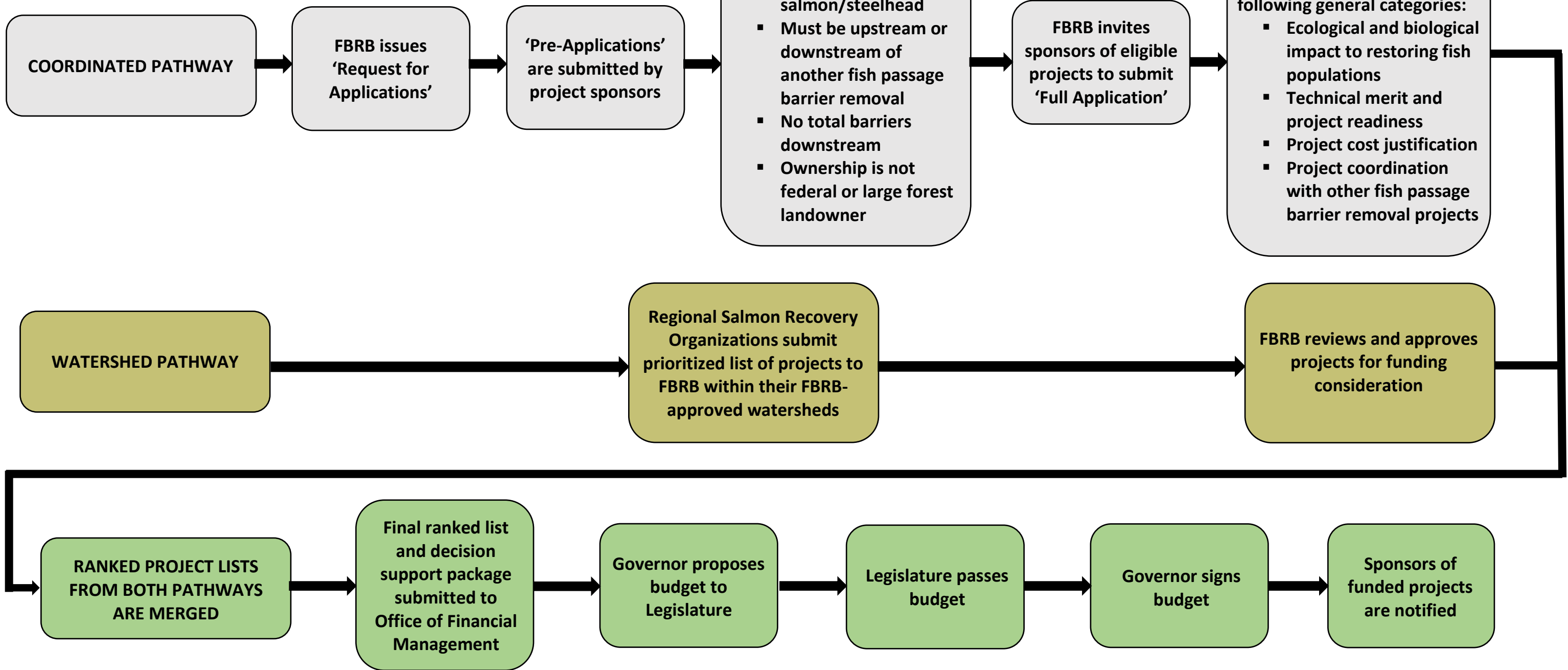




# Meeting Handouts

March 19, 2019

1. Flow Chart: Coordinated and Watershed Pathways
2. Brochure: Coordinated Fish Passage Investment Strategy
3. Agenda: House Capital Budget Committee Work Session, March 14, 2019
4. Presentation: WRIA 14 Fish Passage Projects and Updates for the FBRB
5. Presentation: Lower Columbia FBRB Watershed Pathway
6. Presentation: Upper Columbia FBRB Watershed Pathway
7. Fish Barrier Removal Board business
  - a. Work Plan
  - b. Bylaws
  - c. Member roster



**Contact Brian Abbott Fish Barrier Removal Board:**

<p><b>Tom Jameson, FBRB Chair</b> Fish Passage Division Manager Washington Department of Fish and Wildlife 360-902-2612 <a href="mailto:Thomas.Jameson@dfw.wa.gov">Thomas.Jameson@dfw.wa.gov</a></p>	<p><b>Justin Zweifel, FBRB Program Manager</b> Fish Passage Scoping Section Manager Washington Department of Fish and Wildlife 360-902-2608 <a href="mailto:Justin.Zweifel@dfw.wa.gov">Justin.Zweifel@dfw.wa.gov</a></p>
--	--



## Regulatory Streamlining Accomplished and Future Opportunities

WSDOT regularly partners with federal, state and local regulatory agencies to explore and implement process improvements which accelerate fish passage barrier projects.

- WSDOT completed programmatic Endangered Species Act consultations – projects approved in less than a month
- Fish enhancement projects exempt from SEPA
- Improve complete permit applications (WSDOT, local governments and others doing projects)
- Clarify that local permits and fees are not required for fish enhancement projects as per RCW 77.55.181
- Explore additional streamlining for commonly needed permits/approvals in light of increasing workload and WSDOT's batched project delivery model for 2019-21 including working with the U.S. Army Corps of Engineers

## Governor's Proposed Budget for Fish Barrier Corrections – 2019-21 Biennium

### Brian Abbott Fish Barrier Removal Board (WDFW/RCO)

\$25.1M	Correct 63 Fish-Passage Projects – 36 county, 9 city, 16 private, 2 state
---------	---

### WSDOT

\$275M	Correct 35-40 barriers improving access to 15-20% of blocked habitat. Over 135 culvert projects will be underway during the biennium
--------	---

### Family Forest Fish Passage Program (DNR/WDFW/RCO)

\$6M	Correct 45-50 Fish Passage Projects on small forest landowner private property
------	--

### Chehalis Basin Aquatic Species Restoration Plan (Office of Chehalis Basin/WDFW)

\$4M	Correct 10 barriers for local government
------	--

### State Parks

\$1.6M	Correct 2 barriers
--------	--------------------

### DNR State Land Trust - Required under Forest & Fish Law

\$3.8M	Correct 42 barriers
--------	---------------------

## MORE INFORMATION:

<b>Megan White</b>	<b>Jeff Davis</b>	<b>Wendy Brown</b>	<b>Stephen Bernath</b>
<b>Washington State</b>	<b>Washington</b>	<b>Recreation and</b>	<b>Department of Natural</b>
<b>Department of</b>	<b>Department of Fish</b>	<b>Conservation Office</b>	<b>Resources</b>
<b>Transportation</b>	<b>and Wildlife</b>	360-902-3021	360-902-1028
360-705-7480	360-902-2527		

**Americans with Disabilities Act (ADA) Information:** This material can be made available in an alternate format by emailing the Office of Equal Opportunity at [wsdotada@wsdot.wa.gov](mailto:wsdotada@wsdot.wa.gov) or by calling toll free, 855-362-4ADA(4232). Persons who are deaf or hard of hearing may make a request by calling the Washington State Relay at 711.

