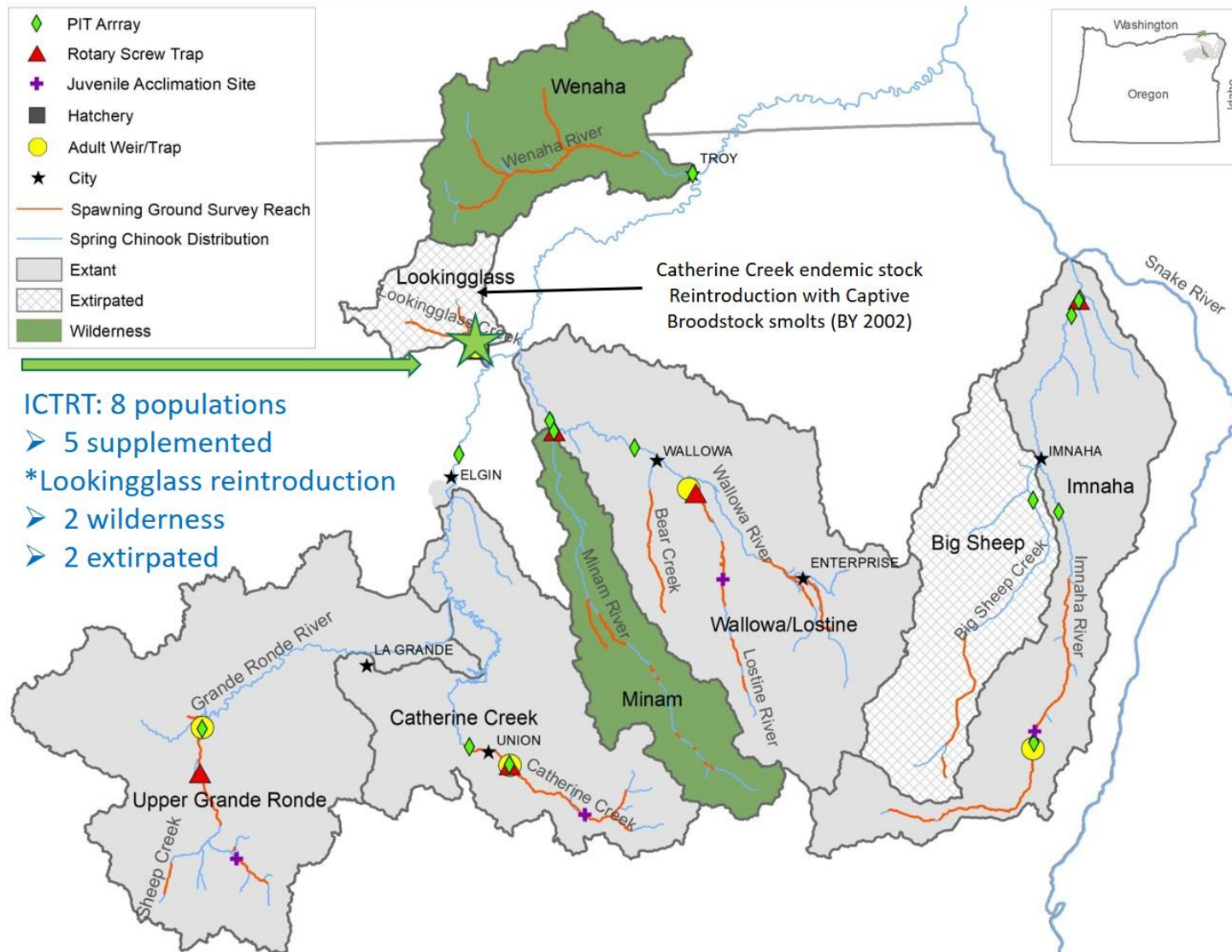|								
Document and assess fish culture and hatchery operation practices and performance.	Determine optimum rearing and release strategies	Determine total catch and escapement, smolt survival, smolt-to-adult survival, and assess if adult production meets mitigation goals	Compare recruits-per-spawner (R/S) for hatchery and natural origin fish	Assess response in natural population abundance and productivity (adult R/S, smolts-per-spawner) to supplementation	Assess and compare life history characteristics (age structure, run timing, sex ratio, smolt migration, fecundity) of hatchery and natural fish.	Determine the success of maintaining genetic integrity of endemic wild spring Chinook Salmon in the Minam and Wenaha rivers.	Assess success in restoring fisheries.	Coordinate project activities and disseminate results

https://nrimp.dfw.state.or.us/DataClearinghouse/default.aspx?p=202&XMLname=42799.xml
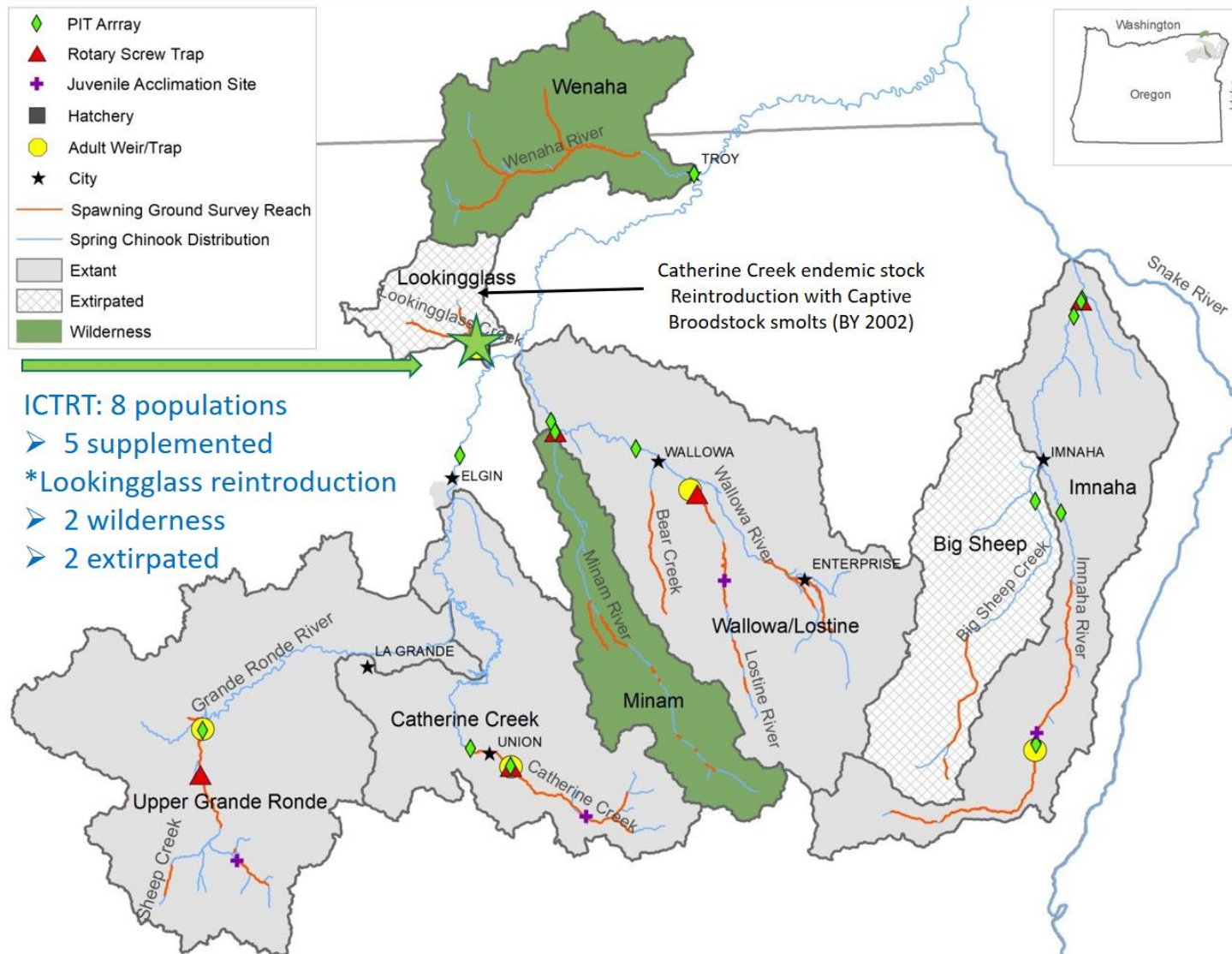
Hatchery Assessments Chinook Co-management

Legend:
- ◆ PIT Array
- ▲ Rotary Screw Trap
- ✚ Juvenile Acclimation Site
- ■ Hatchery
- ⬤ Adult Weir/Trap
- ★ City
- — Spawning Ground Survey Reach
- — Spring Chinook Distribution
- ▦ Extant
- ▨ Extirpated
- ▨ Wilderness

Catherine Creek endemic stock Reintroduction with Captive Broodstock smolts (BY 2002)

ICTRT: 8 populations
➤ 5 supplemented
*Lookingglass reintroduction
➤ 2 wilderness
➤ 2 extirpated

Science Section

Hatchery Operations

Fish Health

Hatchery Assessments Chinook Funding Sources

ICTRT: 8 populations
➢ 5 supplemented
*Lookingglass reintroduction
➢ 2 wilderness
➢ 2 extirpated

Lower Snake River Compensation Plan – Lookingglass Fish Hatchery

Key takeaways:
- ➢ All adult spawning and juvenile rearing at Lookingglass for **5 conventional** hatchery programs
  - All the eggs are in one hatchery

AD clips and CWTs
- ➢ 4 of 5 stocks **100% Ad clipped**
  - ✓ % CWT for these stocks ranges from **50-67%**
- ➢ **100% CWT (50% Ad clipped)**
  - ✓ Upper Grande Ronde

All stocks = PIT Tags for juvenile survival
- ✓ Imnaha and Catherine Creek = CSS (21,000 PIT tags)

Lookingglass Cr (ODFW, CTUIR, NPT)
- ✓ Adult trapping (2 traps):
- ✓ 250,000 smolts released directly LFH (rkm 3.7)
- 100% AD clipped ~48% CWT
- 5,000 PIT tags from LSRCP

Catherine Creek (ODFW, CTUIR)
- ✓ Adult trapping (rkm 32)
- ✓ One acclimated release
- 100% AD clipped ~67% CWT
- 21,000 PIT tags from CSS

Lookingglass Fish Hatchery (LFH)
- LSRCP mitigation hatchery
- Adult spawning & juvenile rearing
- ODFW, NPT, CTUIR, USFWS/BPA

Imnaha River (ODFW, NPT)
- ✓ Adult trapping (rkm 85)
- ✓ Acclimated & direct releases
- 100% AD clipped ~ 50% CWT
- 21,000 PIT tags from CSS

Upper Grande Ronde (ODFW, CTUIR)
- ✓ Adult trapping (rkm 307)
- ✓ Two smolt acclimation periods
- ✓ 100% CWT; 50% AD clipped
- 2,000 PIT tags from LSRCP

Captive Broodstock/Safety Net (discontinued)
Last smolt releases occurred
- BY 2011 into Catherine Creek
- BY 2011 into the Lostine River
- BY 2013 into the Upper Grande Ronde River

Lostine River (ODFW, NPT)
- ✓ Adult trapping (rkm 1)
- ✓ Two smolt acclimation periods
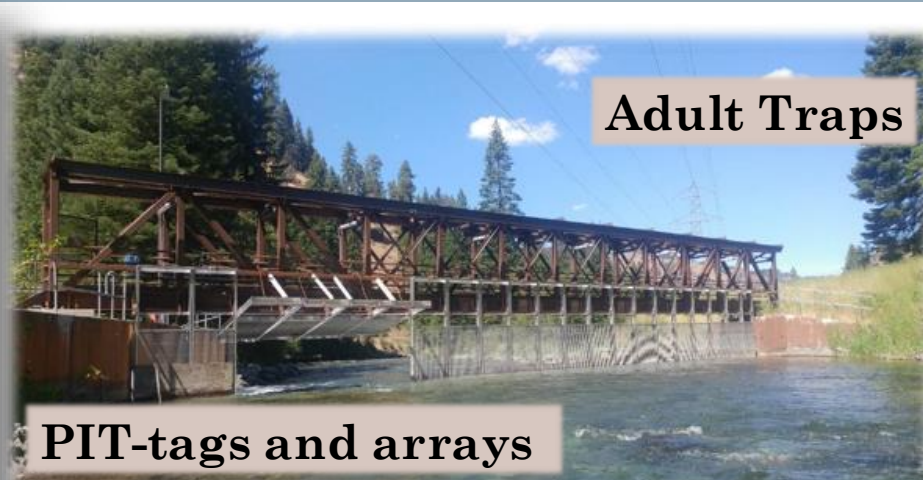- 100% AD clipped & ~ 50% CWT
- 6,000 PIT tags from LSRCP

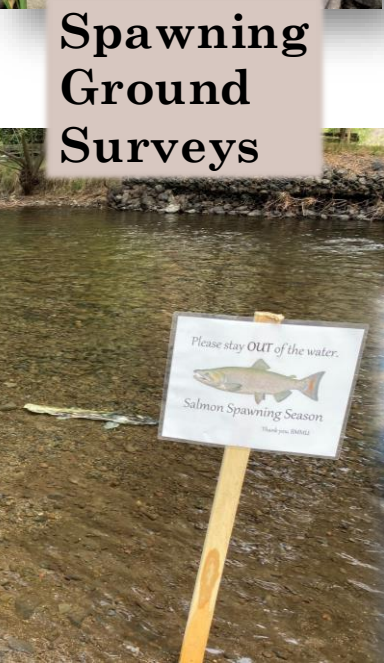# Hatchery Assessment = Multiple Data Collection Events
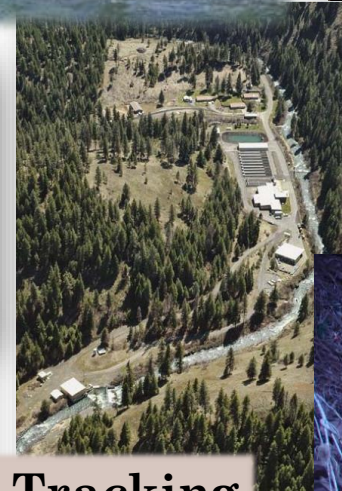

Coded Wire Tags

Adult Traps

Spawning Ground Surveys

Scales and Aging

PIT-tags and arrays

Hatchery Spawning

Juvenile releases

Juvenile sampling

PBT Tracking

Genetics

Creel Surveys

Multiple Data Reporting Requirements

Coded Wire Tags

Adult Traps

PIT-tags and arrays

Spawning Ground Surveys

Scales and Aging

Hatchery Spawning

Juvenile releases

Juvenile sampling

PBT Tracking

Genetics

Welcome to Hatchery Management

Fish Liberations — Search / Create

Search By Egg Group
Create New Egg Group
Search Egg & Fry Records

Search By Transaction Group
Create Transaction Group
Search Transactions

Monthly Ponded — Search / Create

Universal Search

HATCHERY AND GENETIC MANAGEMENT PLAN
(HGMP)

LOWER SNAKE RIVER COMPENSATION PLAN:
Oregon Spring Chinook Salmon Evaluation Studies
2021 Annual Progress Report

Hatchery Program: Lookingglass Creek Spring Chinook Program
Species or Hatchery Stock: Spring Chinook (Stock # 81)
Agency/Operator: Oregon Department of Fish and Wildlife
Watershed and Region: Grande Ronde / Snake River / Columbia Basin / Oregon
Date Submitted: March 2010
Date Last Updated: September 2011

Oregon Department of Fish and Wildlife
Northeast-Central Oregon Research and Monitoring

StreamNet
Fish Data for the Northwest

CAP Fish HLIs (CAX) Query

Welcome to FINSNet.org

State of OREGON
Fish & Wildlife

NEZ PERCE TRIBE
TREATY OF 1855

LOWER SNAKE RIVER
COMPENSATION PLAN
Hatchery Program

BONNEVILLE
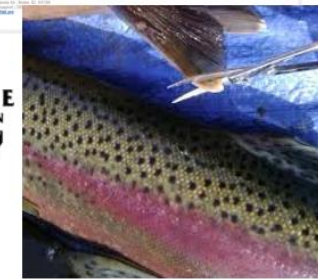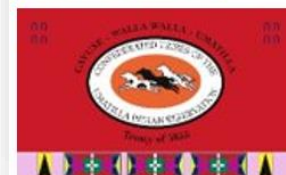POWER ADMINISTRATION

Data Management pinch points

Flat funding

More and varied data reporting

New technology

Field Work is Time Consuming

Co-management needs & priorities

Staff turnover

EPA Exchange Network Grant

Applied in 2023 and 2024 (success!)

Received grant in Dec. 2024

3 Years of funding - $300,000

Most of the funding is allocated for staff

EPA Exchange Network Grant: Objectives and Goals

Objective 1:

Modernize data collection and data management.