**Title VI Notice to Public:** It is the Washington State Department of Transportation's (WSDOT) policy to assure that no person shall, on the grounds of race, color, national origin or sex, as provided by Title VI of the Civil Rights Act of 1964, be excluded from participation in, be denied the benefits of, or be otherwise discriminated against under any of its federally funded programs and activities. Any person who believes his/her Title VI protection has been violated, may file a complaint with WSDOT's Office of Equal Opportunity (OEO). For additional information regarding Title VI complaint procedures and/or information regarding our non-discrimination obligations, please contact OEO's Title VI Coordinator at (360) 705-7090.

# Coordinated Fish Passage Investment Strategy

WDFW; WSDOT; RCO; DNR; PUGET SOUND PARTNERSHIP – 2019



Fish Passage Restoration in an urban environment - SR 522 Lyon Creek



Fish Passage Restoration in a rural environment - SR 531 Cougar Creek

State and local agencies, tribal governments, along with environmental and recreational organizations, all have a shared interest in removing barriers to fish:

*“Maximize the benefits to salmon and steelhead while complying with the federal injunction. Pursue a well-coordinated approach, in consultation with tribes, which leverages the investments in barrier corrections to more fully open habitat.”*

## Federal Fish Passage Injunction Overview

Salmon recovery efforts are not only “the right thing to do” to help restore and preserve Washington's unique environment for our state's current and future generations; a U.S. District Court ruling requires the state to remove fish barriers.

Issued in 2013, the “Permanent Injunction Regarding Culvert Correction:”

- Requires Washington Department of Fish & Wildlife, State Parks, Department of Natural Resources and Washington State Department of Transportation to identify and correct salmon barriers that block habitat for salmon and steelhead.

- Sets requirements, to be carried out in consultation with tribes, to ensure culverts are corrected, inspected, and maintained.
- Requires the barrier to be completely removed, or replaced with a full-span bridge, stream simulation culvert or an alternative structure agreed to by the tribes.

WDFW, State Parks, and DNR have completed their initial court-ordered list of barrier corrections – these agencies are now required to maintain and monitor culverts for fish passage in perpetuity, correcting any new barriers that develop or are discovered.

- 232 Injunction barrier corrections through June 2018 (WDFW 11, State Parks 18, DNR 148, WSDOT 55).

## WSDOT Barriers

### WSDOT Injunction Requirements

<ul style="list-style-type: none"> <li>Open 90 percent of potential fish habitat by 2030 (~415 WSDOT owned culverts)</li> </ul>	<ul style="list-style-type: none"> <li>Provide the greatest habitat gain at the earliest time</li> </ul>
<ul style="list-style-type: none"> <li>Correct other barriers at failure or as part of larger transportation projects (~577 culverts)</li> </ul>	<ul style="list-style-type: none"> <li>Monitor to ensure corrections meet requirements</li> </ul>
<ul style="list-style-type: none"> <li>Inventory water crossings to identify new barriers (WSDOT contracts with WDFW) - correct those "within a reasonable period of time"</li> </ul>	<ul style="list-style-type: none"> <li>Consult with tribes on corrections and in carrying out the program</li> </ul>

### WSDOT Funding Required to Comply with the Injunction

\$275 million in 2019-21*	\$726 million per biennium thereafter through 2030*
* Identifying new barriers may affect the overall culvert program or individual transportation project costs if new barriers are found within project areas.	

## Non-WSDOT Barriers

The table below highlights the breadth of the statewide fish barrier issue and indicates the level of investments needed. Broad-based coordination among all fish barrier owners will be a critical factor in salmon recovery efforts.

### Non-Injunction Salmon and Steelhead Fish Passage Road Barriers Statewide\*

Owner Type	Known Number of Barriers	Estimated \$/ Project	Subtotal	Source of estimated cost
County	2,800	\$820,000	\$2,296 million	Avg. County project cost-Kitsap, Skagit & Thurston Counties
City	1,100	\$975,000	\$1,073 million	Avg. City project cost on Fish Barrier Removal Board 19-21 List
Private	5,800	\$135,000	\$783 million	Avg. Family Forest Fish Passage Program project cost
Special Districts/ Ports/Other	250	\$900,000	\$150 million	Avg. local barrier project cost
Federal	900	Not provided	Not included	
<b>Total Known Barriers</b>	<b>11,000</b>	<b>Total</b>	<b>\$4,300 million</b>	

#### Assumptions:

\* Man-made barriers in WDFW's Fish Passage & Diversion Screening Inventory Database - February 2019. Does not include WSDOT, RMAP barriers and unidentified barriers.

### Total Known plus Unidentified Barriers Statewide

<b>Total Estimated Barriers Statewide**</b>	<b>19,000</b>	<b>\$700,000</b>	<b>\$9,900 million</b>	<b>** This estimate is the total of known plus unidentified barriers. Unidentified barriers are not in the WDFW barrier database and were estimated based upon the number of intersects between roads and waterways statewide.</b>
---	---------------	------------------	------------------------	--

## Multi-agency Coordination

A successful fish-barrier-removal effort requires the skills, support and actions of multiple entities working in collaboration to gain efficiencies and to realize the greatest benefit of our state's investments. The organizations listed below each have a role to play in Washington's salmon recovery, and work with others as follows:

### Brian Abbott Fish Barrier Removal Board

*MISSION: Implement a coordinated fish barrier removal strategy that maximizes the habitat recovery value of other fish passage investments that have been made by public and private entities statewide.*

Created by the Legislature in 2014, the Fish Barrier Removal Board provides a sound mechanism to coordinate local, state and private corrections statewide. The same WDFW team prioritizing culvert replacement projects for the Board also prioritizes barrier corrections for the Chehalis and Family Forest Fish Passage Programs.

- Membership includes: WDFW (chair), Governor's Salmon Recovery Office, cities, counties, WSDOT, DNR, tribes, and salmon recovery regions.
- The Board uses two barrier removal strategies:
  - Watershed Pathway: Board-approved watersheds prioritized by regional salmon recovery organizations that maximize benefits to salmon.
  - Coordinated Pathway: Correct barriers in close proximity to other barrier corrections to leverage previous investments.
- Corrects multiple fish barriers in whole streams, rather than individual, isolated projects – start downstream first.
- Conducts outreach to cities, counties, conservation districts, and salmon recovery organizations, soliciting barrier removal projects – capital funding request generated by Board.

- Approximately 20 percent of the Board's fish passage projects are in direct coordination of WSDOT injunction barrier corrections.

**WDFW – Provides Data Stewardship and Technical Support** to state and local governments and organizations to assist in understanding where barriers are and how to fix them. WSDOT and WDFW have been working in coordination to identify and prioritize fish passage barriers for removal on the state highway system since the early 1990s.