Goals:

1. Research and develop a data inventory to **identify the most important data, metrics, and indicators**
2. Develop **digital applications and processes**
3. Develop and pilot a **Standard Data Management System** for hatchery salmonid and water quality indicators.
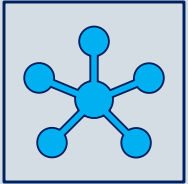
Objective 2:

Improve data access for management and decision making

Goals:

1. Create digitally standardized data summaries, crosswalk reporting metrics, streamline data sharing in reproducible and described pathways.
2. Develop connections between web services and data systems, make data available for reporting needs including:

EPA Exchange Network Grant: Progress to Date

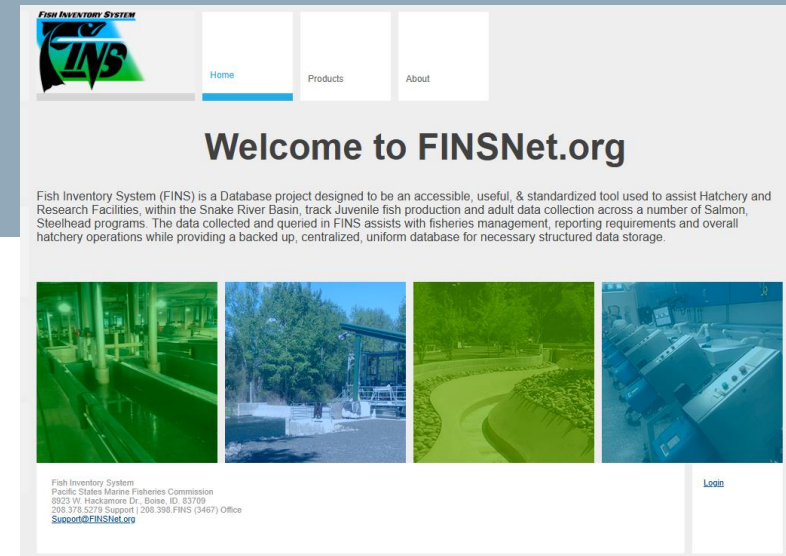## HCAX data organization and pilot

- Nadine and Megan

Hired assistant project lead – Brittany Beebe

- Quality Assurance Plan Completed for EPA
- CWT reports
- Chinook spawning at Lookingglass Hatchery
- Data management solutions –
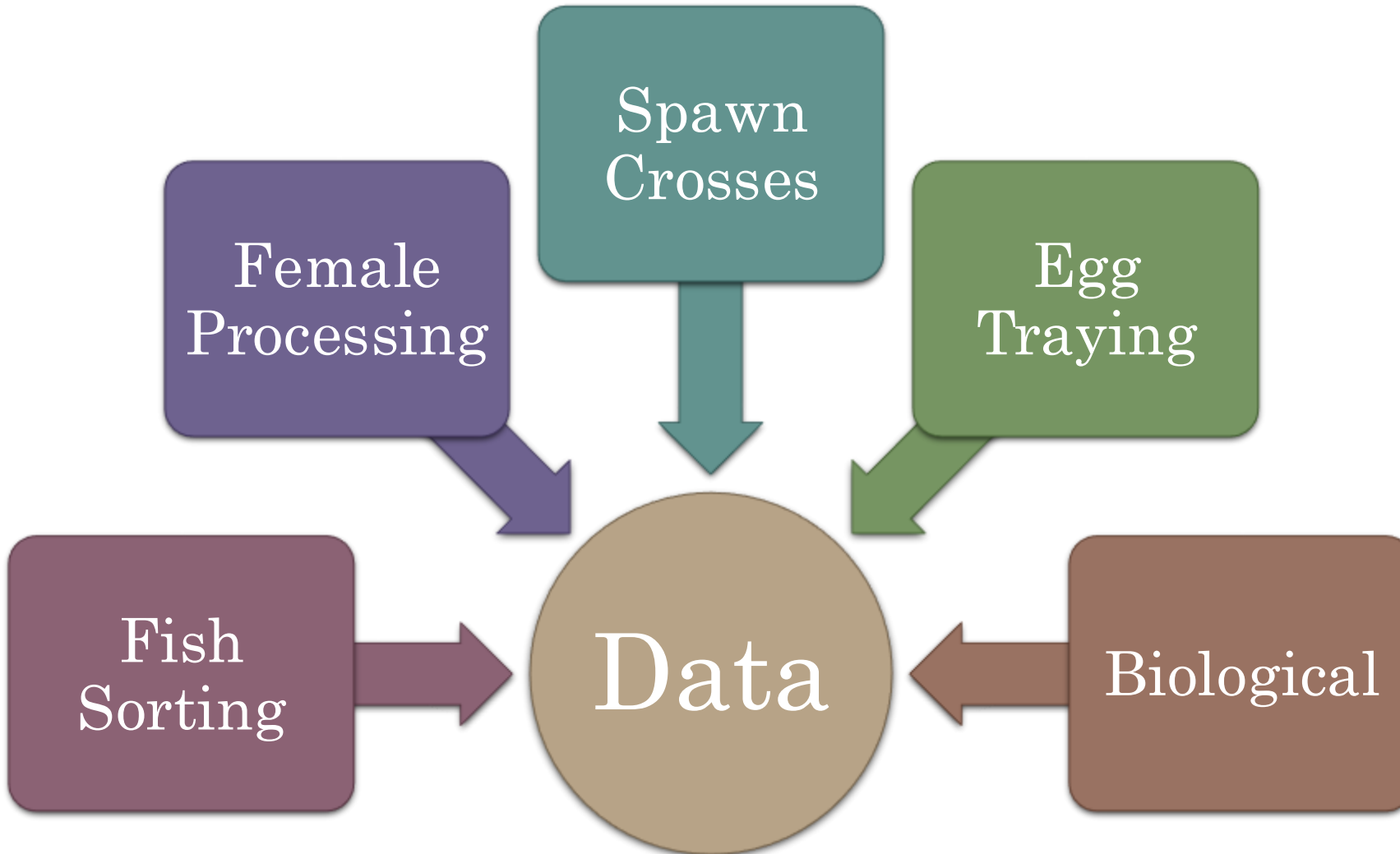 - Can we use FINS as part of the solution?

FINS:
Fish Inventory System

Welcome to FINSNet.org

- **What is FINS?**
  - Collaborative hatchery database
  - Organized as a set of modules
  - Managed by Pacific States Marine Fisheries Commission (PSMFC)

- **Purpose:**
  - Serve as a central, standardized database across salmon and steelhead programs within the Snake River Basin

- **Funding:**
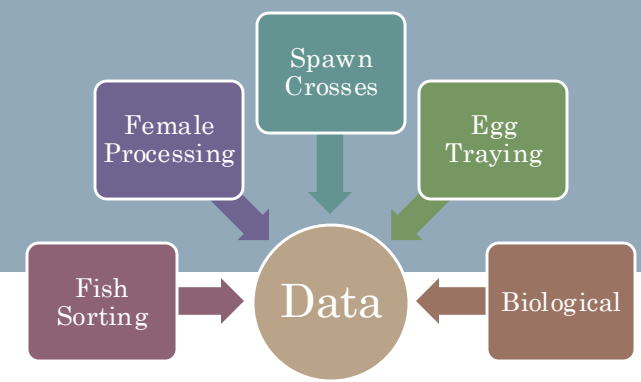 - Idaho Power, US Fish and Wildlife Service (LSRCP*), Idaho Department of Fish and Game, Nez Perce Tribe
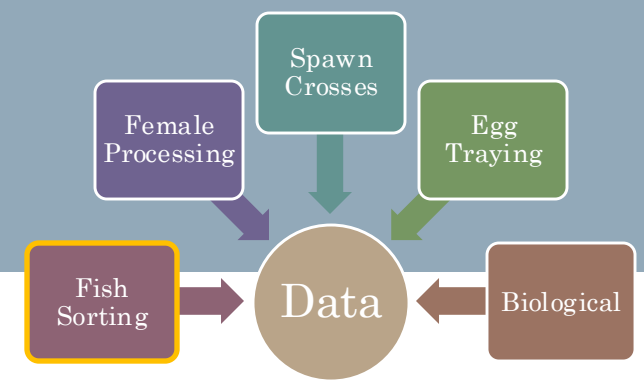
  *LSRCP also funds ODFW hatchery M&E program

Hatchery Spawning

Lookingglass

Lookingglass

Spawn Crosses

Female Processing

Egg Traying

Fish Sorting → Data ← Biological

Lookingglass

Female Processing → Data

Spawn Crosses → Data

Egg Traying → Data

Fish Sorting → Data

Biological → Data

Lookingglass

Lookingglass

Female Processing

Spawn Crosses

Egg Traying

Fish Sorting

Data

Biological
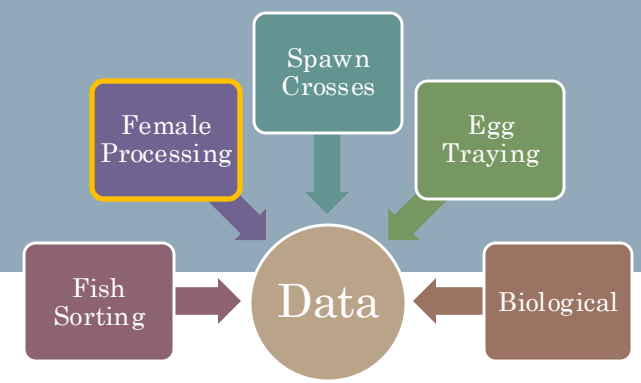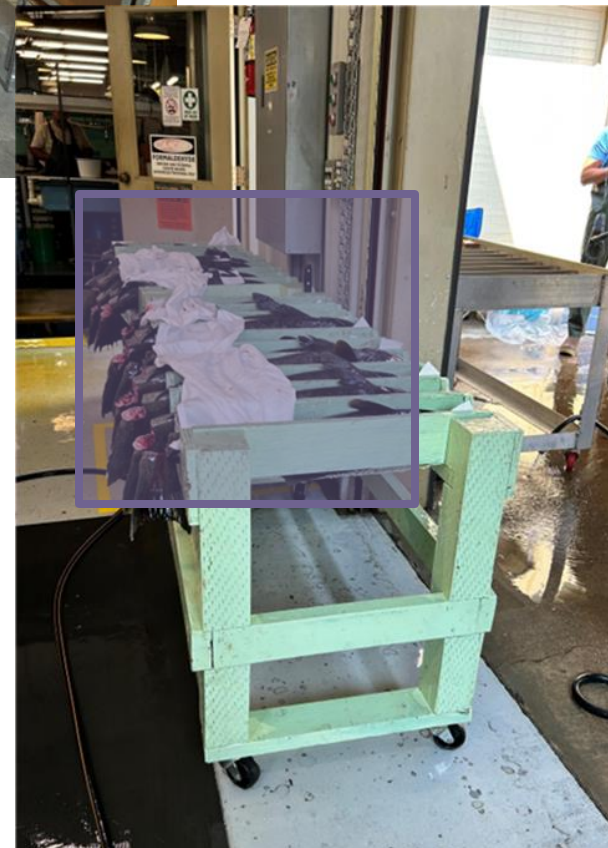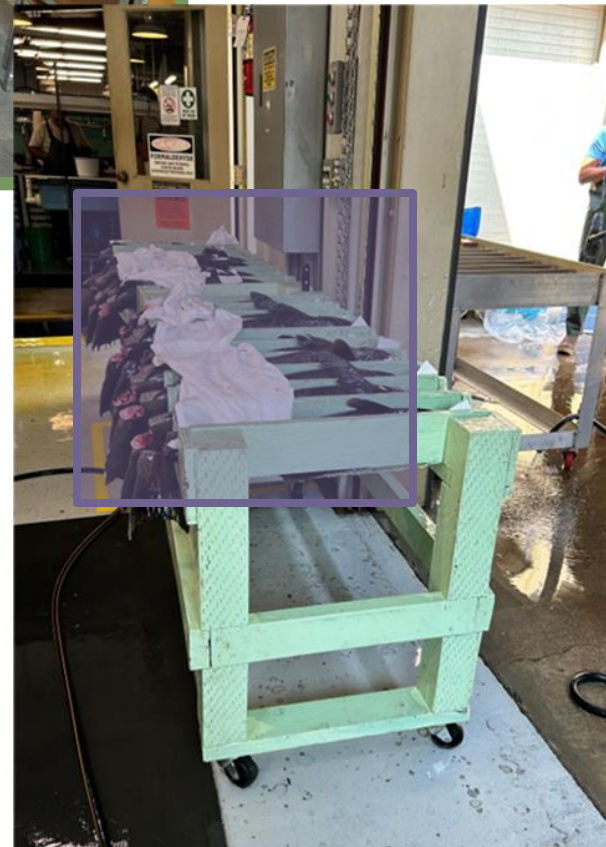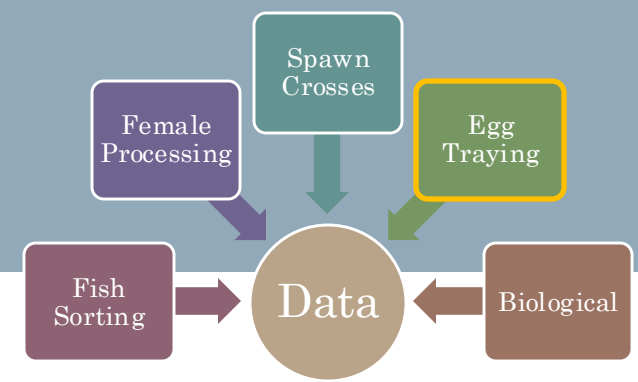
Lookingglass

Hatchery Spawning:
Fish Sorting

Hatchery Spawning:
Female Processing

Hatchery Spawning:
Egg Traying

Hatchery Spawning: Biological

Spawn Crosses
Female Processing
Egg Traying
Fish Sorting → Data ← Biological
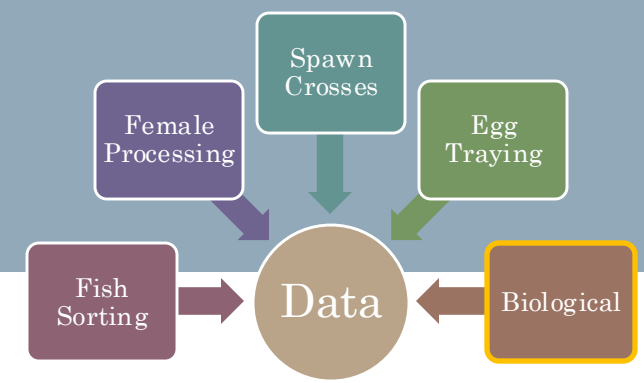
2025 Chinook Hatchery Spawning - NE Oregon

SpawnEvent

Stock *
- CATH
- IMN
- LOOH
- LOS
- UGR
- Test

Date *

Comments
comments for overall event only

Date

Spawn Records

Fish

Fin Mark *
- Ad
- None
- Unk

Fork Length

Count

Sex *
- M
- F
- Unk

M/F #

Extra Eggs

CWT present? *
LS & LPS = Unk
- Y
- N
- Unk

EggMass
consider these in 1/4 cup increments
- none
- small
- med
- large
- huge

Spawning Data
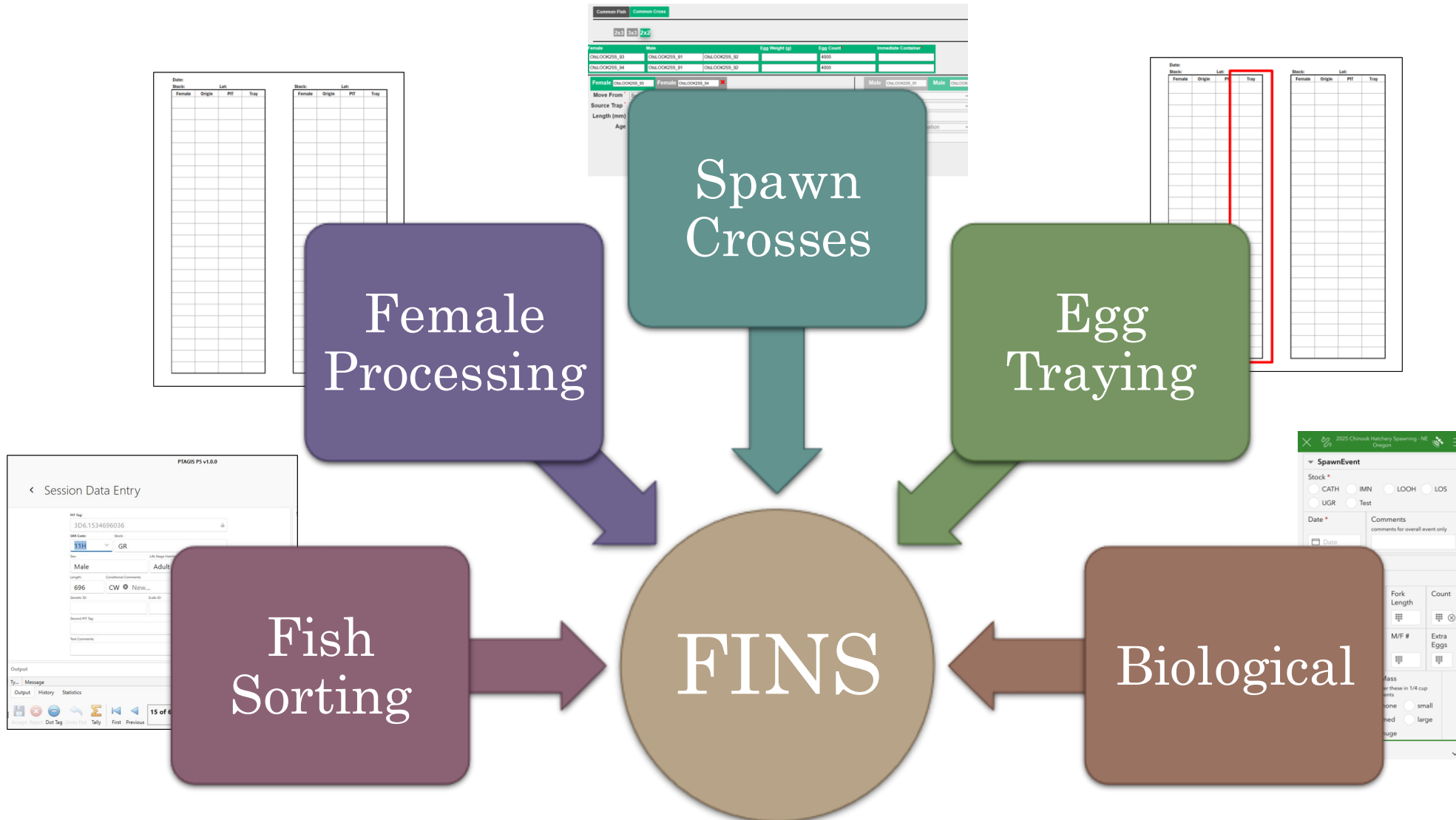
Challenges and Constraints

Spawning methods and procedures
- Differ from other hatcheries. Can't easily translate methods used by others
- Differ between stocks at Lookingglass (Grande Ronde stock)

Co-management
- Differing buy-in among co-managers (missing trapping data)
- Undefined roles, responsibilities, and timelines

Time commitment
- Do what has been working vs spend time learning new methods/software (FINS training)
- HMS and FINS entry – duplicated effort

FINS
- Inability to adjust mistakes made in real-time
- PIT values and genetic IDs
- FINS offline: worried about losing internet

Successes

Understand the challenges & constraints

- What is/isn't going to work moving forward
- Where we need to focus more attention

Improved communication

- Central person to move between stations; missing link connecting stations
- Generated interest in co-managers

Data mistakes avoided

- Egg traying
- Stock identification
- Mis-numbering males/females

Spawning data entered in real-time

- First time spawning data has been entered into FINS in real-time!
- Proof of concept
- Immediate access to data in FINS (API)

FINS RESTful API

- Using GitHub to download data
  - Automatic daily downloads
  - Removes log in barrier
  - Consistent query – all data for our FINS facilities

- Current use examples
  - PTAGIS P5 files used during fish sorting
  - Real-time broodstock collection goal tracking in R Shiny App

- Future use examples
  - Expand R Shiny App to include trap data from partners
  - Create weekly summaries to track spawning progress, perhaps using R Shiny

EPA Exchange Network Grant: Next Steps

- Document Chinook spawning data collection and QAQC FINS data

- Determine data pathway
  - Survey123, FINS, PTAGIS, paper
  - HLI repositories (HMS, HCAX, etc.)

- Crosswalk HLI's

- Can we use FINS summaries to calculate/report…
  - HCAX HLI's?
  - HMS metrics?

- FINS opportunities for enhancement/collaboration
  - Use unique IDs to update genetic and other bio data
  - FINS data pathways – co-managed data and facilities

- Steelhead group spawning
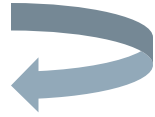
Questions?

RShiny tools for Data Management, Sharing and Display in ODFW's LSRCP Hatchery Assessment and Development Project

Joe Dittmer and Joseph Feldhaus

LSRCP Chinook Monitoring & Evaluation

Oregon Department of Fish and Wildlife

A year in Chinook monitoring

- ## PIT Tags
  - November – Upcoming run year pre-season return to river estimates
  - April - September – Monitor returning fish with PIT tags
- ## FINS
  - May - September – Hatchery staff operate weirs
- ## Survey123
  - August - March – Spawning Ground Surveys/Hatchery Spawn/Steelhead Creel

PIT Tags

- Weekley Snake Basin Coordination Call
  - Various agencies discuss returns by basin/stock
  - In-season adjustments to pre-season estimates
    - Relevant for weir management and fisheries

- Shiny Apps
  - Automated via scripts
  - Downloads and manipulates data via API
  - Runs automatically when app is opened
  - Easy data viewing for managers

MainstemRunTrackR

- Shiny App for Mainstem PIT detections
  - Pre-season estimates
  - PIT expansions
  - Historical data
  - PBT vs PIT estimates
  - And much more.....