WDFW conducts and maintains inventory of fish passage blockages – user friendly maps available [wdfw.wa.gov/conservation/habitat/fish\\_passage/data\\_maps.html](http://wdfw.wa.gov/conservation/habitat/fish_passage/data_maps.html)

- WDFW provides a free fish passage training program that is structured to provide individuals and groups the technical expertise necessary to plan and implement fish passage efforts statewide.

### WSDOT – Delivery Plan and Local Coordination

- WSDOT uses the following factors to prioritize corrections and is committed to keeping the Board and others aware of its project delivery plan:
  - Habitat access; opportunity to bundle projects geographically; presence of up/downstream barriers; leverage investments by others; tribal priorities; project readiness; other transportation projects in area; transportation impacts.
- WSDOT collaborates with others to produce better results – includes funding state culvert corrections associated with larger habitat restoration efforts.
  - Examples include: Kilisut Harbor (SR 116), Padden Creek/Bellingham (SR 11), Lyon Creek/ Lake Forest Park (SR 522), Ostrich Creek/ Bremerton (SR3).

## Agenda

House Capital Budget Committee Work Session

1:30-3:30 PM, Thursday, March 14<sup>th</sup>, 2019

House Hearing Rm B, John L. O'Brien Building

**Governor's Office** (Policy / OFM) JT Austin / Scott Merriman with Representative Peterson

**WDFW** Jeff Davis (Tom Jameson OH for FBRB questions)

- Struggling Salmon, Steelhead & Orca (SRKW)
- Why Salmon Need Habitat
  - The Four H's of Salmon Recovery
  - How Culverts Become Barriers to Salmon
  - Extent of the Statewide Problem
  - Fish Passage Diversion and Screening Database (FPDSI)
  - Science Behind Barrier Removal
- Incorporating Climate Change into Culvert Design
- Permit Streamlining
- The FBRB Origin and Membership
- FBRB Coordination (From the SHB 2251 & RCWs)
- FBRB Prioritization Approaches
  - Watershed Pathway – Coordination with Regional Lead Entities
  - Coordinated Pathway – Coordination with Agencies, Local Governments, CDs, & Conservation Groups
- FBRB Project Lists and Funding Requests
  - 17-19 Biennium
  - 19-21 Biennium
- FBRB is the State's Coordinated Fish Passage Strategy

**WSDOT** Kim Mueller (Megan White OH for questions)

- Background on the injunction requirements and WSDOT workload
- Correction requirements (mimic natural stream flows) and co-benefits (climate resilience; flood risk reduction)
- Current budget/budget needs/and progress to date
- Prioritizations factors / Visual showing WSDOT's work program (maps/watersheds?)
- Coordination with the board and other examples/opportunities of coordination with local governments and restoration groups

**Stakeholder Panel:** How to achieve success working with the State Family

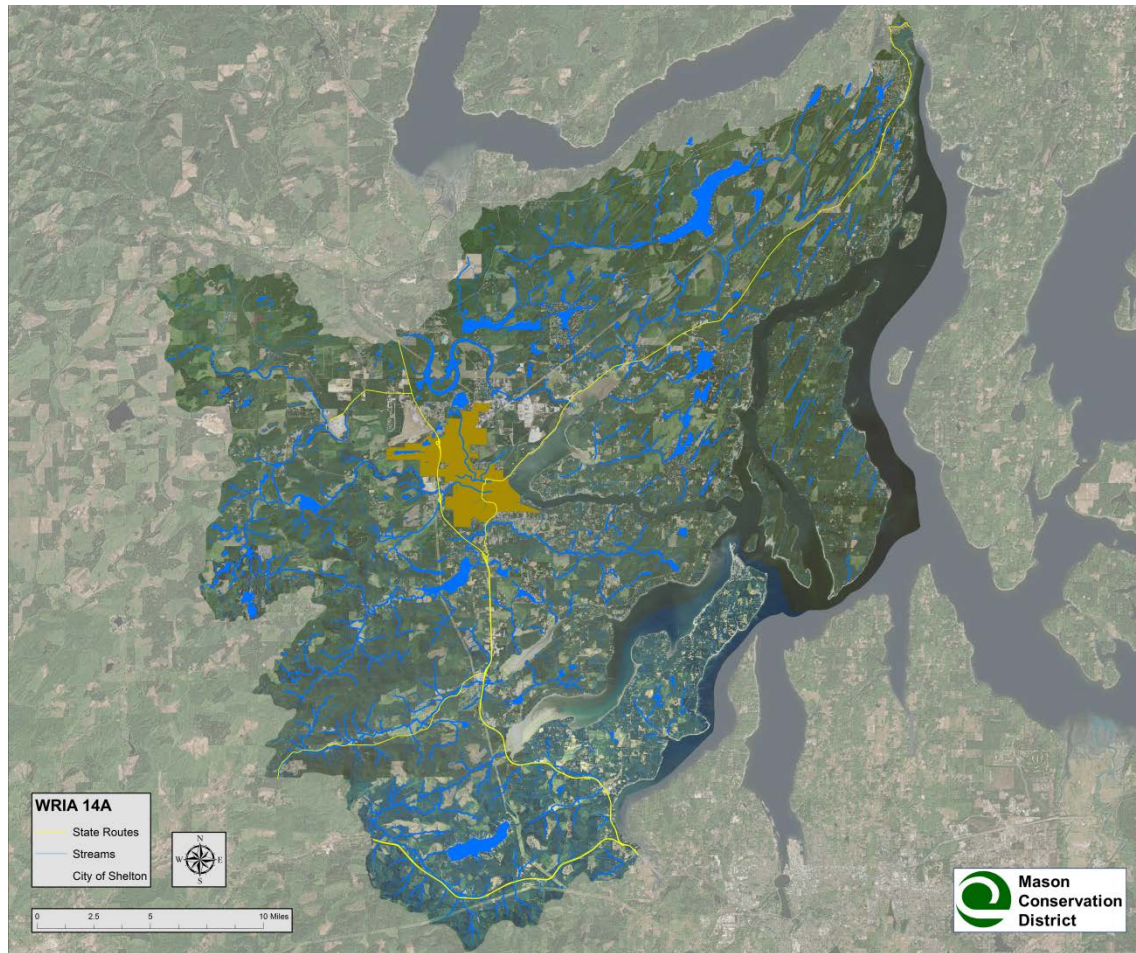
- **Association of WA Cities** Carl Schroder
- **Washington State Association of Counties** Jane Wall
- **Department of Natural Resources** Steve Bernath
- **Recreation and Conservation Office** Wendy Brown
- **State Parks** Owen Rowe
- **Puget Sound Partnership** Jeff Parsons
- **Washington State Conservation Commission** Alison Halpern

WRIA 14 Fish Passage  
Projects and Updates  
for the  
Fish Barrier Removal Board

*March 19, 2019*

Loretta Swanson- Mason County  
Evan Bauder- Mason Conservation District  
Brian Combs – S. Puget Sound SEG