NE Oregon Mainstem RunTrackR
    Source Data
    Travel Time Data

TributaryRunTrackR

- Shiny App for Tributary PIT detections
  - Tracks fish after they leave the Snake River
  - Timer Tag Report

NE Oregon Tributary RunTrackR

Filtered Source Data

FINS

- Hatchery staff operate weirs for returning Chinook
  - Sliding Scales
    - Pass Above/Below Weir
    - Broodstock
    - Outplant
    - Tribal Distribution
    - More……
- Data into FINS = Automation of daily management decisions

WeirTrackR

- Shiny App for Weir Management and Planning
  - Guides hatchery staff
    - Broodstock
    - Pass Above/Below Weir
  - Easy data viewing for managers to see/use
    - No login or query skills needed*
- Pulls FINS data daily from API via GitHub action
  - WeirTrackR
  - Trap Data

Survey123

- Spawning Ground Surveys
  - Single survey form used by 8+ agencies with 50+ unique surveyors
  - Paper vs Electronic data collection
  - Completed annually for long term dataset
    - What was seen?
    - Was the survey submitted?
    - Who surveyed?
    - Was there more then one submission for the same section?

NE Oregon - Chinook Spawning Ground Survey Form ✎   Overview   Design   Collaborate   Analyze   Data   Settings   ⌸

8/11/25 - 10/1/25   ▼ Filter   Report   Export ▾   Open in Map Viewer   Form view ⬤   225/225

Filter ⚙ ✕

⊘ 100%   **225 / 225** (filtered/total)

Survey submission dates:

8/11/25 - 10/1/25

📅 Date	▼
is on	▼	value	▼	✕
📅 9/4/2025	▼

Add expression

Add group

🗑 | Apply and zoom to | **Apply**

+
−
⌂

Esri, TomTom, FAO, NOAA, USGS

Powered by Esri
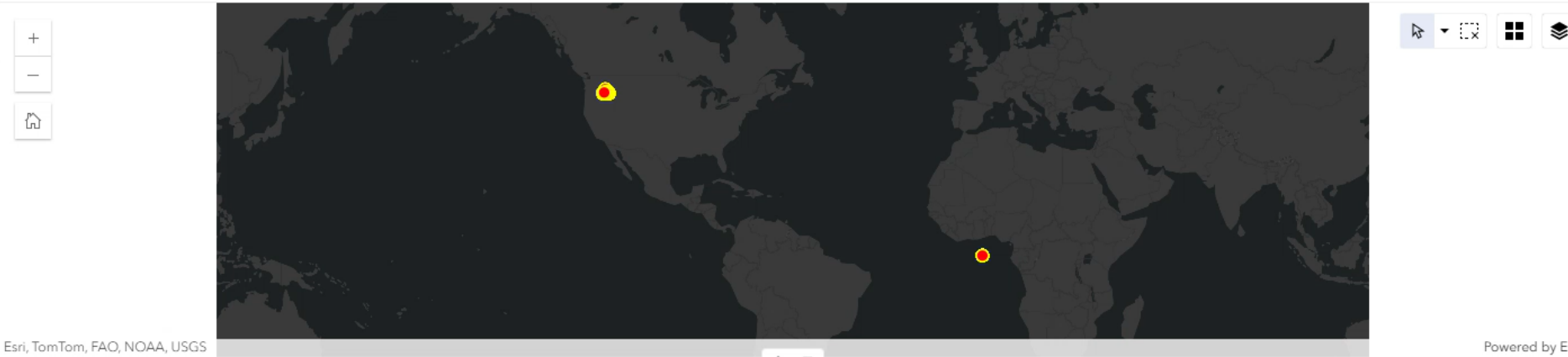
NE Oregon - Chino... ✕	New Redds ✕	Previously flagged r... ✕	Live Fish ✕	Carcasses ✕	Beaver ✕	Miscellaneous Obs... ✕
River: ⇅ ⋯	**Site ID:** ⇅ ⋯	**SiteCal** ⇅ ⋯	**Section:** ⇅ ⋯	**UGPSCal** ⋯	**Upstream Waypoint:** ⋯	**DGPSCal** ⇅ ⋯
Upper Grande Ronde	UGR3.4A	Spoolcart Campground to...	Spoolcart Campground to...	UGR3.4Ase : 45.2021848...	UGR3.4Ase : 45.2021848...	UGR3.4Bse : 45.249825	-...
Upper Grande Ronde	UGR3.2	USFS Bndry below Vey to ...	USFS Bndry below Vey to ...	UGR3.2s : 45.12358623	-...	UGR3.2s : 45.12358623	-...	UGR3.3se : 45.15896944	...
Upper Grande Ronde	UGR3.3	Time and a Half Campgro...	Time and a Half Campgro...	UGR3.3se : 45.15896944	...	UGR3.3se : 45.15896944	...	UGR3.4Ase : 45.2021848...
Upper Grande Ronde	UGR1.2	Carson Camp Br to USFS ...	Carson Camp Br to USFS ...	UGR1.2se : 45.0630266	-...	UGR1.2se : 45.0630266	-...	UGR1.2e : 45.07990359	...
Upper Grande Ronde	UGR0	Cascade to 3 Penny Claim	Cascade to 3 Penny Claim	UGR0 : 45.0473132	-118...	UGR0 : 45.0473132	-118...	UGR1.1s : 45.0484373	-1...
Upper Grande Ronde	UGR1.1	3 Penny Claim to Carson C...	3 Penny Claim to Carson C...	UGR1.1s : 45.0484373	-1...	UGR1.1s : 45.0484373	-1...	UGR1.2se : 45.0630266	-...
Upper Grande Ronde	UGR3.4A	Spoolcart Campground to...	Spoolcart Campground to...	UGR3.4Ase : 45.2021848...	UGR3.4Ase : 45.2021848...	UGR3.4Bse : 45.249825	-...
Upper Grande Ronde	UGR3.3	Time and a Half Campgro...	Time and a Half Campgro...	UGR3.3se : 45.15896944	...	UGR3.3se : 45.15896944	...	UGR3.4Ase : 45.2021848...
Upper Grande Ronde	UGR1.2	Carson Camp Br to USFS	Carson Camp Br to USFS	UGR1.2se : 45.0630266		UGR1.2e : 45.0630266		UGR1.2e : 45.07990359	...

0 of 225 selected

Note: This app shows data submitted via Survey123 for Chinook Spawning Ground Surveys in NE Oregon and may contain errors.

Planned vs Submitted Surveys

Planned Date:

2025-09-04 (Thursday) ▾

Survey Schedule vs Submissions - 2025-09-04

Status	# Submissions	Planned Date	Actual Survey Date	River	SiteID	Section	Surveyors	New Redds	Old Redds	Carcasses	Live Fish
Imnaha River											
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN3	Blue Hole to Indian Crossing	First: M Kimball C Snider James	3	0	8	24
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN4.1A	Indian Crossing to below Hidden Campground	First: B Beebe, J Feldhaus, S Vatland	6	0	4	8
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN4.1B	Below Hidden Campground to Log	First: M Kaylor, M Gravert	4	0	3	4
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN4.2A	Log to Coverdale Campground	First: M Kaylor, M gravert	2	0	2	5
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN4.2B	Coverdale Campground to Mac's Mine	First: W Sisley, D Winchel	17	0	4	27
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN5.1	Mac's Mine to Black Horse Campground	First: R Rumelhart	5	0	0	4
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN5.2	Black Horse Campground to Weir	First: Lapoint D	13	0	4	15
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN6	Weir to Crazyman Creek	First: M Greiner, J Dittmer, J Fisk	71	0	31	185
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN7.1A	Crazyman Creek to River Canyon Rd. Bridge	First: TNorman,MKoopman	22	0	4	32
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN7.1B	River Canyon Rd. Bridge to Above Garnett's	First: Jan Boyer	1	0	0	1
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN7.2A	Above Garnett's to the First Upper Imnaha Rd.Bridge (Summit Cr. Br)	First: J Boyer	2	0	0	0
✔ Submitted	1	2025-09-04	2025-09-04	Imnaha River	IMN7.2B	Summit Cr. Br (1st Imnaha River Br) to Below Garnett's	First: J Boyer	1	0	0	2
		2025-09-		Imnaha							

Contact

SpawningGroundSurveyTrackR

- Shiny App for displaying survey data
  - Downloads data from GIS Online
  - Easy data viewing for managers to see/use
    - Submission Status
    - Survey Data Sheet

SpawningGroundSurveyTrackR

Wrap Up

1. **Integrated Tools** – RShiny apps (Mainstem/TributaryRunTrackR, WeirTrackR, SpawningGroundSurveyTrackR) streamline data access and visualization
2. **Efficiency Gains** – Automation reduces manual work, enabling faster, more informed management decisions.
3. **Survey123/FINS Impact** – Unified survey form improves data quality, submission tracking, and transparency.
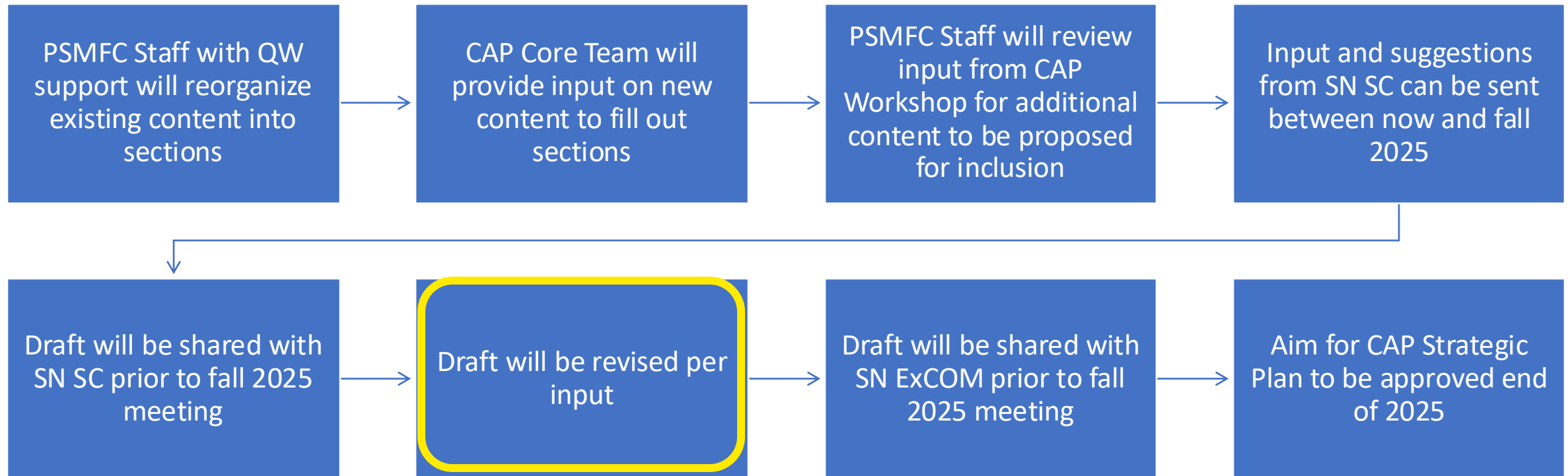
BREAK

return at 11:05

Why a new format and title for CAP 5-year Plan

- The Plan content and how it has been used is more aligned with a strategic plan

- Propose reorganizing existing content to align with Strategic Plan elements

Approach for CAP Strategic Plan

CAP Strategic Plan

2. Goals, Objectives, and Strategies

▸ 2.1.   **Maintain, Update, and Automate Existing Data Flows**

▸ 2.2.   **Maintain and Refine Existing Data Exchange Standards**

▸ 2.3.   **Interoperability with Other Data Systems**

▸ 2.4.   **Promote Sustainable Knowledge Sharing**

▸ 2.5.   **Develop Strategic Guidance for Data Preservation and Visibility Protocols**

▸ 2.6.   **Strengthen Tribal Engagement to Facilitate Equitable Participation in Regional Data Initiativ**

▸ 2.7.   **Facilitate Effective Coordination and Communication Among Interested Parties**

▸ 2.8.   **Secure Endorsement from the StreamNet Executive Committee for Any New or Significantl**

▸ 2.9.   **Responsibly Use Time and Resources**

▸ 2.10. **Promote the Coordinated Assessments Partnership**

▸ 2.11. **Evaluate Return on Investment**

▸ 2.12. **Sustainable Modernization and Maintenance of CAP Data System, DES, Queries, & Exchange Tools**

3. Milestones and Adaptive Management Communication Flow

Milestones will be used to inform reporting to 1) guidance committees, 2) annual report
StreamNet Executive Committee, 3) annual reports to BPA, and 4) semi-annual reports t
StreamNet Steering Committee and CAP DES Development Team (DDT). These groups m
a semiannual basis, more often if necessary, and provide progress and scoping
recommendations to the StreamNet committees. The PNAMP FMWG meets three times
during which task groups provide progress reports. The PNAMP staff provides progress r
during the semiannual StreamNet Steering Committee meetings and during the annual j
PNAMP Steering Committee and StreamNet ExCom meeting.

▸ 3.1.   **Strategic Alignment Achieved**

▸ 3.2.   **Data Flow Coordination Established**

▸ 3.3.   **Infrastructure and Operations Sustained**

▸ 3.4.   **Data Efficiency Enhanced**

▸ 3.5.   **CAX DES and CA System Maintained and Expanded**

▸ 3.6.   **Automated Data Exchange Operational**

▸ 3.7.   **HLIs and Metric Data Integration Supported**

▸ 3.8.   **Public Data Access Delivered**

▸ 3.9.   **Track Outreach Efforts**

StreamNet Milestone Progress for the Coordinated Assessments Strategic Plan

- 3.3 Infrastructure and Operations Sustained
  - Infrastructure: Georeferenced data, database, API
  - Status of metadata accuracy and completeness (Reference documentation)
  - Training
- 3.4 Data Efficiency Enhanced
  - Updates and modernization
- 3.6 Automated Data Exchange Operational
  - Identifying issues
- 3.7 HLIs and Metric Data Integration Supported
  - Issues populating current HLIS
  - Identify the legacy datasets to be secured (MAFAC salmon pop objectives)
- 3.8 Public Data Access Delivered
  - Accessible and discoverable data for regional needs
- 3.9 Track Outreach Efforts
  - Report on presentation, newsletter articles, and online materials

Monitoring Resources Updates

Staff:

• Mari Williams – User Support

o Reaching out to Project Sponsors to help fulfill CBFish contracting

Charter:

• Updating and reorganizing the charter

Klamath Basin:

• Adding Klamath Basin data collection events to the Monitoring Explorer Map

Explore Monitoring Sites

LUNCH   11:30-1pm

Image: Microsoft Stock
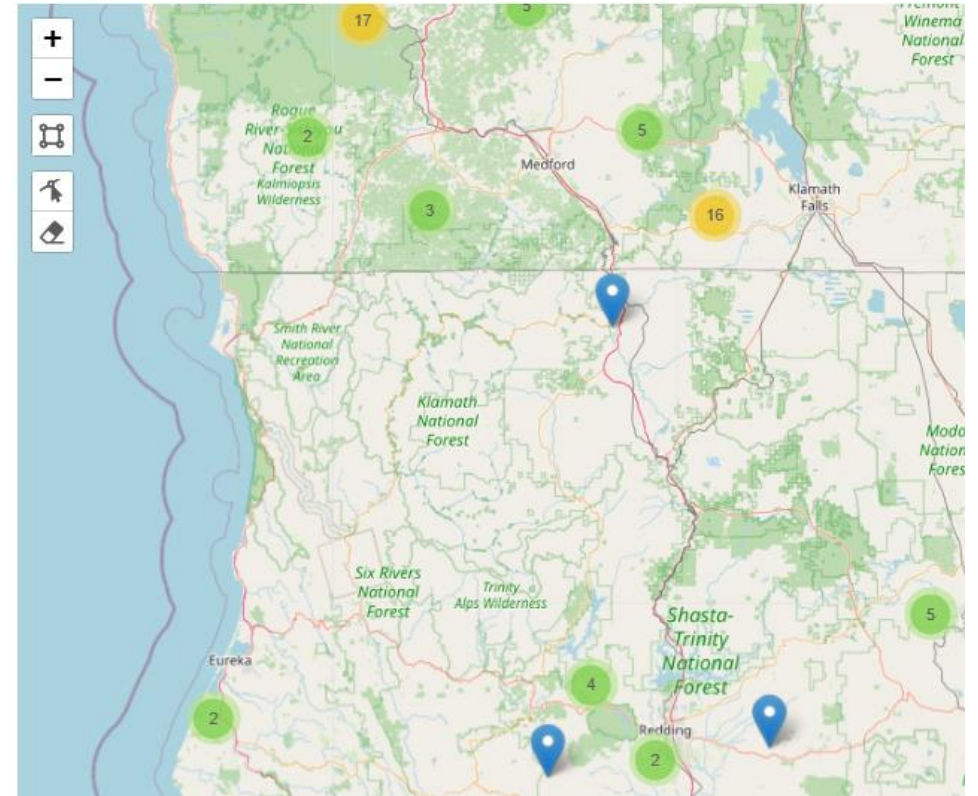
Welcome Back

2025 QA/QC Tool Summary

Greg Wilke

2025 Coordinated Assessments QA/QC

- Larger Record Set – 50 Records/Agency (CCT smaller set)

- 168 Records for Secondary Review (Tami Wilkerson, CBFW Library)

- Populations & Data Categories – expanded mix

- Target Completion – Fall 2025 & Fall Steering Committee Report

- Focus on Primary Problem Areas: URLs

Streamnet Data Records Review - x

QA/QC Discussion

- 3rd Round, 3rd Year
- ODFW, WDFW – complete
- CCT, IDFG – not complete
- 2nd Review 100% complete
- Issues:
  - Data: 0
  - Metrics: 0
  - URLs: 56
  - Display: 0

Streamnet Records Review

◀◀ Back to list | CAX Query | Tabular HLI Query

JuvenileOutmigrants
2009 Lower Umpqua River - fall Coho salmon | PopID: 161

Data Compiler Review	Independent Review

Data Compiler Review

Reviewed by: Jake
Review time (min): 3
☑ Complete

Review notes

Record Issues
☐ Data ☐ Metrics ☐ URLs ☐ Display

Independent Review

Reviewed by: Tami Wilkerson
Review time (min): 2
☑ Complete

Review notes

Record Issues
☐ Data ☐ Metrics ☐ URLs ☐ Display

Data Field	Value
age0prop	
age0proplowerlimit	
age0propupperlimit	
age1prop	
age1proplowerlimit	
age1propupperlimit	

Tech Team Updates

Membership:

- Sam Cimino is the new StreamNet Tech Team Coordinator
- We've updated the current members
  - StreamNet TT, SN DDT, and the CAP (Natural and Hatchery) DDTs
  - Vacant team chairs – looking for partners who want more involvement

Charter:

- Updating and reorganizing the charter

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Members

StreamNet Tech Team

- Sam Cimino (Coordinator, PSMFC)
- vacant (Chair, partner)
- Mike Banach (PSMFC)
- Mari Williams (PSMFC)
- Greg Wilke (PSMFC)
- Van Hare (PSMFC-GIS Center)
- Lily Cohn (PSMFC -GIS Center)
- Binh Quan (PSMFC Consultant)
- John Arterburn (Colville Tribes)
- George Batten (ESA, assisting Colville Tribes)
- Denise Kelsey (CRITFC)
- Tami Wilkerson (CRITFC, CBF&WL)
- Jiaming Yang (CRITFC)
- Evan Brown (IDFG)
- Chris Harrington (IDFG)
- Bekki Waskovich (IDFG)
- Brittany Beebe (ODFW)
- Kasey Bliesner (ODFW)
- Jake Chambers (ODFW)
- Peter Robinson (ODFW)
- David Quillin (ODFW)
- Dan Craver (USFWS)
- Todd Gilmore (USFWS)
- Michelle Groesbeck (WDFW)
- Phil Sandstrom (WDFW)
- Leslie Sikora (WDFW)
- Michelle Steg (YN)
- Dawn Anderson (MFWP)
- Jennifer Graham (CTWSBNR)
- Brad Houslet (CTWSBNR)
- Rebecca Croy (SBT)
- Kurt Tardy (SBT)
- Ryan Kinzer (NPT)
- Clark Watry (NPT)
- Jason Vogel (NPT)
- Colette Coiner (CTUIR)
- Stacy Schumacher (CTUIR)

StreamNet DES Development Team

- Sam Cimino (Coordinator, PSMFC)
- vacant (chair, partner)
- Mike Banach (PSMFC)
- Mari WIlliams (PSMFC)
- Megan Griffiths (PSMFC)
- Greg Wilke (PSMFC)
- Van Hare (PSMFC-GIS Center)
- Lily Cohn (PSMFC-GIS Center)
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- Bekki Waskovich (IDFG)
- Kasey Bliesner (ODFW)
- Jake Chambers (ODFW)
- David Quillin (ODFW)
- Peter Robinson (ODFW)
- Todd Gilmore (USFWS)
- Michelle Groesbeck (WDFW)
- Leslie Sikora (WDFW)
- Michelle Steg (YN)
- Dawn Anderson (MFWP)

CAP DES Development Team

- Sam Cimino (Coordinator, PSMFC)
- vacant (Chair, Partner)
- Mike Banach (M, PSMFC)
- Mari Williams (M, PSMFC)
- Monica Diaz (O, PSMFC)
- Megan Griffiths (O, PSMFC)
- Russell Scranton (M, BPA)
- George Batten (M, ESA, Colville Tribes)
- Denise Kelsey (M, CRITFC)
- Bekki Waskovich (M, IDFG)
- Evan Brown (O, IDFG)
- Katie Barnas (M, NOAA Fisheries/NWFSC)
- Jay Hesse (M, NPT)
- Ryan Kinzer (M, NPT)
- Kasey Bliesner (M, ODFW)
- Jake Chambers (M, ODFW)
- Brittany Beebe (O, ODFW)
- Peter Robinson (O, ODFW)
- Todd Gilmore (M, USFWS)
- Thomas Buehrens (M, WDFW)
- Brodie Cox (M, WDFW)
- Andrew Murdoch (M, WDFW)
- Phil Sandstrom (M, WDFW)
- Michelle Groesbeck (O, WDFW)
- Michelle Steg (M, YNF)
- Jen Bayer (O, PNAMP)
- Nancy Leonard (CAP Lead, PSMFC)

Tech Team/DDTs Meeting Updates

July 28th, 2025 - Tech Team DDT(s) Meeting:

- Meeting notes and slide deck available – StreamNet Sharepoint or upon request

Hatchery HLI DES version 20250728:

- Approved July 28, 2025
  - Effective October 5, 2025

- Available on the StreamNet Website
  - Updates
    - Catch the DES up with practices and codes already adopted
    - Standardize terms, definitions, and data types
    - Add "TimeSeriesInfo" table to house some metadata about each time series.

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Tech Team/DDTs Updates Meeting

Natural HLI DES

- TimeSeriesInfo table is live – you can add your data to it, will appear in the next version

Updated terms and definitions in Draft NCA DES

SAR and SAS Task Team

- Ad hoc (FMWG) group to work on definitions and fields needed to appropriately categorize SAR and SAS, including removals
  - o Response to ISAB Report Published in April
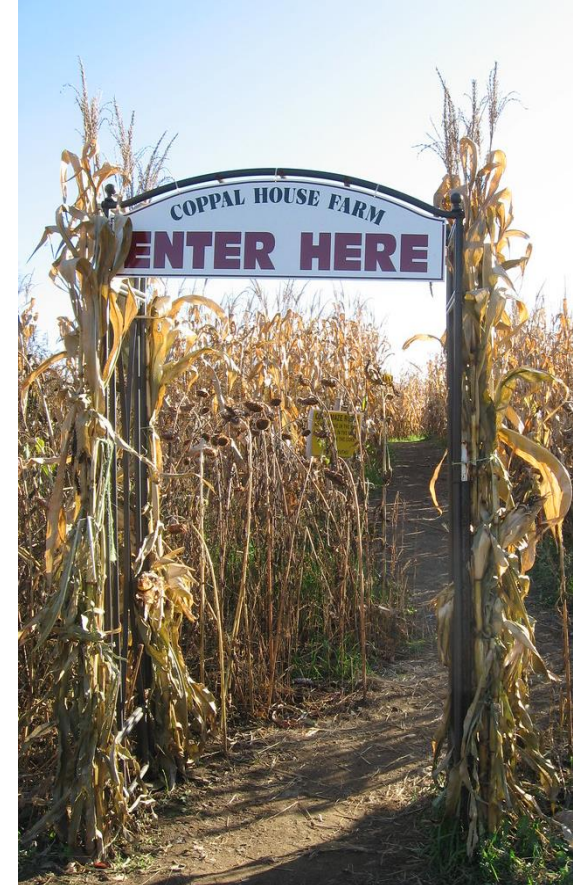
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SN Tech Team Layers

Fish Facilities Layer

- Added facility subtype to support referencing data from "Direct release locations (offsite)"

  o Locations that are not "facilities"

- Cleaning up categorization of dams

Extirpated Areas to the Fish Distribution Layer

- See where historical runs existed for potential restoration efforts

  o States can extrapolate/obtain some of this data for some pops.

  o Do we pull data from the Feds (NOAA)?

Facility SubTypes

☐ Hatchery
  ☐ 🔴 Hatchery
  ☐ Acclimation/Release sites
    o Artificial pond(s)
    o Natural pond(s)
    o Pond(s) – unknown type
  o Net pen(s)
  o Direct release locations (offsite)

Some facility types are symbolized based on SubType specific fields e.g., [AR_Type]

Update Terms and Definitions Used in CAP Data Standards

Task Leads:

Jen Bayer (USGS/PNAMP)
jbayer@usgs.gov

Mari Williams (PSMFC)
mwilliams@psmfc.org

Mike Banach (PSMFC)
mbanach@psmfc.org

Purpose: This task will focus on review and update of terms and definitions in StreamNet Data Standards that support CAP data (CAX HLI DES and HCAX DES) and StreamNet Fish Monitoring Trends DES to effectively convey the terms' intent and provide consistency between DESs.

Why:

Very high priority identified at 2023 CAP Workshop

Will increase confidence in CAP data

Will enable linking CAP controlled vocabularies to other datasets within PSMFC and externally

COMPLETED:

CA DESs 765 uses of terms, with 197 items flagged.

Task group reviewed and developed recommendations, survey 1 conducted

January 30, 2025 DDTs for Natural and Hatchery DESs convened, Survey 2 conducted

July 2025 DDTs convened and came to consensus on final items

HCA DES updates partially included in version 07282025

NCA DES updates to come in next version

COMPLETED

Update Terms & Definitions in CAP Data Standards

HCA HLI DES ver 07282025

- BPAprojNum
- Comments
- FishPerPound
- LifeStage
- OutmigrationYear
- NullRecord
- ReleaseLocation
- ReturnLocation
- SpawningLocation

- HatcheryReleasesAffiliatedPopID*
- SpawningBroodYear*
- MetricDataSource*
- MeasureDataSource*
- IndicatorDataSource*
- SARHatchery
- TARHatchery
- NumberReleased
- LengthType

*these terms have not been updated in the 07282025 HCA DES

Update Terms & Definitions in CAP Data Standards

NCA HLI DES ver TBD

- BestValue
- Comments
- ESU_DPS
- Location
- MajorPopGroup
- MethodNumber
- NOSAEJ
- NullRecord
- NOSAIJ
- OutmigrationYear
- PopFit

- PopFitNotes
- RecoveryDomain
- RecruitLocation
- RecruitsMissing
- TotalNatural
- BroodYear
- HatcheryStockName
- HatcheryProgramName
- HatcheryFacilityName
- Abundance
- MetricDataSource

- MeasureDataSource
- IndicatorDataSource

Member Updates and Announcements

Please email mwilliams@psmfc.org with any information you'd like included in the meeting notes

MFWP: Dawn Anderson

IDFG: Angie Schmidt, Evan Brown

CRITFC Library: Tami Wilkerson

CRITFC: Sheryn Olson and Denise Kelsey

USFWS: Todd Gilmore

Shoshone-Bannock Tribes: Kurt Tardy

ODFW: Jake Chambers

Colville Tribes: George Batten

WDFW: Brodie Cox

NOAA: Katie Barnas

NPCC: Kris Homel

BPA: Brady Allen, Russell Scranton

PNAMP-PSMFC: Meg, Sam, Mari, Erin

SDM/BECI-PSMFC: Lara Erikson, Mari

StreamNet-PSMFC: Nancy, Greg, Mike, Mari, Megan, Sam, Meg D, Van Hare

ADJOURN Day 1

StreamNet

Steering Committee Meeting
October 2-3, 2025

208 Badgely Hall
Eastern Oregon University
1 University Blvd
La Grande OR 97850

Microsoft Teams Need help?
Join the meeting now
Meeting ID: 241 968 735 287
Passcode: ok3LN6uR

Dial in by phone
+1 207-387-0436,,159626651# United States, Portland
Find a local number
Phone conference ID: 159 626 651#
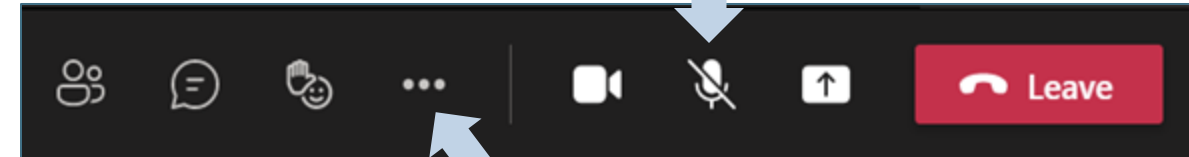
Welcome and Introductions

Please use the chat to introduce yourself (name and affiliation)

Please leave web cameras on to facilitate discussion

Please mute yourself when not speaking.
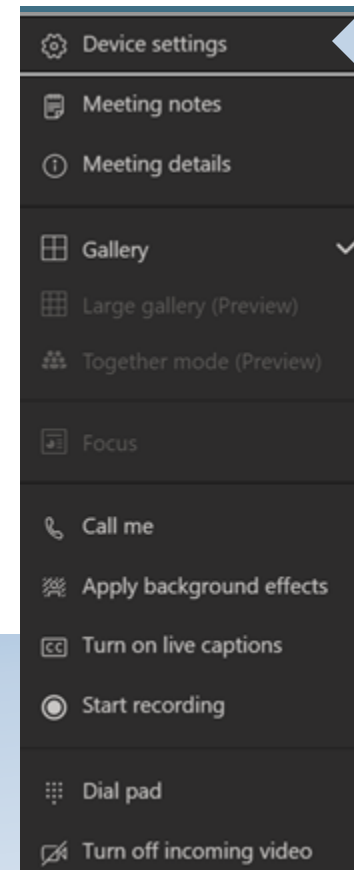Use *6 to mute phone audio.
Use the microphone icon on the control bar to mute computer audio.

Check device settings
if you are having problems with audio/video

Device settings
Meeting notes
Meeting details
Gallery ✓
Large gallery (Preview)
Together mode (Preview)
Focus
Call me
Apply background effects
Turn on live captions
Start recording
Dial pad
Turn off incoming video

Leave

Welcome!

In the interest of fostering an open and welcoming environment, StreamNet commits to making participation in our activities a positive and valuable experience to all:

Be Respectful   **Be Accountable**   **Communicate Effectively**   **Value Differences**   **Collaborate**

Agenda
(times are approximate, PACIFIC TIME ZONE)

TIME (Approximate)	AGENDA ITEM
DAY 1 October 2, 2025	
9:00 am **PACIFIC TIME ZONE** (10:00 am MST)	Welcome and introductions (Meg Dethloff and Nancy Leonard) - Room and MS Teams - PNAMP is now part of PSMFC
9:15	Spotlight: ODFW's LSRCP Hatchery Assessment and Development Data Exchange – Progress to Date (Brittany Beebe and Kasey Bliesner, ODFW)
10:00	Spotlight: RShiny tools for Data Management, Sharing and Display in ODFW's LSRCP Hatchery Assessment and Development Project (Joe Dittmer, ODFW)
10:20	**Break**
10:35	CAP Strategic Plan Feedback (Nancy and Mari WIlliams)
11:20	Monitoring Resources Update (Sam Cimino and Mari)
11:30	**Lunch**
1:00 pm	Welcome back (Nancy)
1:10	QA/QC Tool Launch 2025 summary (Greg Wilke)
1:20	QA/QC discussion
1:40	Progress Update from StreamNet Tech Team (Sam)
2:10	**Break**
2:25	StreamNet Member Updates
4:00 pm	**Adjourn**

TIME (Approximate)	AGENDA ITEM
DAY 2 October 3, 2025	
9:00 AM **PACIFIC TIME ZONE** (10:00 AM MST)	Welcome (Meg/Nancy)
9:15	Spotlight: E-Creel Methods for Estimating Steelhead Harvest in the Grande Ronde Basin (Mike Greiner and Kasey Bliesner, ODFW)
10:00	HCAX Tabular Query Development (Jason Edwards)
10:30 am	**Break**
10:45	GIS Update (Van Hare)
11:15	PNAMP Fish Monitoring Work Group Updates (Meg)
11:25	Rotary Screw Trap Dashboard (Sam)
11:40	Fish and Wildlife Program: Focal Species Draft Polygon Maps (Nancy)
12:00	2026 Conferences (Mari)
12:15 pm	**Adjourn**

E-Creel Methods for Estimating Steelhead Harvest in the Grande Ronde Basin

Mike Greiner, Joseph Feldhaus, Kasey Bliesner
StreamNet Steering Committee Meeting
October 2, 2025

Special thanks
Polly Gibson
Mahlon Koopman
Emily Treadway
Justin Fisk
Gerrit Buch
Mitch Kimball

LOWER SNAKE RIVER
COMPENSATION PLAN
Hatchery Program

State of
OREGON

Fish & Wildlife

Overview

- Importance of monitoring harvest

- Traditional creel

- E-creel

- Comparison of methods

- E-creel pros and cons

- Future plans

LSRCP Management Objectives

Objective
Establish an annual supply of broodstock capable of meeting production goals.
Maintain and enhance natural production while maintaining long term fitness of the natural population.
Re-establish historic tribal and recreational fisheries.
Establish a total return number of summer steelhead that meets the LSRCP compensation goal.
Operate the hatchery program so we maintain the genetic and life history characteristics of the natural population and hatchery fish characteristics mimic those of the wild fish, while achieving management objectives.

➤ **Fisheries** are **guided** by a **Fishery Management and Evaluation Plan (FMEP)** - approved by the National Marine Fisheries Service (NOAA Fisheries) in 2019.
➤ The **FMEP** (ODFW 2019) ensures that ODFW's fisheries **management** approach **limits impacts to native steelhead**
  ➤ Determining success in meeting this objective is **crucial to conducting these fisheries** (Feldhaus et al. 2025).
➤ **ODFW** is **tasked with monitoring incidental mortality of wild steelhead** caught-and-released and the **harvest of hatchery steelhead** and must achieve robust and precise estimates of both.

Harvest Monitoring

In addition to tracking harvest towards meeting LSRCP goals, hatchery steelhead harvest and wild impacts are used for:

- Run reconstruction

- Hatchery propagation performance metrics (SAR & SAS)

- pHOS estimates

Traditional Creel Surveys

- **1985- 2024 season**

  - Roving and access point creel surveys

  - Random, stratified sample (50% of weekends/holidays & 30% of weekdays)

  - Imnaha & Wallowa: Feb-April

  - Grande Ronde: Sep-Dec (ODFW); Jan – April (WDFW)
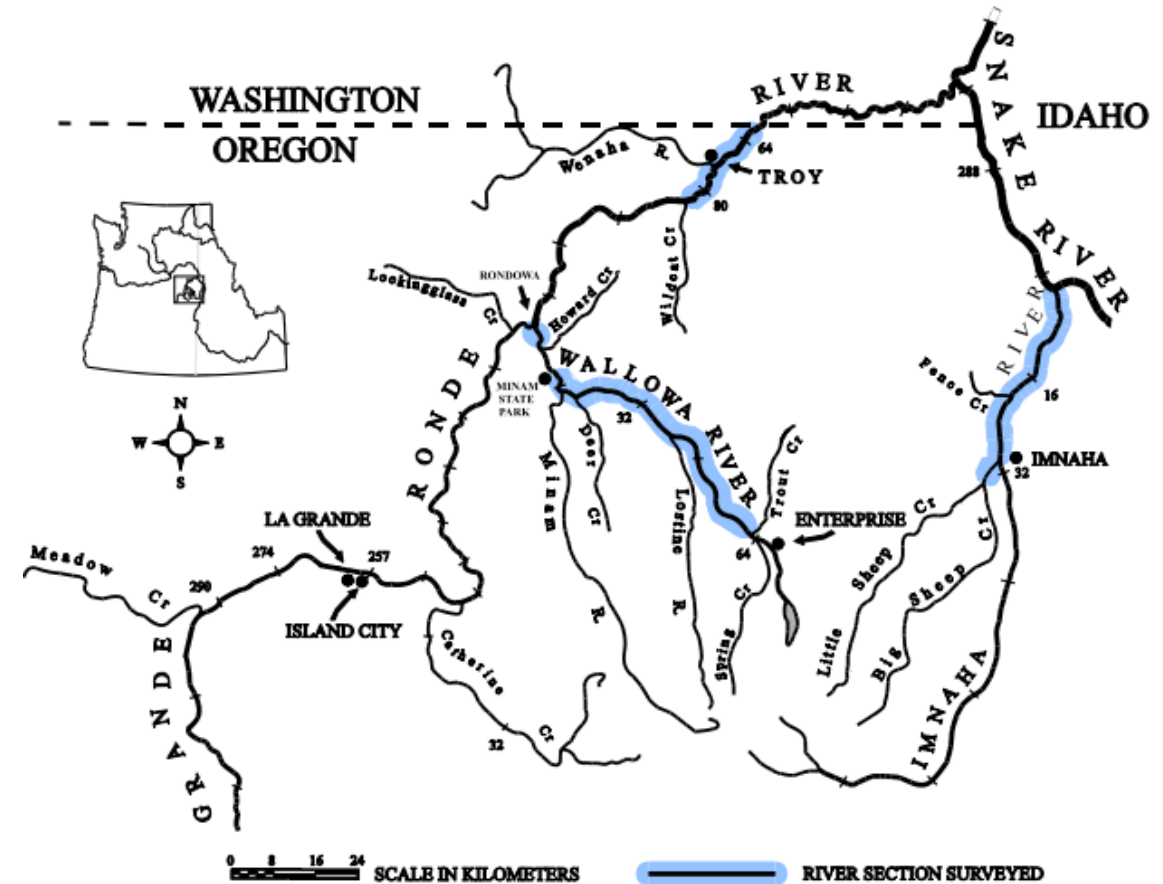
Logistical Challenges

- **Difficult access**
  - Private land/ wilderness
  - 317 km open to steelhead angling ~ 22% creeled

- **Geographically distant**
  - Round trip drive time- 6 h Imnaha, 5 h Grande Ronde, 2 h Wallowa

- **Cost/hiring**
  - 3 creelers/vehicles
  - Overtime/per diem/lodging

Other Challenges

- **Sample partial season**

- **Random sample of time**
  - Pressure counts
  - Run timing/ environmental impacts

- **Paper harvest cards**
  - Used for inaccessible areas
  - Correction factor developed in 1960s
  - 2-year lag time
  - **Expansions no longer available**

ODFW Electronic License System (ELS)

Welcome to the ODFW Licensing System

Log in with your **username and password** in order to:

Purchase licenses, tags, or classes | Submit outcome reports (incl. mandatory reporting) | View and manage your account

Please look up your information before creating an account.