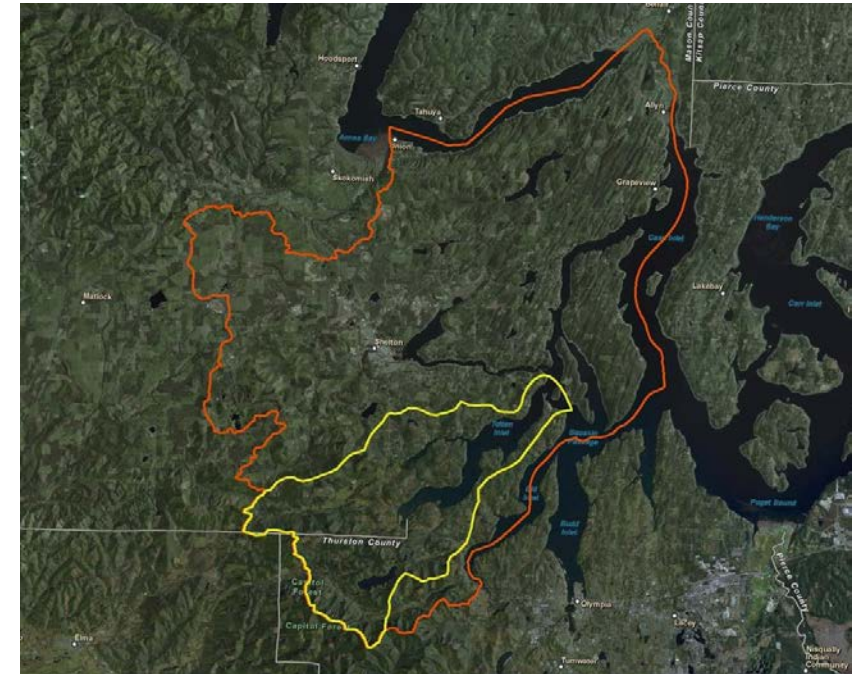
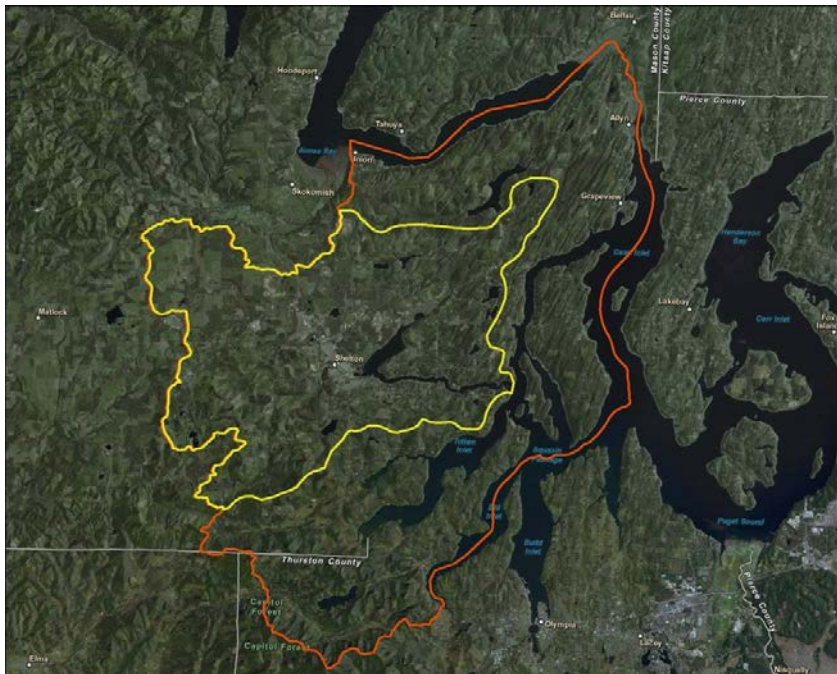
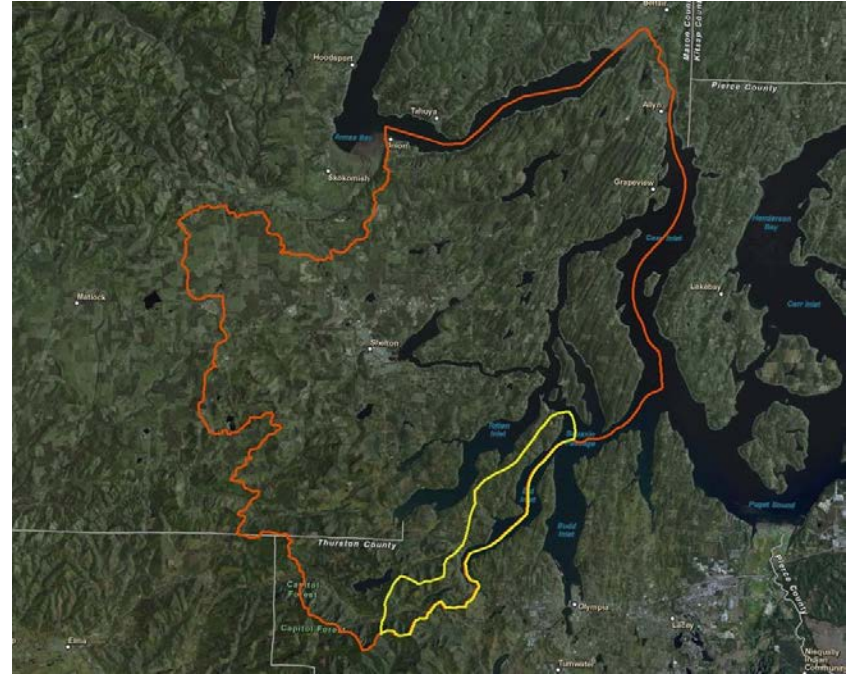
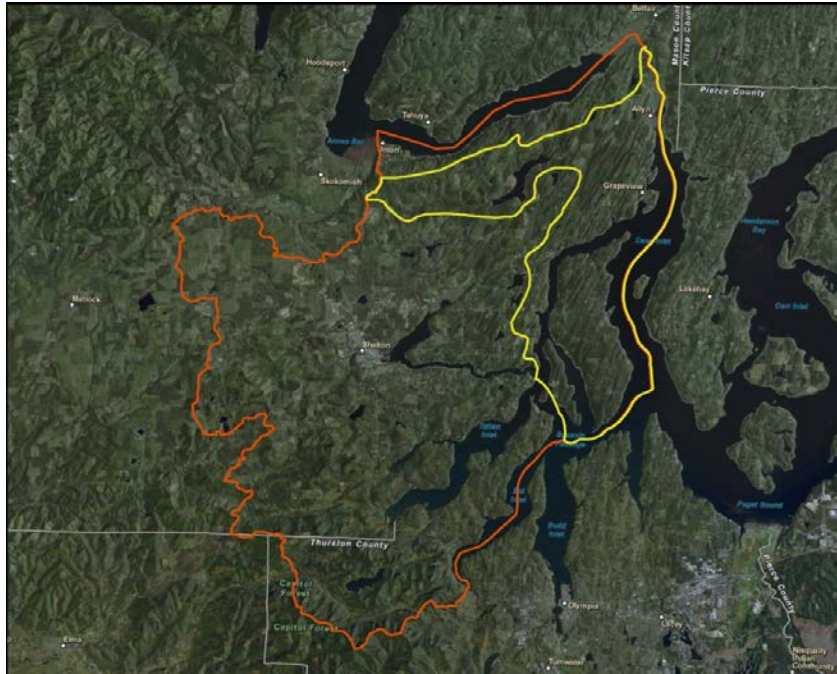
# WRIA 14