Account Login | Verify/Look up Account

If you have never purchased a license from ODFW or your last purchase was prior to 2018:

All anglers in Oregon must possess a valid combined angling tag to fish for steelhead in Oregon and any fish harvested must be tagged immediately

In 2018, ODFW instituted an electronic licensing system (ELS) to record or "tag" harvested fish.

Prior to this time, all harvest was recorded using paper tags returned to ODFW on a voluntary basis.

Anglers may continue to tag fish using paper cards, or they can choose to tag fish electronically using a mobile application on their smartphone.

ELS harvest records are submitted immediately (or, whenever the angler returns to cell service), providing near-real-time harvest monitoring.

Add Harvest SAVE

Harvesting on Combined Angling Tag

SPECIES
Steelhead

TYPE
Hatchery

HARVEST DATE
January 3, 2019

LOCATION OF HARVEST
85 Siuslaw...

What is an E-Creel?

- McCormick (2017) theoretical case study
  - precision increase up to 3x paper harvest cards

- Riggers and Jones (2022) ELS harvest records paired with supplemental on-site angler interviews to estimate total harvest
  - 2-sample, mark-recapture framework
  - Estimates not sig diff from traditional
  - Up to 41% more precise
  - $24,842 (15%) annual cost savings

MANAGEMENT BRIEF

Evaluation of Methods to Estimate Salmon Harvest Using Angler Harvest Permits Available on a Smartphone Application

Joshua L. McCormick[*1]
Oregon Department of Fish and Wildlife, 4034 Fairview Industrial Drive Southeast, Salem, Oregon 97302, USA

FEATURE ARTICLE

Paradigm Shift: Applying Capture–Recapture Techniques to Electronic Licensing System Data to Estimate Chinook Salmon Harvest

Brian L. Riggers*
Oregon Department of Fish and Wildlife, 28655 Highway 34, Corvallis, Oregon 97333, USA

Michelle K. Jones
Oregon Department of Fish and Wildlife, 4034 Fairview Industrial Drive Southeast, Salem, Oregon 97302, USA

Assumptions

1. Anglers are compliant in reporting harvest electronically
2. Harvest reported by ELS anglers and subsequent reporting of the validation method to a creel technician are independent events
3. Harvest and license type are reported accurately
4. Anglers report harvest locations accurately
5. All anglers equally susceptible to interception
6. Spatially representative random sample of harvested fish across the fishery
7. Total harvest at end of the season approximates a closed population
8. E-tagging harvest ratios do not differ significantly in time and space within a basin

Survey 123

- Switched to electronic data entry in 2020

- Began asking for harvest tag type in 2020-21 season

- Significant time savings on data entry/ QAQC/ analyses

- Quickly generate biweekly reports distributed to ODFW and general public

- R scripts to pull QAQC'd data and generate harvest estimates and wild impacts

E-creel Methods

Identified the subset of ELS records that overlapped spatially and temporally with traditional creel.

All harvested steelhead tagged in ELS system represent the "marking" event.

The creel technician observes harvested fish during interviews.

The number of observed harvests that are "marked" in ELS represent "recaptures".

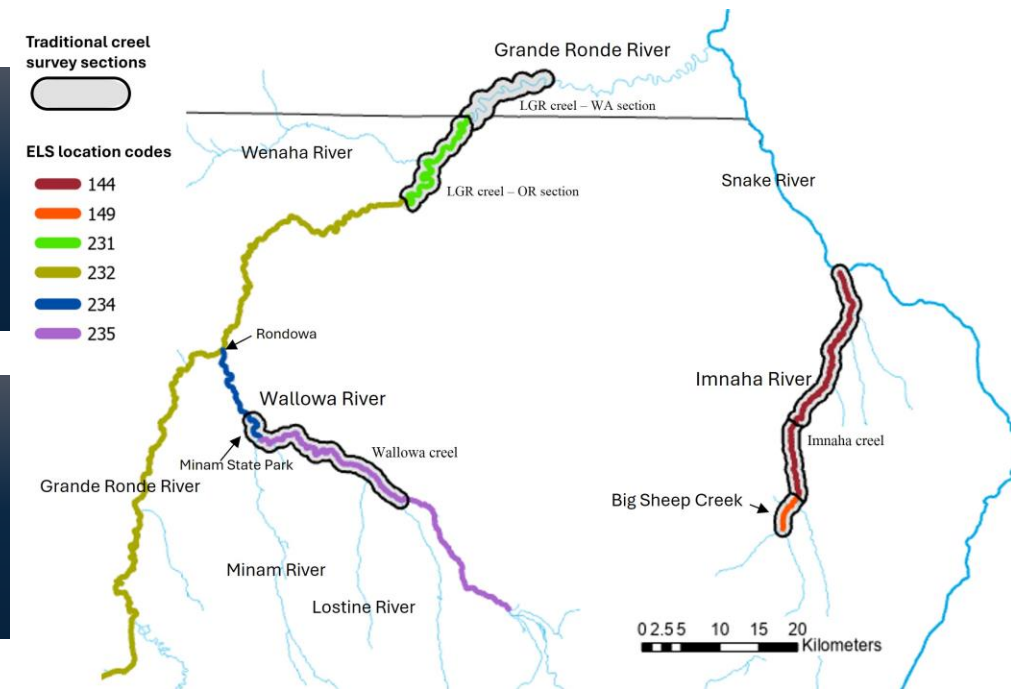The proportion of all observed harvests that are marked is the observed e-tag ratio.

Total harvest estimated by expanding the number of ELS harvest records for a given fishery and season by the observed e-tag sample ratio.

Chapman modification of the Petersen estimator

$$\hat{N} = \frac{(n_1 + 1)(n_2 + 1)}{(m + 1)}$$

Variance Estimate

$$\hat{Var}(\hat{N}) = \frac{(n1 + 1) * (n2 + 1) * (n1 - m) * (n2 - m)}{(m + 1)^2 * (m + 2)}$$

How many fish are tagged using the App?

A primary assumption of the e-creel method for estimating harvest is that "[t]he e-tag harvest ratios do not differ significantly in time and space within a basin" (Riggers and Jones 2022).

Key Results
- ELS harvest records have increased over time.
- Harvest proportions recorded with the app varies over time and by basin.
- Grande Ronde has the highest avg. app usage
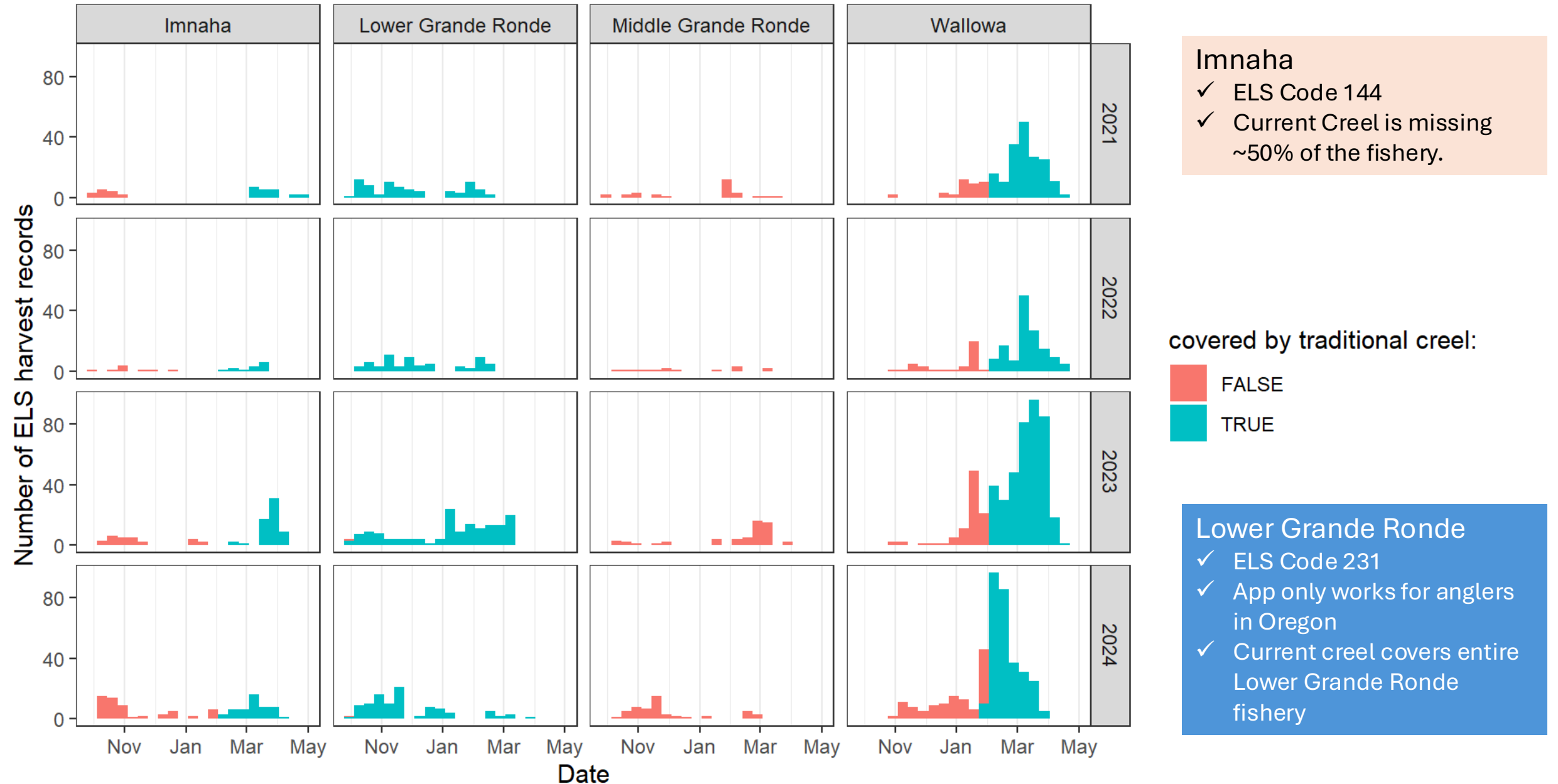- Imnaha app usage highly variable
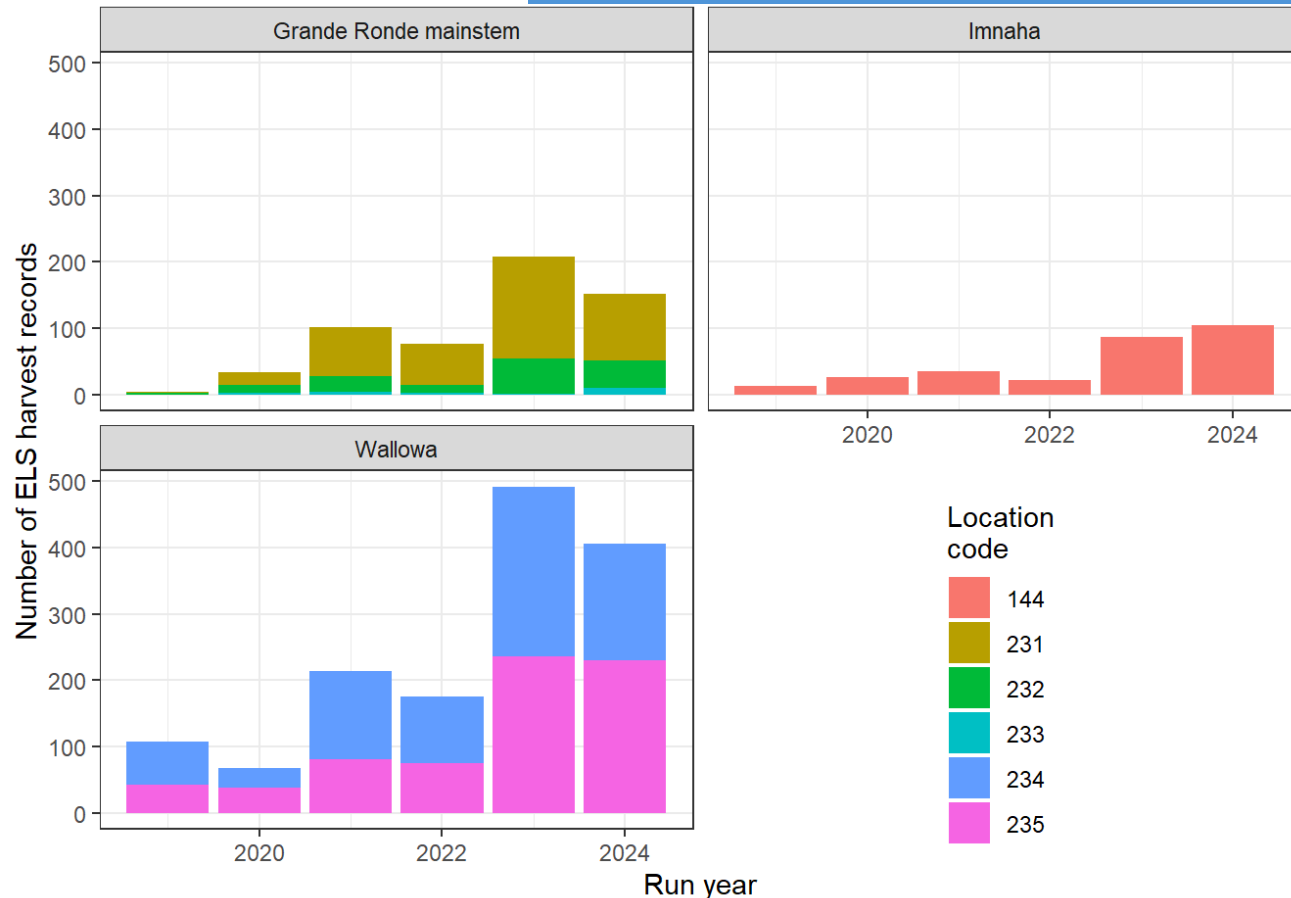
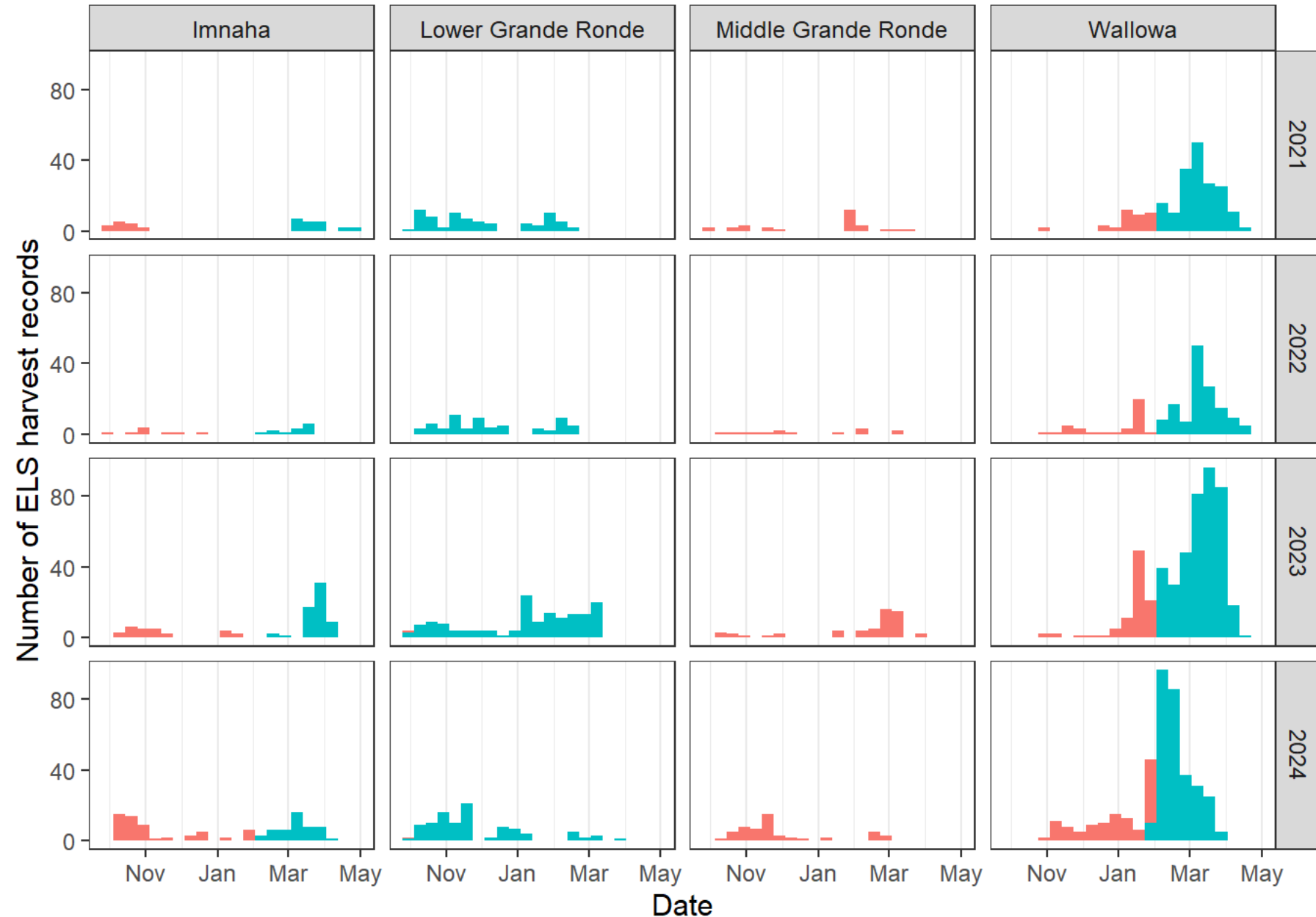Numbers in bars = harvest proportion recorded with the App.
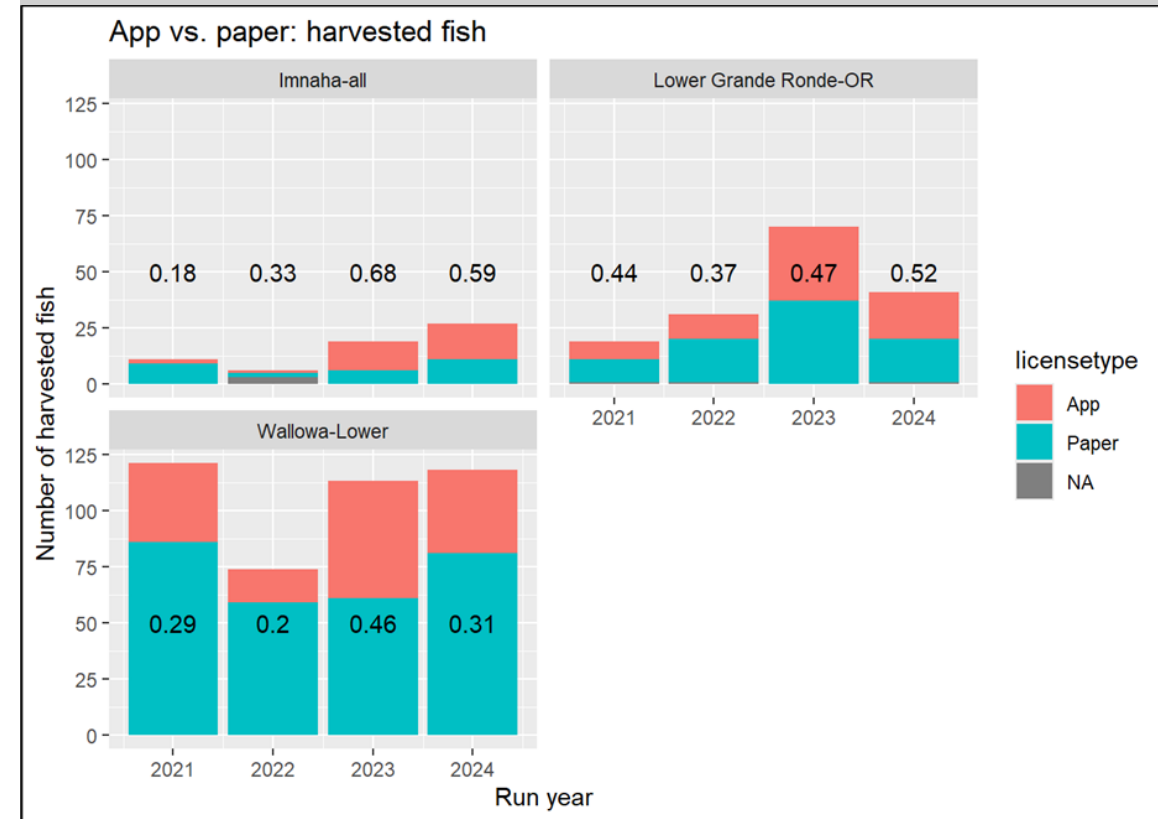
Is our creel coverage adequate?

ELS harvest records vs. theoretical coverage by creel surveys

"Middle" Grande Ronde
- ✓ ELS Code 232.
- ✓ "Wildcat bridge" to Island City, OR (~ 74 RKM).
- ✓ Accessible by 3 day float trip only

Wallowa Fishery
- ✓ ELS codes 234 + 235
- ✓ Poor match with ground surveys.
- ✓ Harvest in November-January before February creel starts.

covered by traditional creel:
- FALSE
- TRUE
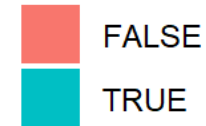
Current adjustments
- ✓ Expanded temporal ground creels on Wallowa & Imnaha.
- ✓ Standardized ground survey reach breaks with ELS codes.

Comparing ELS estimates with Traditional Creel

Result:
✓ Traditional creel underestimates harvest by 20-40%

Traditional creel vs. ELS
Wallowa estimates use location codes 234 + 235

fishery
- Imnaha
- Lower Grande Ronde
- Wallowa
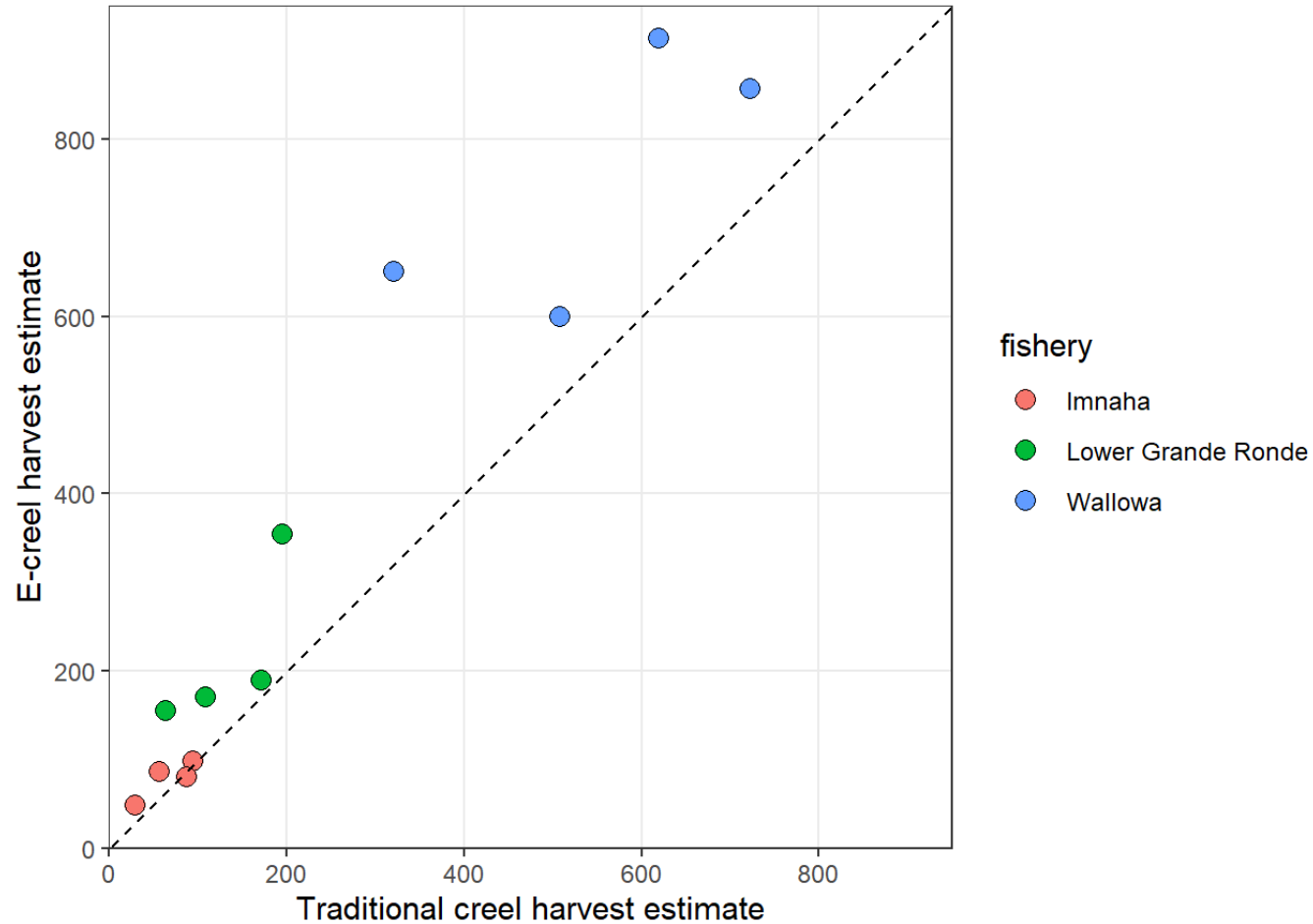
Comparing harvest estimates based on traditional creel (blue) vs. ELS (green)
Dark green points in Wallowa panel are harvest estimates for location code 235 only (above Min

Imnaha   ELS: 144

Lower Grande Ronde   ELS: 231

Wallowa   ELS: 234 and 235

- creel.estimate
- els.235.only
- els.estimate
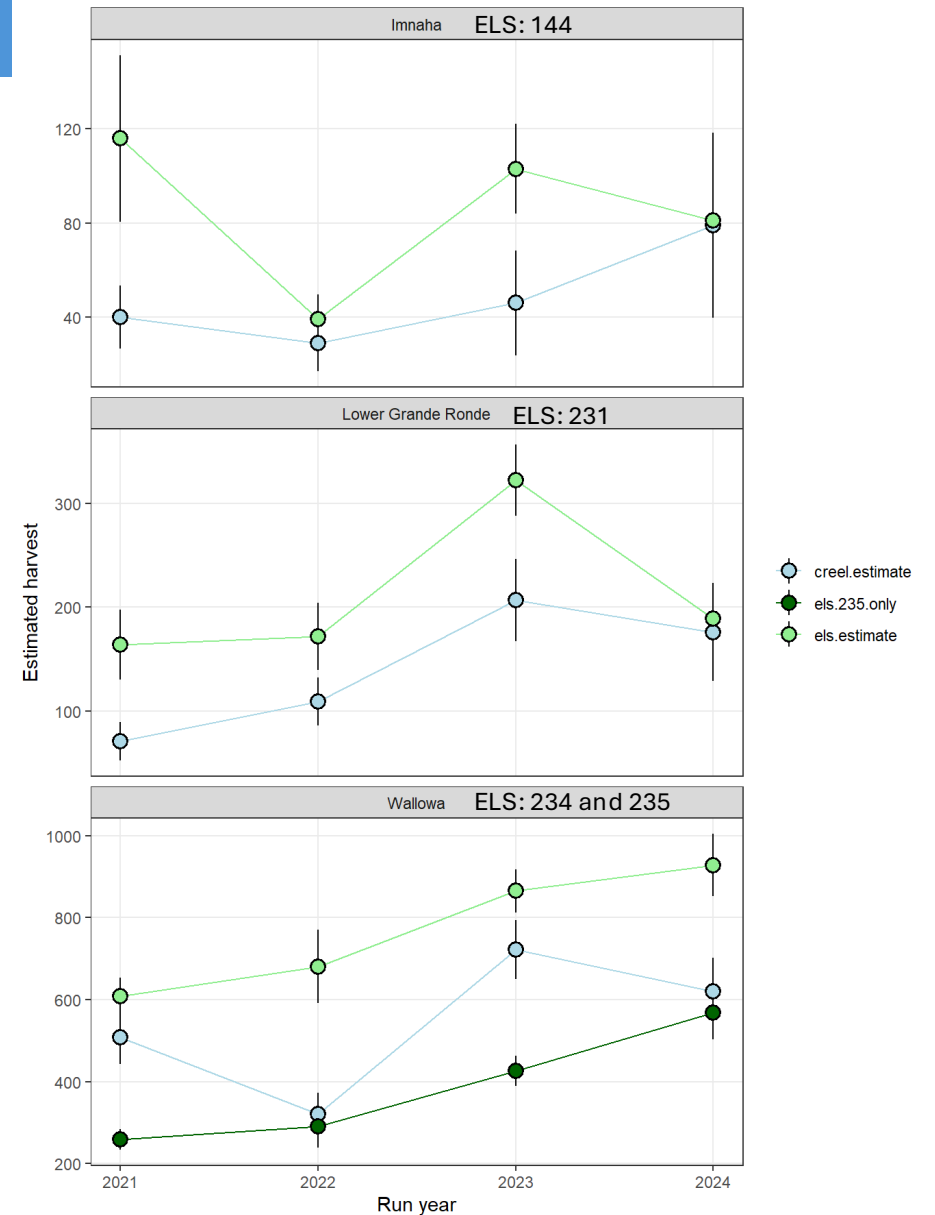
Precision

- CV diff.
  - - traditional more precise
  - + e-creel more precise

- E-tag ratio
  - Traditional creel more precise when < 1/3 of sampled fish are marked in ELS

| Run year	Num. ELS recs.	E-tag smp ratio	E-creel Est.	E-creel SD	E-creel CV	Traditional creel Est.	Traditional creel SD	Traditional creel CV	Comparison RPD	Comparison CV diff.
Imnaha (loc. 144)										
2021	21	0.182	87	35.4	0.407	57	13.4	0.236	0.097	-0.171
2022	13	0.167	48	22.1	0.461	29	12.0	0.416	0.061	-0.045
2023	60	0.647	90	13.1	0.146	94	24.1	0.257	0.013	0.111
2024	48	0.593	80	9.6	0.120	88	39.3	0.447	0.026	0.326
Lower Grande Ronde (loc. 231)										
2021	73	0.444	144	27.2	0.189	64	18.6	0.291	0.259	0.102
2022	63	0.355	162	29.6	0.183	109	22.9	0.210	0.171	0.028
2023	152	0.422	350	44.0	0.126	195	38.1	0.196	0.501	0.070
2024	99	0.512	202	31.9	0.158	171	44.3	0.259	0.100	0.101
Wallowa (loc. 234-235)										
2021	176	0.289	784	158.9	0.203	508	65.8	0.130	0.892	-0.073
2022	138	0.203	623	119.9	0.193	321	50.8	0.158	0.976	-0.034
2023	398	0.460	840	75.8	0.090	722	71.4	0.099	0.381	0.009
2024	291	0.314	1037	166.7	0.161	620	81.4	0.131	1.348	-0.029

Estimating wild fish impacts using an e-creel

Year	Hatchery Harvest Estimate using e-creel	Wild Catch/ Harvest (talking to anglers)	Estimated Wild Catch
2021	87	1.36	119
2022	48	2.67	128
2023	90	1.35	122
2024	80	0.82	65

Year	Hatchery Harvest Estimate using e-creel	Wild Catch/ Harvest (talking to anglers)	Estimated Wild Catch
2021	144	4.22	608
2022	162	2.39	387
2023	350	1.72	602
2024	202	3.85	779

Year	Hatchery Harvest Estimate using e-creel	Wild Catch/ Harvest (talking to anglers)	Estimated Wild Catch
2021	784	0.47	369
2022	623	0.61	379
2023	840	0.45	379
2024	1037	0.50	518

Hatchery Harvest X Wild Catch/Harvest = Estimated Wild Catch
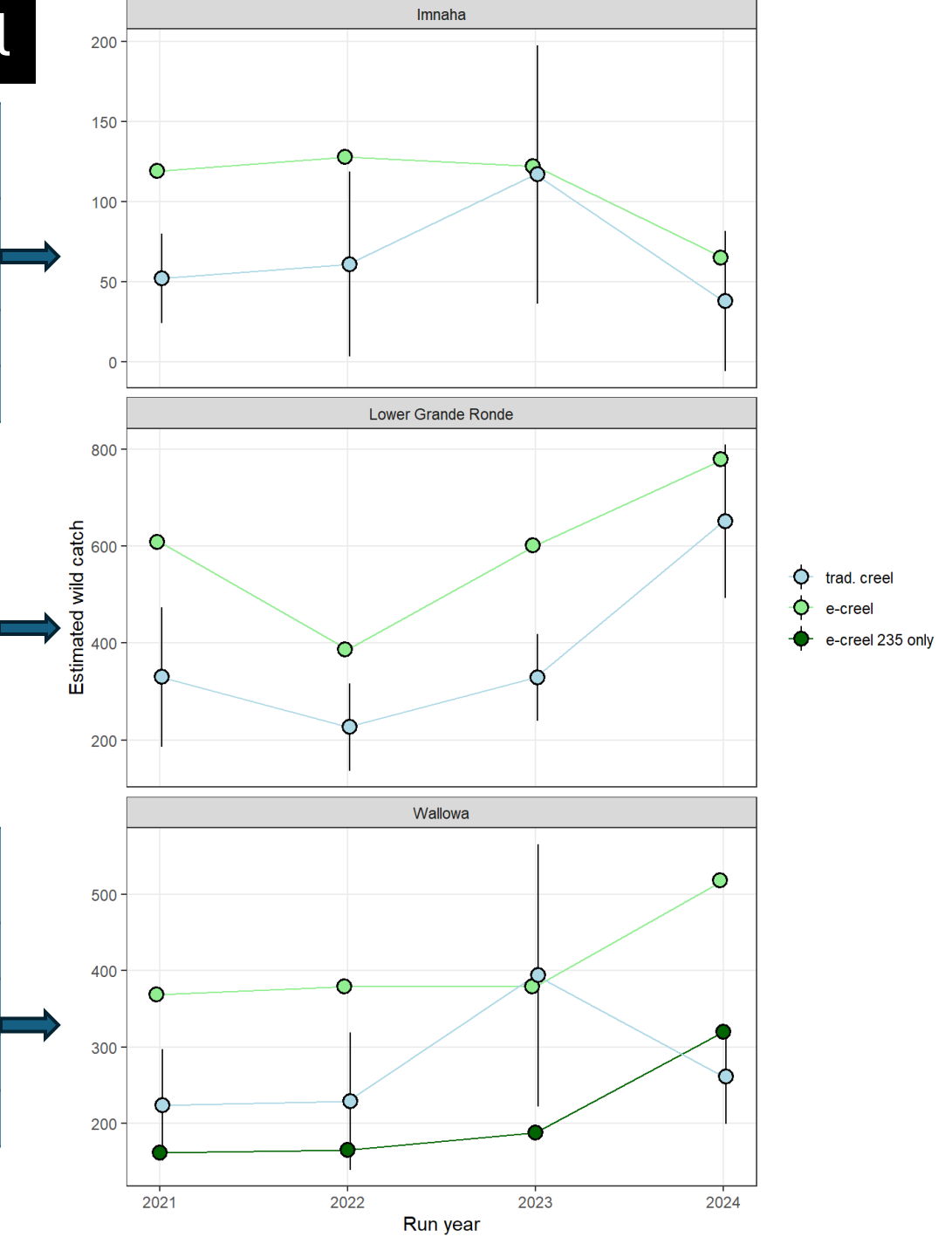
Wild Steelhead impact example

- 8,000 natural adults returned to GR basin in 2024-25
    - Keep impact rate <4%
    - 8,000 * .04 = 320 dead fish
    - Assume conservative 5% hooking mortality
    - 320/0.05 = up to 6,400 encounters before unacceptable impact

- No matter which estimate we use – we are not ever coming close to that many encounters with wild fish

- Caution if you have high wild fish encounter rates

Hybrid e-creel in 2024-25 Season

- Good estimates for Grande Ronde & Wallowa

- Only recaptured 2/35 Imnaha in October

- 78% of Imnaha harvest occurred in Oct & Mar

- Prioritized wrong time periods

Fishery	ELS records	Harvest obs	E tag ratio	E-creel est	E-creel CV
Imnaha	87	24	0.38	219	0.22
LGR- OR	156	50	0.74	210	0.07
Wallowa	452	115	0.51	875	0.08

Advantages

- E-creel methods and the comprehensive ELS data records provide a straightforward and consistent way to account for all harvest from anywhere in the basins, without the need to compile voluntarily reported paper punch card data.