# Summary of Fish Passage Work in WRIA 14

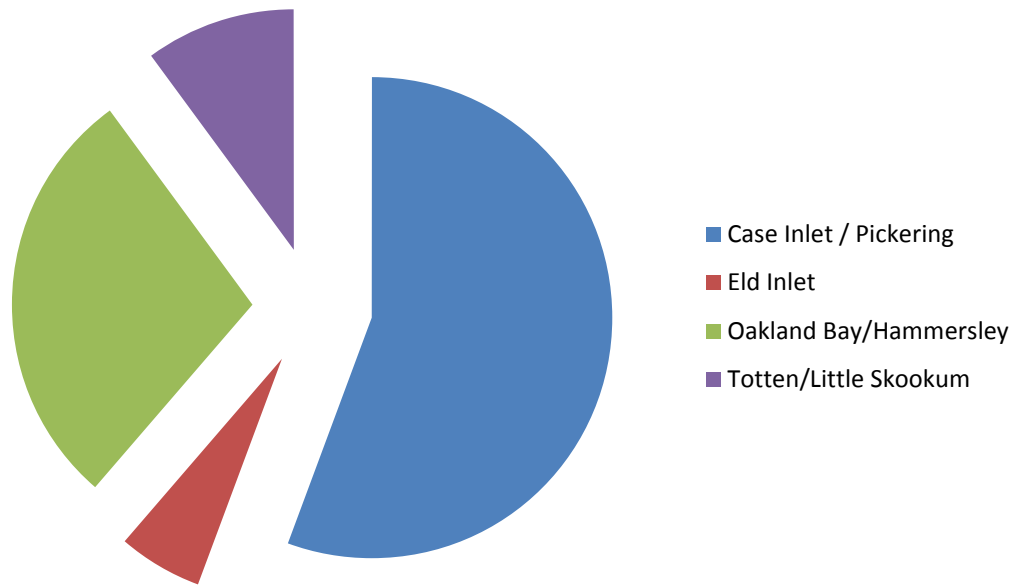
- Sample from data available in Habitat Work Schedule
- Most of these projects were funded by FFFPP, SRFB, PSAR, and Mason County.
- These estimates do not include RMAP or HCP related fish passage work.
- These estimates do not include removal of the Goldsborough Creek Dam.





# Funding Distribution

Watershed	Funding Invested
Case Inlet / Pickering Passage	\$ 3,642,000.00
Eld Inlet	\$ 370,000.00
Oakland Bay/Hammersley Inlet	\$ 1,871,000.00
Totten & Little Skookum Inlets	\$ 660,000.00
	\$ 6,543,000.00



**Approximately \$6.54 Million Invested**

**Annual SRFB Allocation: ~\$210k**

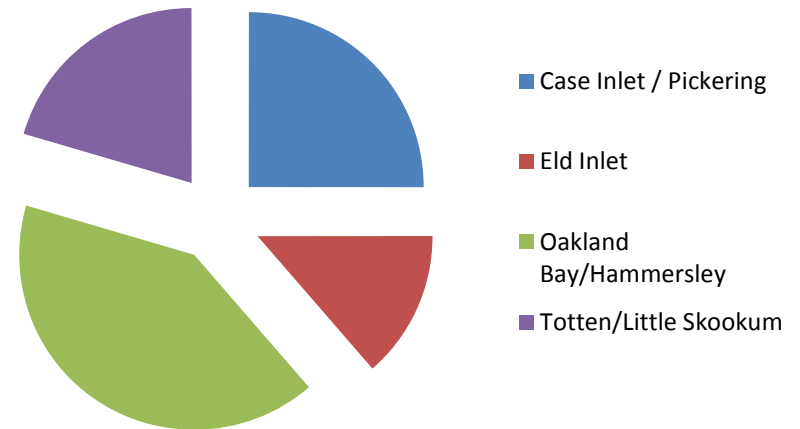
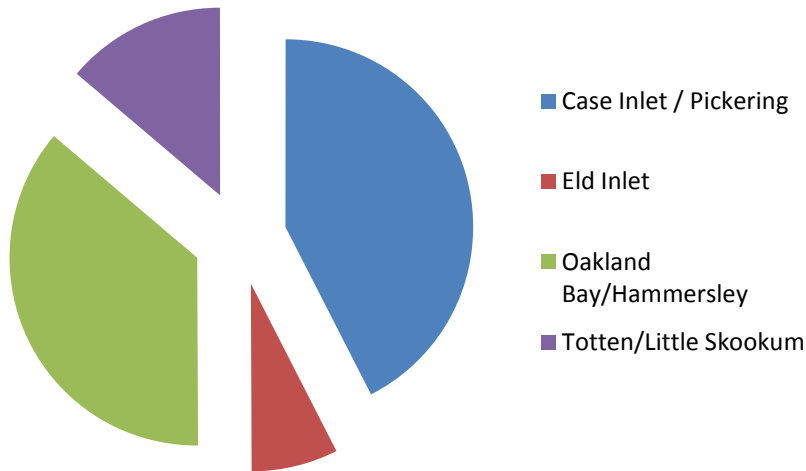
# Implementation Metrics

## Miles of Habitat Made Accessible

Watershed	Miles
Case Inlet / Pickering	32.54
Eld Inlet	5.71
Oakland Bay/Hammersley	27.77
Totten/Little Skookum	10.57
<b>TOTAL</b>	<b>76.59</b>

## # of Barriers Removed or Altered

Watershed	#
Case Inlet / Pickering	11
Eld Inlet	6
Oakland Bay/Hammersley	18
Totten/Little Skookum	9
<b>TOTAL</b>	<b>44</b>



**Approximate Average Cost/Barrier = \$149k**  
**Highest Cost Project = \$1.14 million**

# Examples of New Project Locations

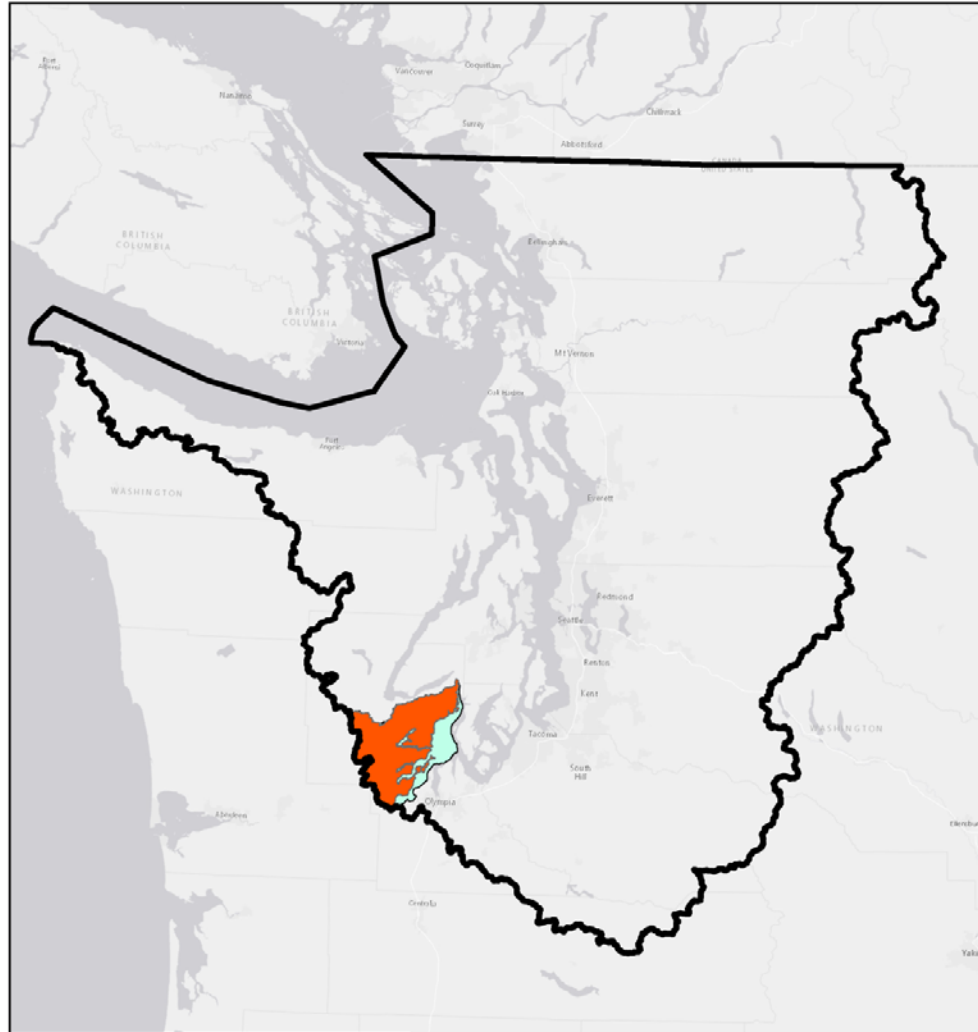
- Miles of upstream habitat: 0.75
- Approximate Cost: \$115k






- Miles of upstream habitat: 0.68
- Approximate Cost: \$110k



# Goldsborough HUC 10 Vicinity Map



## Legend

-  Puget Sound Partnership
-  WRIA 14 Lead Entity
-  Goldsborough HUC 10



Author: Cade Roler



# Prior Inventory Surveys

## Some Older, Some Newer

- 2003 SPSSEG
    - Did not capture many private roads
  - WDFW On-going
    - Select areas
  - Mason County
  - Mason Conservation District
  - Squaxin Island Tribe
  - Wild Fish Conservancy
    - Stream Typing usu. does not include Level A/B
  - Navy Railroad
    - Recently updated
- Others?

# Why Your HUC 10 for the Watershed Pathway?

Excerpts from WDFW (Cade Roler presentation)

- Goldsborough HUC 10 stood out based on limited amounts of impervious surfaces, water quality, Coho Intrinsic Potential, and the nomination justification

# WRIA 14 Unique Characteristics

1. Many stream systems, not just one or two large rivers
2. However, Goldsborough Creek largest system and represents most significant salmon resources
3. Every stream is different; individually and collectively many salmon resources; life history diversity important, not just abundance
4. Puget Sound Tribs : Many streams; some with clear spawning potential, others less understood
5. Tidal barriers significant to small tribs., costly
6. SRFB allocation is very small – one of the lowest in P. Sound. Thus, barrier funding has been spotty. FFFPP has been a great source, but less eligible these days



# WRIA 14 Lead Entity Committee for Watershed Pathway Projects

A snapshot of the project selection committee:

Mason Conservation District

Squaxin Island Tribe

Mason County

Thurston County

Capitol Land Trust

Wild Fish Conservancy

Port of Shelton

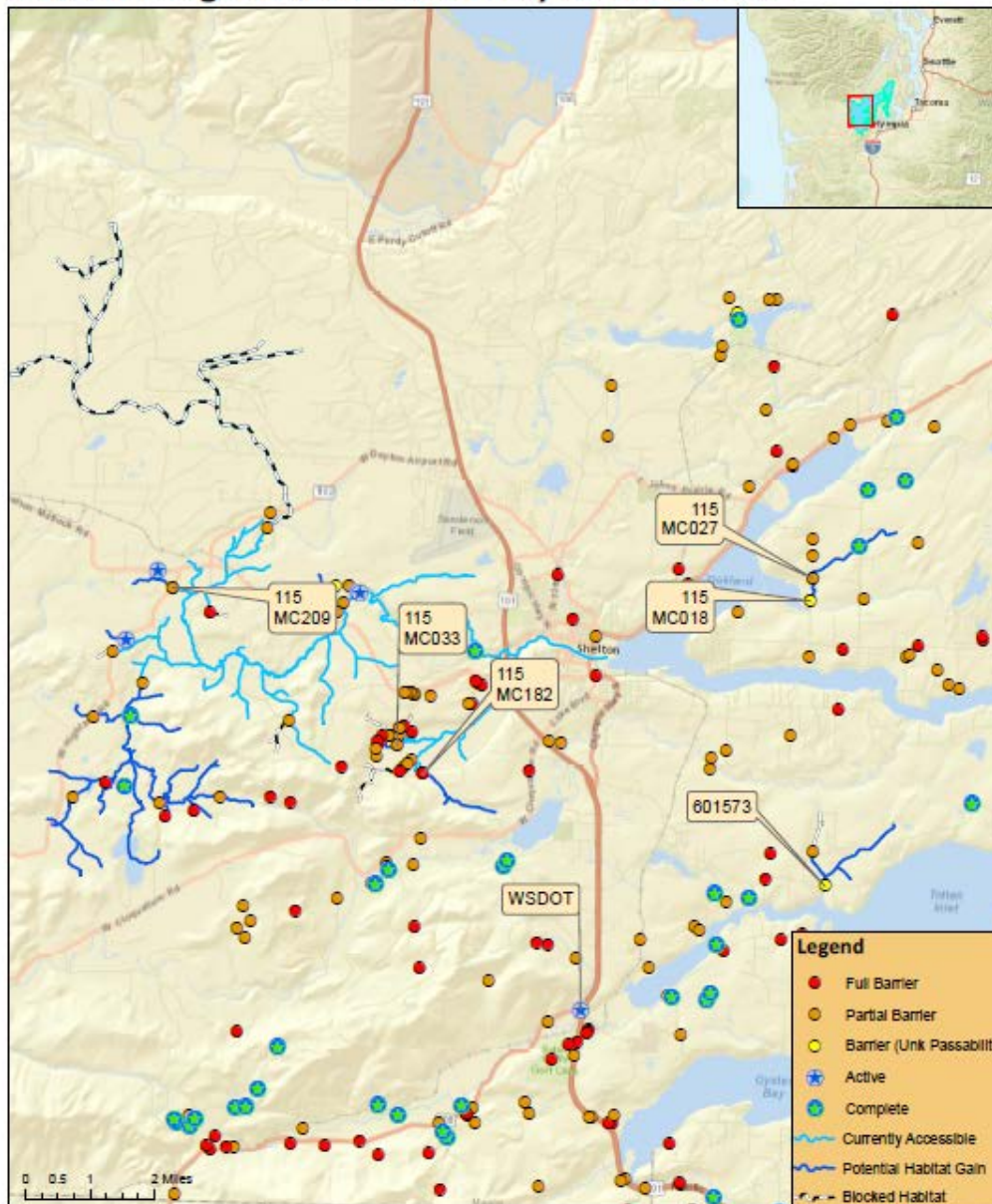
SPSSEG

Public Citizens

# 2017 Funding Package Project Prioritization

- No existing, formal prioritization
- Goldsborough Creek must be a focal area
- But... P. Sound Tribs also important = life history diversity and cumulative habitat
  
- Some Challenges.....
- Several tidal barriers; but costly; some on small streams
- Lack of inventory limits potential