- Similar estimates to traditional
    - Precision varied among years and the differences between the two methods were often small.
    - Analytical estimates of variance do not account for any variability due to assumptions of the underlying methods not being met.

Advantages

- Reduced effort needed to produce unbiased estimates

- Near instantaneous harvest monitoring

- Produce estimates for remote, inaccessible areas by applying recap ratio from contiguous, accessible area

- Utilize flow gauges, weather reports, ELS records & PIT arrays to schedule

- Focus on anglers who have caught fish

Disadvantages

- Can't currently be used on the Grande Ronde

- No direct estimate of catch-and-release angling

- No indices of angler effort

Conclusions

- "reduce bias, improve precision of estimates, increase survey efficiency, and thus, reduce survey costs relative to traditional creel methods" (Riggers and Jones 2022)

- 3 seasonals/ trucks → 1

- Hybrid e-creel Wallowa & Imnaha

- Grande Ronde if WDFW transitions to ELS

Questions?

HCAX Web Query Development Update

Jason Edwards

Objectives of this presentation

- Provide an overview of the new HCAX web query tool
- Share a demo of tool workflow, features, and functionality
- Answer Steering Committee members' questions
- Gather initial feedback to guide next steps

Outline

- **Rationale and Background**

- **Web Query Tool Overview**

- **User Interface Orientation**

- **Web Query Tool Demo**

- **Status and Next Steps**

- **Collaboration and Feedback**

- **Timeline**

- **Q & A**

NOAA Fisheries

Rationale & Background

- **What –** New web query tool for HCAX

- **Why –** Provide web-based end user access to new HLI data
  - Broodstock spawned, Hatchery Releases, Hatchery Returns, Hatchery Smolt to Adult Rate (H-SAR)

- **Who –**
  - **Project Team** – Mari Williams, Mike Banach, Megan Griffiths, Greg Wilke
  - **End users –** Program partners, managers, policy/decision-makers, researchers, public, etc.

Rationale & Background

- **How –** Iterative and collaborative development process

YOU ARE HERE

Team Alignment → Draft Specs → Partner Review → Revised Specs → Application Development → Prototype Query Tool → Partner UAT Testing → Team Spec Revision → Final Specs → Application Development → Production Query Tool
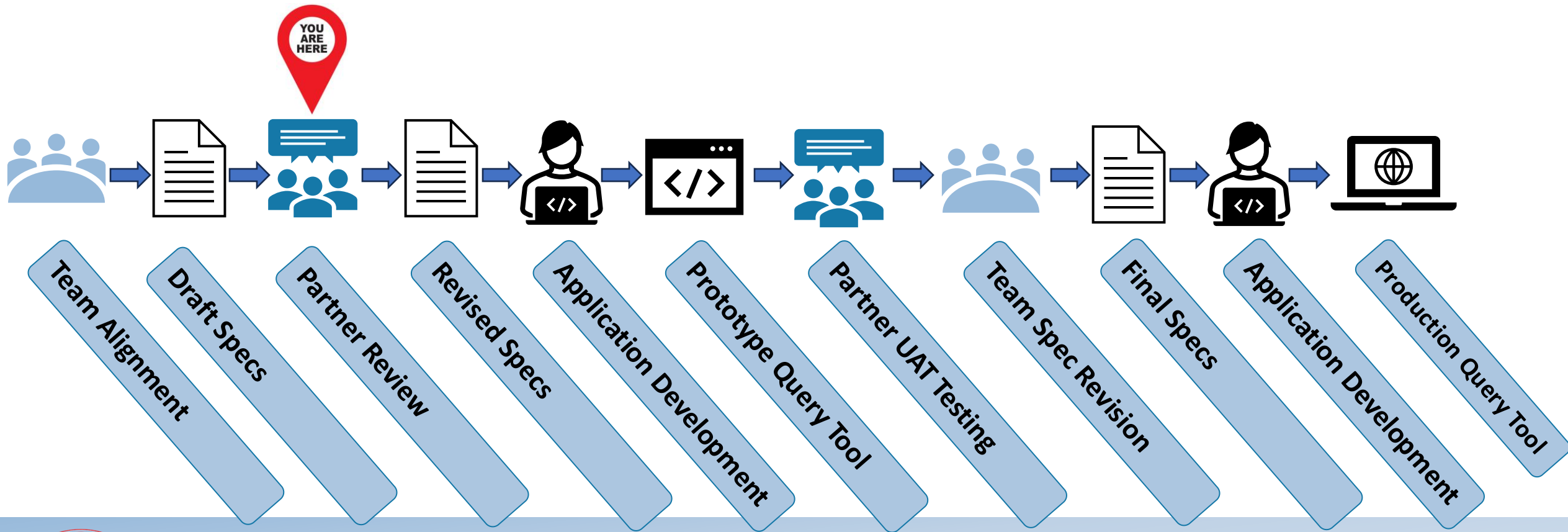
Web Query Tool Overview

Available Data

- HLI outputs: Broodstock spawned, Hatchery Releases, Hatchery Returns, Hatchery Smolt to Adult Rate (H-SAR)

Data Structure and Access

- Filterable, HLI-specific datasets with standardized fields/definitions
- Download formats – Single excel file with 4 tabs for each HLI
- Documentation and metadata links

User interface

- User-friendly, intuitive UI/UX
- Dynamic filters and filters applied region
- Data output preview

User Interface

Report Title

HCAX HLIs Query

High level indicators (HLI) are derived metrics of fish population health. The indicators are compiled by states, tribes, federal agencies, and contracted organizations that monitor salmon and steelhead in the Pacific Northwest. These are not raw data or index counts, but derived estimates based on hatchery programs and stocks as defined by the <insert link and name of tables> and best available science.
In some cases, when a population is selected, there may be associated Fish Monitoring data sets available to view by clicking the activated Trends button. These related data may or may not have been used for preparing a particular indicator. Please see the metadata section in the HLI download data set for specific metrics and methods used to produce an indicator.

Use of any CAP HLI data falls under the Data Policy and Agreements.

Download   Clear All Filters

Broodstock Spawning ⓘ   Hatchery Returns ⓘ   Hatchery Releases ⓘ   Hatchery Smolt-to_Adult Ratio (SAR

<< Prev   1 2 3 4 5   Next >>   10 25 100   Show All Columns

Filter Options ⓘ

Universal   Clear Universal Selection(s)   ⌄

Filters Applied

High Level Indicator   Clear [Insert HLI name] Selection(s)   ⌄

User Interface

HCAX HLIs Query

Report Description

High level indicators (HLI) are derived metrics of fish population health. The indicators are compiled by states, tribes, federal agencies, and contracted organizations that monitor salmon and steelhead in the Pacific Northwest. These are not raw data or index counts, but derived estimates based on hatchery programs and stocks as defined by the <insert link and name of tables> and best available science.
In some cases, when a population is selected, there may be associated Fish Monitoring data sets available to view by clicking the activated Trends button. These related data may or may not have been used for preparing a particular indicator. Please see the metadata section in the HLI download data set for specific metrics and methods used to produce an indicator.

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Download   Clear All Filters

Broodstock Spawning ⓘ   Hatchery Returns ⓘ   Hatchery Releases ⓘ   Hatchery Smolt-to_Adult Ratio (SAR)

<< Prev   1 2 3 4 5   Next >>   10   25   100   Show All Columns

Filter Options ⓘ

Universal   Clear Universal Selection(s)   ⌄

High Level Indicator   Clear [Insert HLI name] Selection(s)   ⌄

Filters Applied

User Interface

HCAX HLIs Query

High level indicators (HLI) are derived metrics of fish population health. The indicators are compiled by states, tribes, federal agencies, and contracted organizations that monitor salmon and steelhead in the Pacific Northwest. These are not raw data or index counts, but derived estimates based on hatchery programs and stocks as defined by the <insert link and name of tables> and best available science.

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HLI Selection Tabs

Broodstock Spawning ⓘ | Hatchery Returns ⓘ | Hatchery Releases ⓘ | Hatchery Smolt-to_Adult Ratio (SAR ⓘ

⬇ Download   Clear All Filters

<< Prev   1 2 3 4 5   Next >>   10 25 100   👁 Show All Columns

▽ Filter Options ⓘ

Universal   Clear Universal Selection(s) ⌄

Filters Applied

High Level Indicator   Clear [Insert HLI name] Selection(s) ⌄

User Interface

Data Output Preview

User Interface

Filter Selection Region

User Interface

Filters Applied Region

User Interface

HCAX Query Tool Demo

Status and Next Steps

Completed to date

- **HLI database views created**
    - Selection of available data fields
    - Standard column and value naming conventions

- **UI mockup** for the web query tool
    - Intuitive layout with filter panel, result set region, data export
    - Defined output structure and available filters
    - Inline user guidance & documentation/metadata links

Review/feedback stage
- UI mockups and sample HLI datasets shared with partners **(Sep 11, 2025)**
- Collecting comments; synthesizing feedback for spec updates

Status and Next Steps

Next Steps

- Compile partner feedback (from UI mockups & sample datasets)

- Update UI and database view specs based on comments

- Develop prototype application

- Internal QA - functionality testing, error/empty states, data quality review

- Partner testing (UAT) and issue triage

- Refine specs and complete final development

- Prep release notes, help docs, and production rollout

- Ongoing feedback channel remains open

Collaboration & Feedback

Data outputs & structure
- Outputs correct and complete
- **Required columns** – confirm presence and order
- **Naming conventions** – clear and consistent with standards
- **Data quality** – flag errors, outliers, or inconsistencies

Interface Functionality & usability
- **Is the interface intuitive?** Flow, layout, labels, guidance
- **Filters –** options, behavior, and filter types (e.g., multi-select, ranges)
- **Performance:** acceptable response time
- **Documentation/metadata links –** complete and discoverable
- **Other features and functionality** – what else would make your job easier?

Feedback Channels & Timeline

Channels
- Comments/questions during this session
- Email responses to Mari Williams (from the prior request)
- If possible, identify "must-have" and "nice-to-have" to help prioritize

Timeline
- **Today –** Address initial questions and capture suggestions
- **Post-meeting –** Team will consolidate input and update specs
- **Late-November 2025 –** Team will provide **DEV query tool** to partners for hands-on review
- **Mid-January 2026 –** Tentative deadline for partner feedback
- **Feb–Mar 2026 –** Target production release

# Questions/Discussion

Break return at 10:45

PSMFC GIS Updates

Van Hare

PSMFC GIS platform
## modernizing web services & mapping applications

- Office move, network improvements & upgrade to ArcGIS Enterprise 11.5
- Modernizing all web apps to latest ArcGIS API – Experience Builder based
- Moving away from legacy ArcGIS API (3.x for JavaScript)
- Simple migration of existing apps to start
- Welcome review and feedback/input on functionality (SN Tech Team)
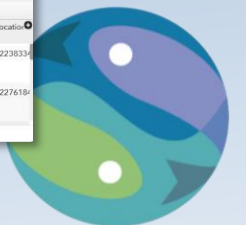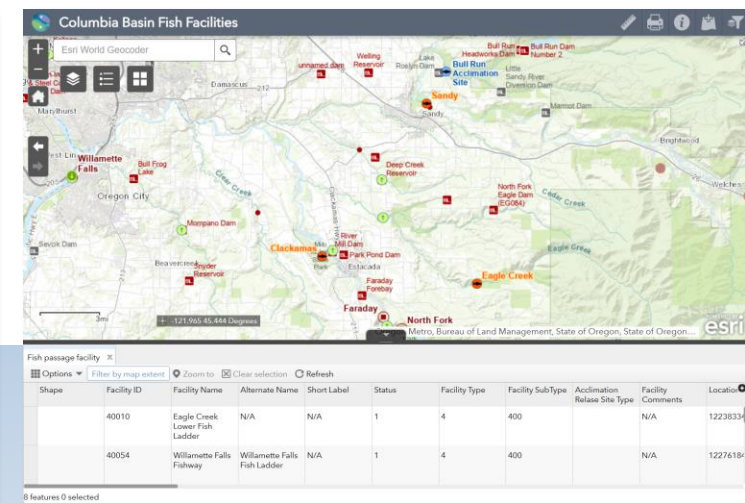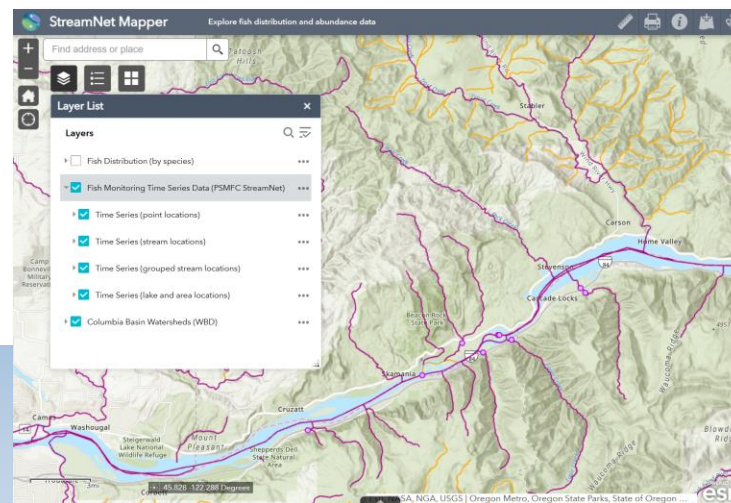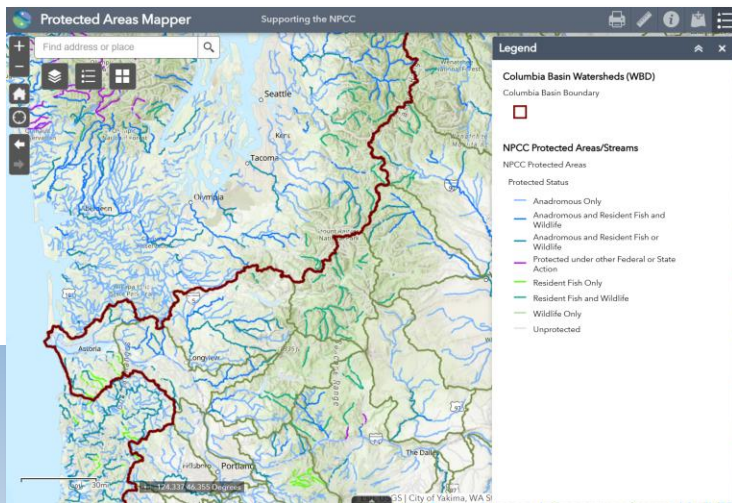
Generalized Fish Distribution
updates and incorporation of California data

- Expanded scope to include data from CDFW
- Not all attributes are present in California but cross-walked values where appropriate
- Mixed resolution; will coordinate with partners (CalFISH project) to include updates as they become available
- Plan to package a new downloadable dataset that includes California records
- Welcoming Fish Distribution submissions this winter – January/February
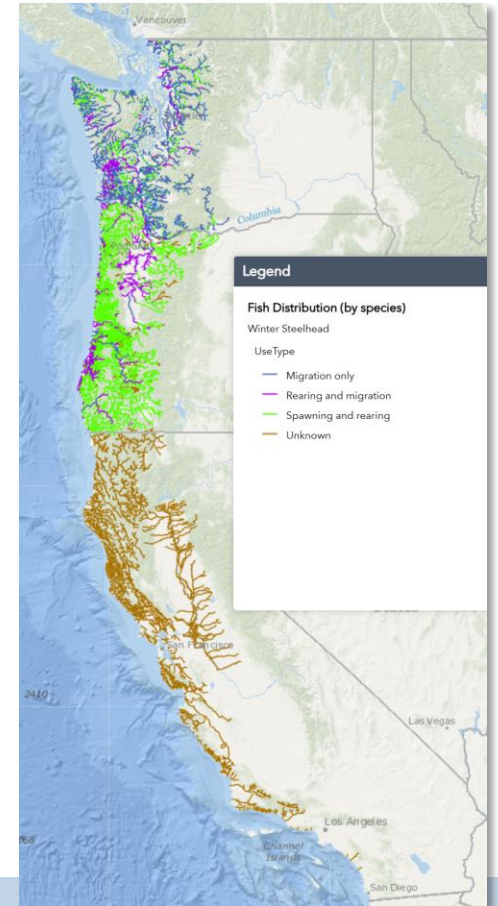
Generalized Fish Distribution
Partnering with Pacific Lamprey Conservation Initiative (PLCI)

- PLCI is taking over stewardship of the USFWS Pacific Lamprey fish distribution dataset
- PSMFC is providing support to PLCI to assist with maintaining and updating the dataset, which remains compatible with StreamNet's Fish Dist data standard
- Plan to create consistent product inclusive of California
- When complete ideally would like to bring a snapshot back into the fold of the StreamNet product (PLCI as the 'compiler')
- Any concerns or insights?
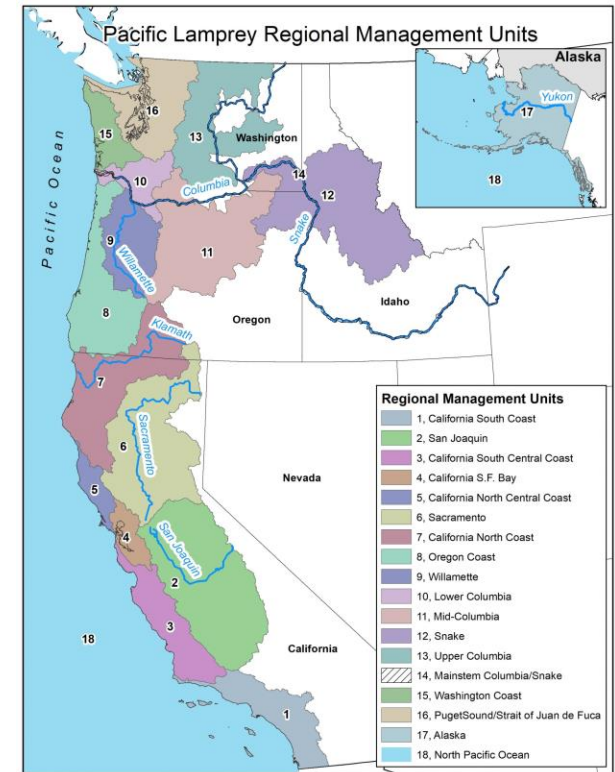
Fish Facilities Dataset

- QA/QC and initial expansion of geographic scope is complete
- New layer included in updated mapping application and will be packaged as a downloadable dataset
- Implemented Tech Team recommendation to modify facility type and subtype to support referencing data to "Direct release locations (offsite)"
- Developing a data review app to gather feedback and further improve the dataset with help from SN Tech Team
- Next focus: Clean-up categorization of dams and update attributes from the National Inventory of Dams (NID) and the American Rivers 'Removed Dams' database

Facility SubTypes

- ❑ Hatchery
  - ❑ 🔴 Hatchery
  - ❑ Acclimation/Release sites
    - ○ Artificial pond(s)
    - ○ Natural pond(s)
    - ○ Pond(s) – unknown type
  - ○ Net pen(s)
  - ○ Direct release locations (offsite)

Some facility types are symbolized based on SubType specific fields e.g., [AR_Type]

Update Terms and Definitions Used in CAP Data Standards

COMPLETED

- CA DESs 765 uses of terms, with 197 items flagged
- Task group reviewed and developed recommendations, survey 1 conducted
- January 30, 2025 DDTs for Natural and Hatchery DESs convened, Survey 2 conducted
- July 2025 DDTs convened and came to consensus on final items
- HCA DES updates partially included in version 07282025
- NCA DES updates to come in next version

Task Leads:

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Mike Banach (PSMFC)
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Carrying Capacity Standards

Review of carrying capacity estimation methods, including: Habitat expansion, stock-recruit models, quantile regression, Individual based models, and food web modeling.

Authors: Morgan H. Bond, Timothy Copeland, Tim Beechie, Sean M. Naman, Joe R. Benjamin, J. Ryan Bellmore, Kevin E. See, Correigh Greene, Jennifer M. Bayer, Megan Dethloff, and Russell Scranton

Progress:
- Final edits, gathering reviewers, and journal selections are being made

Next Steps:
- Full draft of document for external review
- Completion of peer review process
- Submission to journal

Task Leads:

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PIT Tag Array Data and Analyses
2025 Webinar Series

COMPLETED

Date	Topic
April 17	Fish Monitoring Work Group Meeting
PIT Tag Data and Analysis 2025 Webinar Series	
April 24	-Mastering advanced reports and data extraction in PTAGIS -Mastering skills in Excel for managing PIT detection data
May 1	-GitHub How-to
May 8	-Wrangling and Preparing PIT Tag Data using PITcleanr -R in GitHub resources to access PTAGIS, DART, MR, and StreamNet data & PIThy updates
May 15	-Columbia Basin Research: DART & Tools -PitPro demo
May 22	-Honing skills in R for graphics and managing detection data

PIT Tag Array Data and Analyses

Progress:

- Very successful webinar series
  - Recordings watched on YouTube
  - FMWG survey results were very positive with helpful suggestions on presentations (statistical analysis, Bayesian modeling, setting up and managing sites)

- Survey says…THEY WANT MORE!

Next steps:

- Possible in person workshop

- Discussing additional webinars due to constrained budgets

Task Leads:

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Rotary Screw Trap (RST) Data Collection

Purpose: A comprehensive resource for Columbia River Basin rotary screw trap specific information from multiple regional systems and sources.

Current Milestone: working to develop the dashboard as a tool for connecting facility data, location info, contact info for management entity, etc.

Work has begun again on this task! Sam will share more on the next slide.

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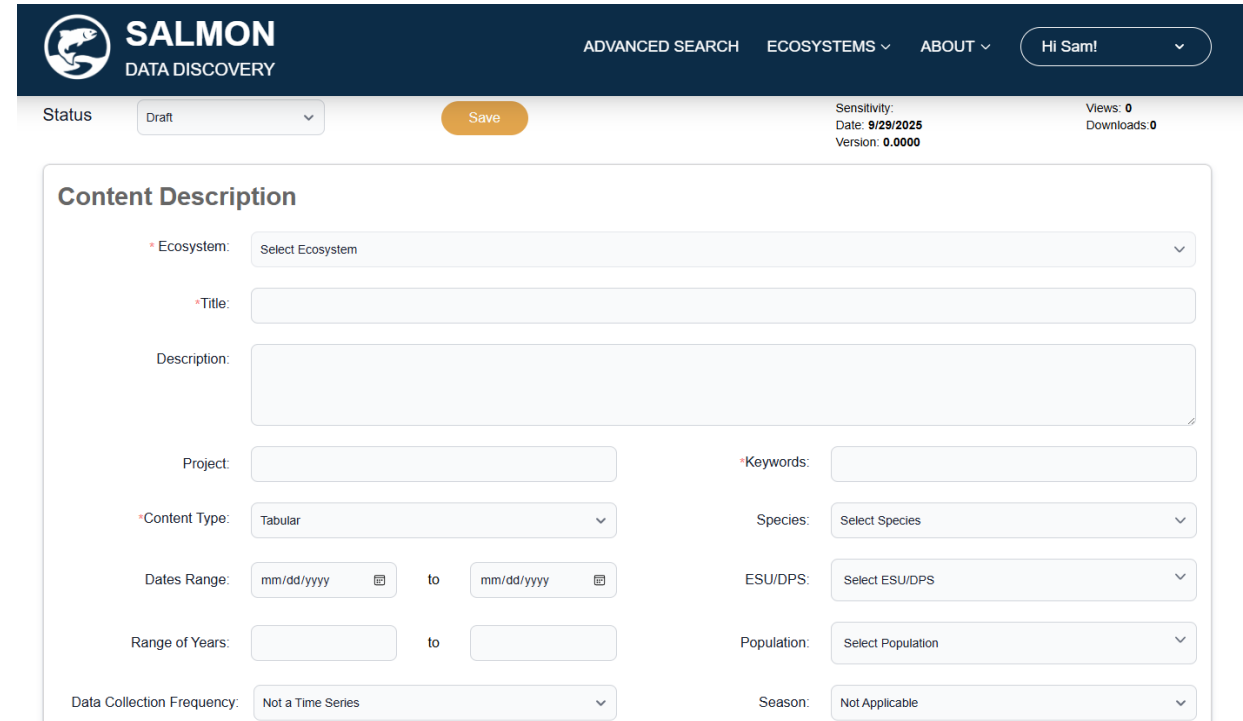
Mari Williams (PSMFC)
mwilliams@psmfc.org

Rotary Screw Trap Dashboard

Updating the RST info

- Reaching out to contacts and bios to get the correct data

- Reestablishing the FMWG Task

Shared Space and Revamp:

- Working with our developers to provide a better user experience and interface
  - Salmon Data Discovery Tool
  - Fish Regs Tool

Fish and Wildlife Program
Focal Species Draft Polygon Maps

Nancy Leonard

Purpose

Develop focal species polygon maps (HUC 6 scale) for use by BPA CBFISH, Monitoring Resources, and other regional partners that build upon StreamNet-PSMFC Fish Distribution layers to display:

- Distribution - (extant, extirpated, extinct, or as relevant)

- Stream habitat use - (migratory, rearing, spawning (if not possible designate as present/absent))

- Layers for stock grouping from NOAA MAFAC Columbia Basin Task Force Partnership - Phase 2 report

Sequenced List of Focal Species for Map Development (sequence informed by data and reporting needs per BPA)

| Species	BPA Priority Group
Spring and Spring/Summer Chinook	Priority Group 1 to complete existing layers
Fall Chinook	Priority Group 1 to complete existing layers
Summer/Fall Chinook	Priority Group 1 to complete existing layers
Summer Chinook	Priority Group 1 to complete existing layers
Coho	Priority Group 1 to complete existing layers
Sockeye	Priority Group 1 to complete existing layers
Steelhead	Priority Group 1 to complete existing layers
Chum	Priority Group 2 to create new layers.
Pink Salmon	Priority Group 2 to create new layers.
Bull Trout	Priority Group 2 to create new layers.
Yellowstone and Westslope Cutthroat Trout	Priority Group 2 to create new layers.
Rainbow Trout	Priority Group 2 to create new layers.
Kokanee	Priority Group 2 to create new layers.
White Sturgeon (includes Kootenai), Green Sturgeon and Burbot	Priority Group 2 to create new layers.
Pacific Lamprey	Priority Group 2 to create new layers.
Northern Pikeminnow	Priority Group 2 to create new layers.

Add additional attributes to complete

Process - Polygon Map Development
Initial Review of Maps

Step 0 – Internal PSMFC GIS, StreamNet, and QW meeting to confirm process

Step 1 – Leverage available layers from StreamNet Fish Distribution Mapper for each species/run to identify potential missing information
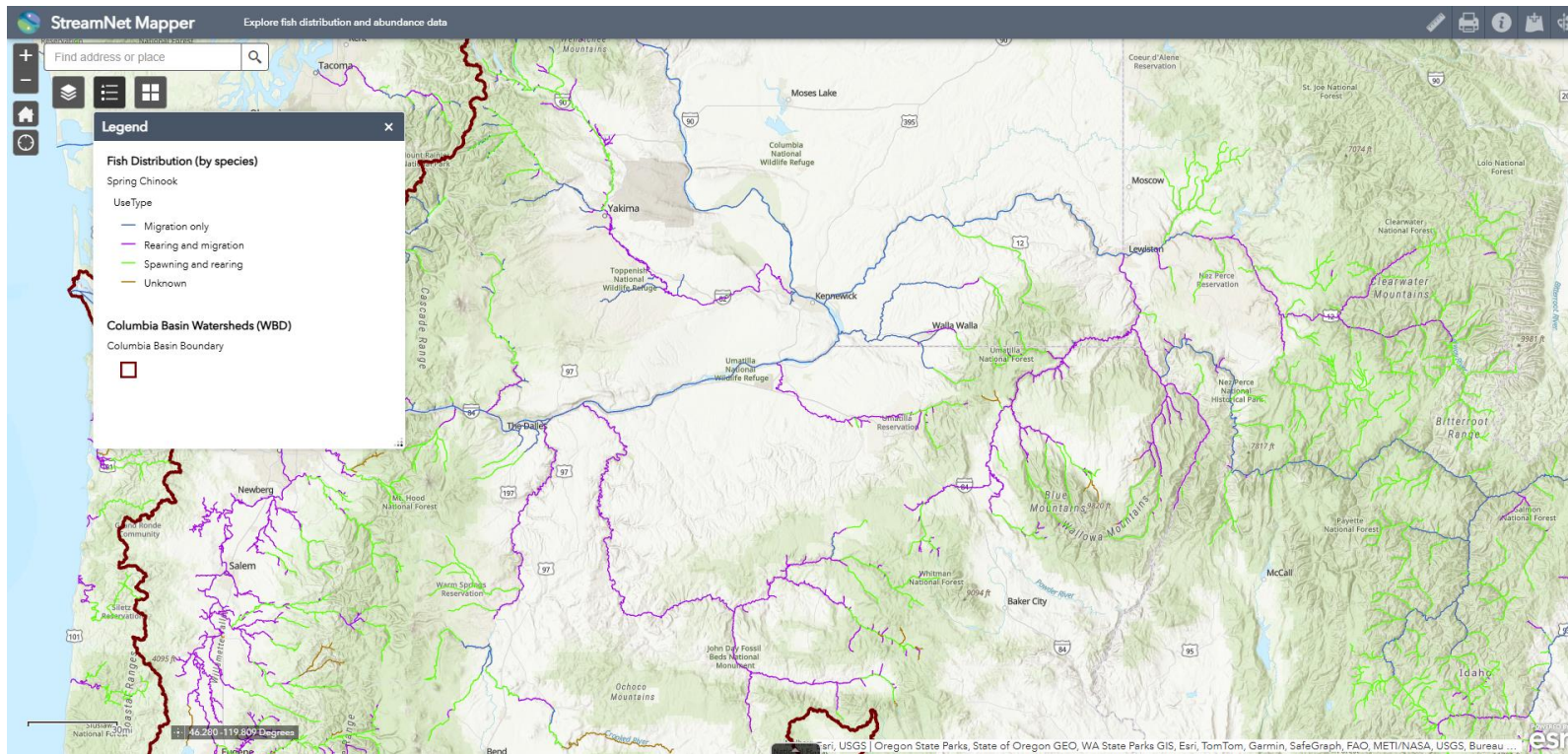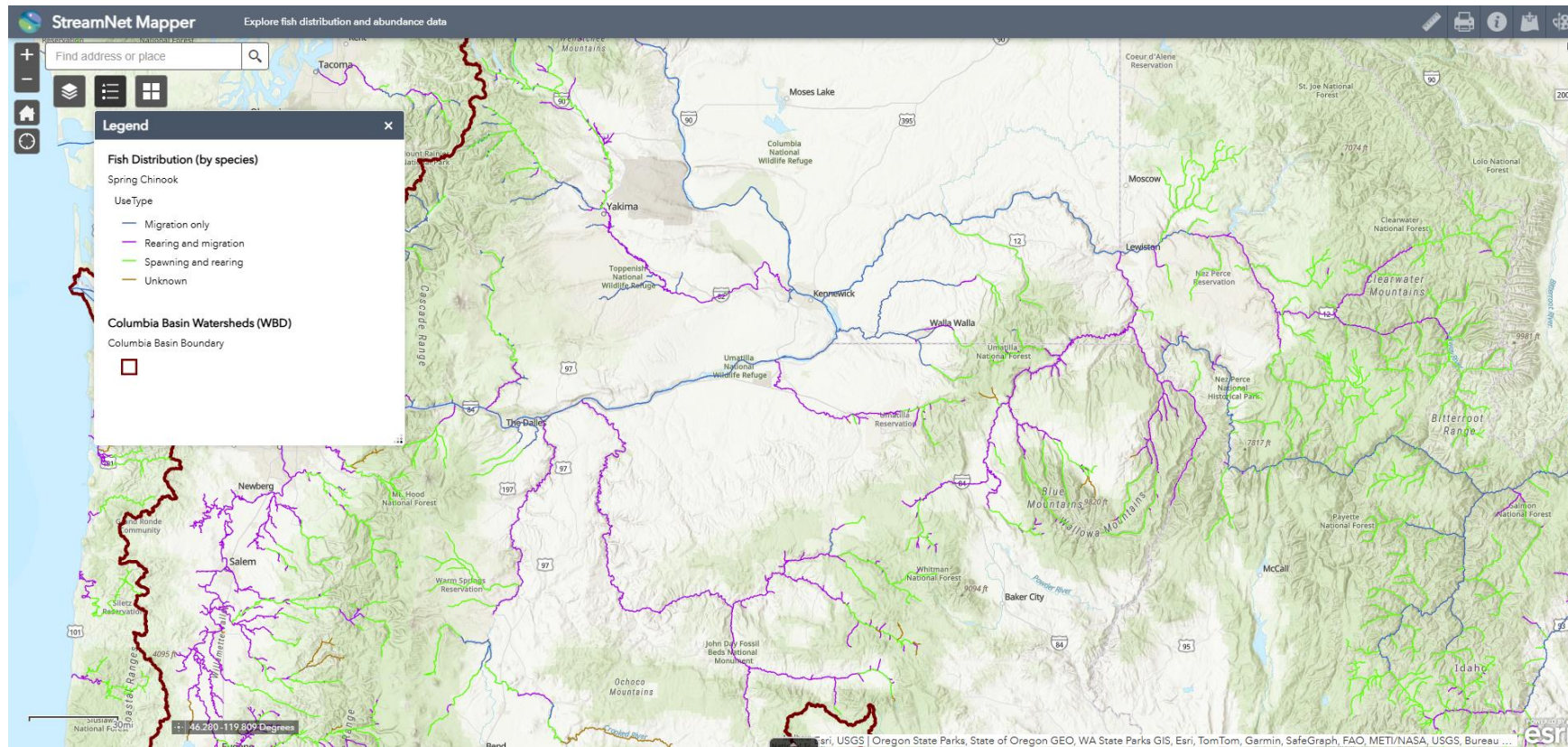

Step 2 – Contact StreamNet GIS partners to determine if the missing map has yet to be shared with the Fish Mapper

Process - Polygon Map Development
Collecting Missing Information

Step 3 – Contact biologists for information to fill voids (e.g., publication, manager layers/files, estimates from intrinsic layers, etc.)

Step 4 – Review literature to address remaining gaps and identify areas of historic distribution that are now considered extirpated/extinct in the respective HUC

Process - Polygon Map Development - Draft Layer

Step 5 – Add NOAA MAFAC stock name to table attributes for each HUC 6 (mined from MAFAC Phase 2 Appendix)

Step 6 – Create draft polygons at the HUC 6 scale and include additional attributes following the GIS polygon process described on the StreamNet website

Step 7 – Add draft metadata details for the new layers (i.e., description of original sources of data/layers that informed the map, frequency of update, and geographic extent) to align with PSMFC GIS

Step 8 – Coordinate with PSMFC GIS staff to publish layers on the PSMFC ESRI hub for public access facilitating review

Process - Polygon Map Development
Draft Layer Review and Testing

Step 9 – BPA tests in CBFISH

Step 10 – Work with PNAMP Fish Monitoring Workgroup, StreamNet Technical Teams, and the StreamNet Steering Committee to get expert review of the revised layers

Future - As StreamNet partners become able to provide additional layers using PSMFC Fish Distribution Mapper, the polygons will be updated with their layers
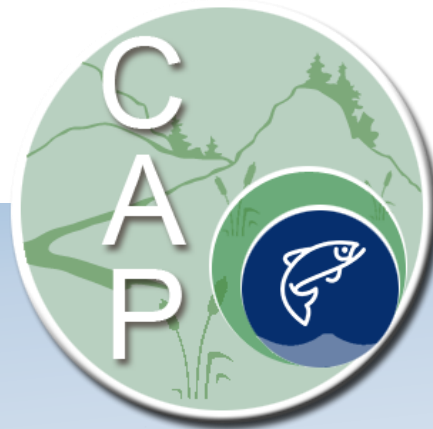
Conferences

Mari Williams

WA/BC AFS
British Columbia 2025

Workshops provided:

Hatchery Coordinated Assessments data availability and access

Salmon Ontology, by the Salmon Data Mobilization group

Western Division AFS Portland 2026

May 4-7

Holiday Inn Portland – Columbia Riverfront

909 North Hayden Island Dr. Portland, OR 97217

Symposia on Data Management – catchy title needed!

Interested parties include ODFW, CAP, StreamNet, PNAMP, Salmon Data Mobilization, and you?

Next StreamNet Steering Committee Meeting

- Where and when?

Location for 2026 (winter)

- Feb/March 2026 & Sept 2026: WDFW? IDFG? PSMFC?
- Sept 2025: ODFW
- Feb 2025: PSMFC
- Sept 2024: MFWP
- Feb 2024: ODFW
- Sept 2023: WDFW
- Feb 2023: IDFG

Potential	Known Existing Conflict
Feb 17-18 Feb 22-27 March 1-6 March 9-13	Feb 9-13: PSC March 22-26: RCMT

Location for 2026 (fall)

- Feb/March 2026 & Sept 2026: WDFW? IDFG? PSMFC?
- Oct 2025: ODFW
- Feb 2025: PSMFC
- Sept 2024: MFWP
- Feb 2024: ODFW
- Sept 2023: WDFW
- Feb 2023: IDFG

Potential	Known Existing Conflict
Aug 31-Sept 4	Aug 30-Sept 3: AFS annual meeting
Sept 14-18	Sept 8-11: ETIS
Sept 21-25?	Sept 17-22: PFMC meeting
Oct 13-116	Sept 21-24: Possible TCDS
	Sept 28-30: PSMFC annual meeting
	Oct 19-22: PSC
	?? StreamNet ExCOM meeting

ADJOURN

Thanks for joining us!