# Goldsborough Watershed Priority 1 - All Barriers



WRIA 14 Salmon Habitat Recovery Committee Lead Entity

Fish Barrier  
Removal Board  
12/1/2016





# Some Interesting Past Projects

## Midway Creek



# Midway Creek



# Midway Creek



# Midway Creek



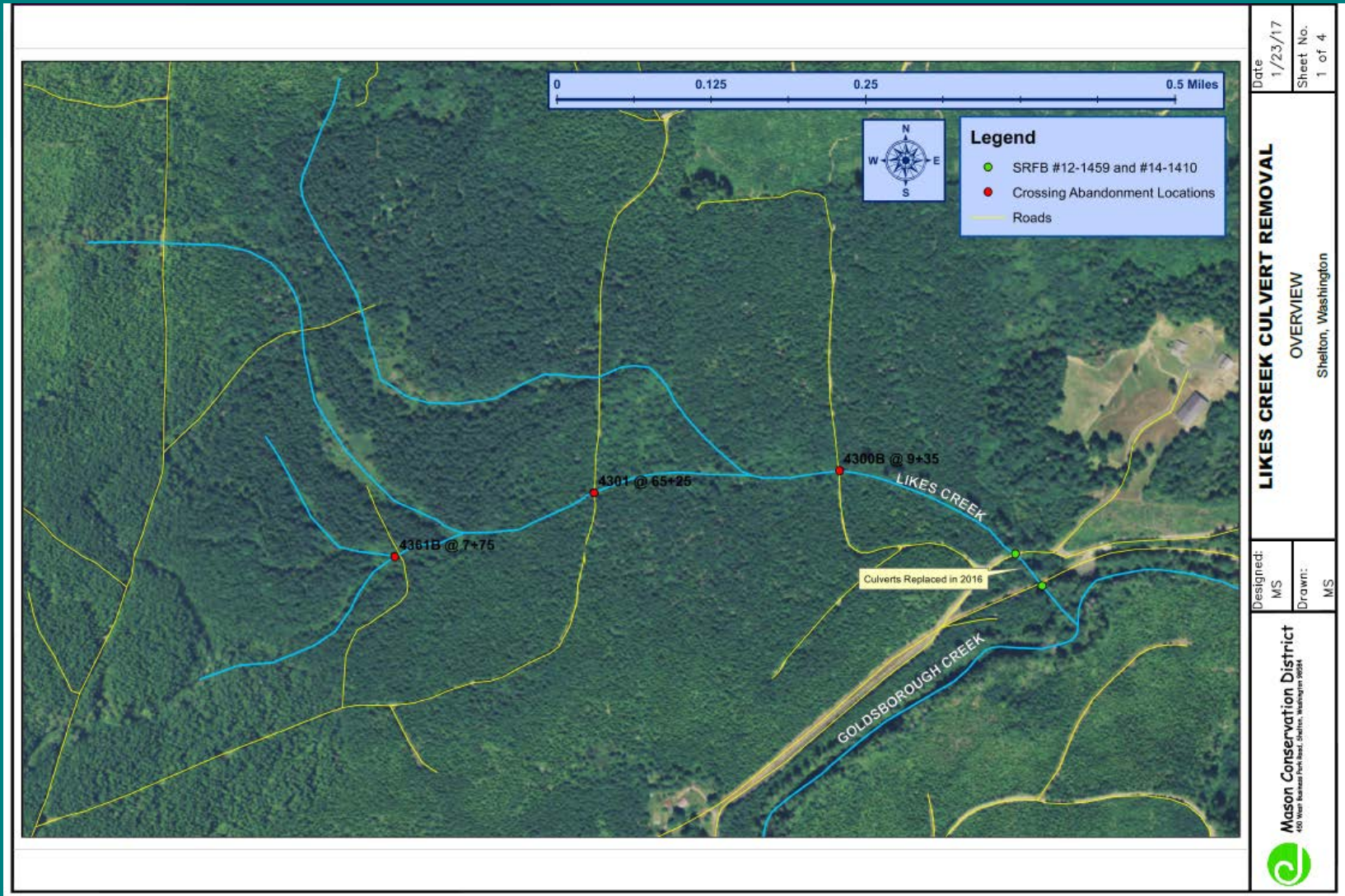


# Midway Creek



# Some Interesting Past Projects

## Likes Creek

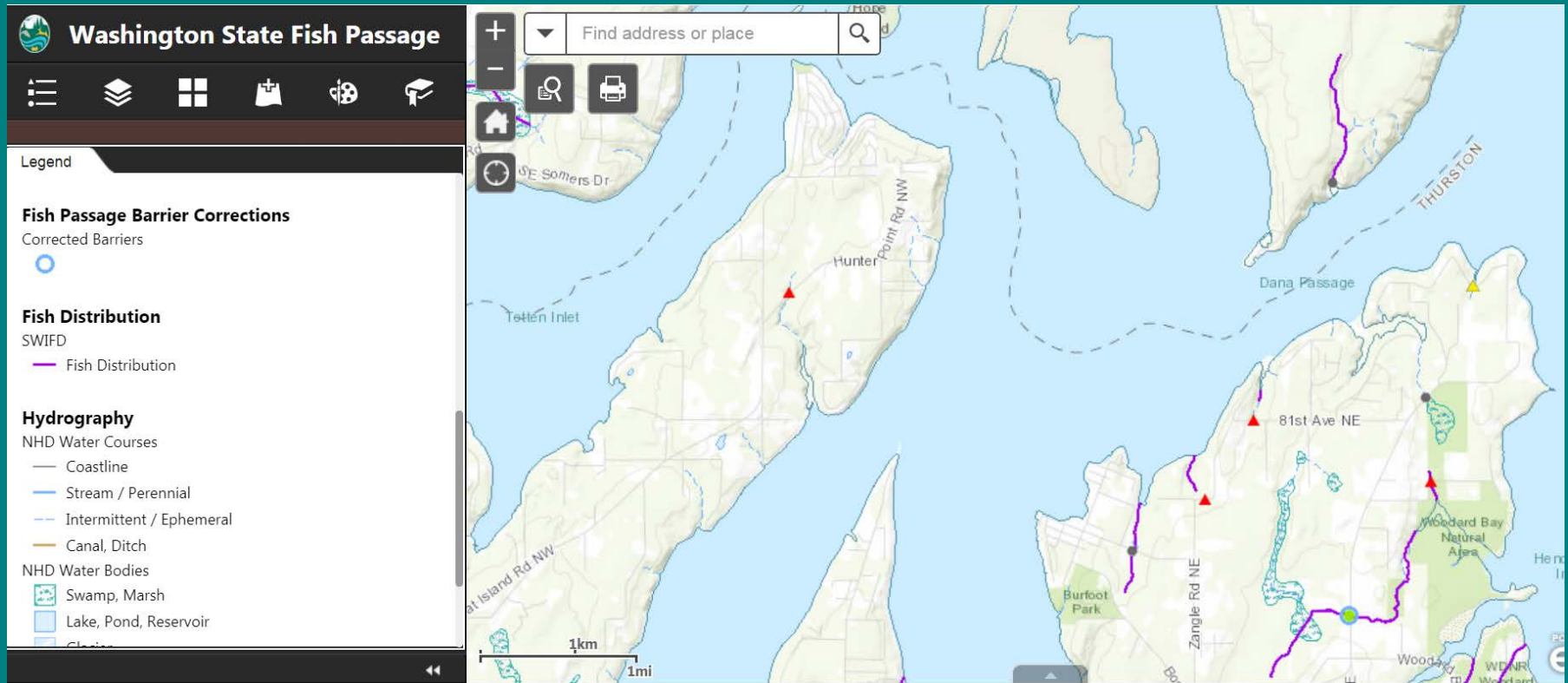


# Likes Creek



# Some Interesting Past Projects

## Hunter Point Road

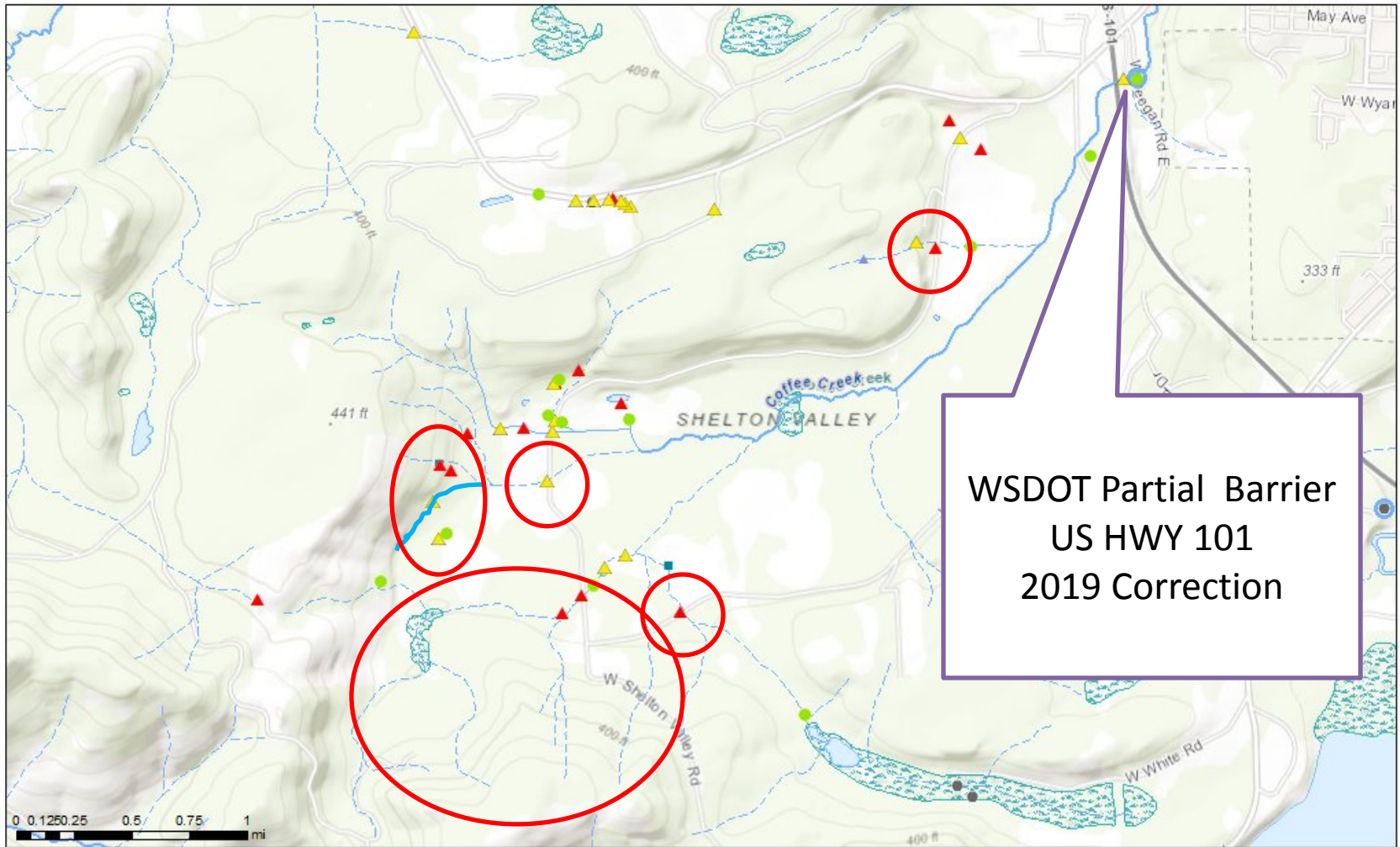


# Hunter Point Road Coho in Plunge Pool



# Miles gained vs. Quality and Importance

Coffee Creek – a case in point



WSDOT Partial Barrier  
US HWY 101  
2019 Correction

### Washington State Fish Passage



Washington  
Department of  
**FISH and  
WILDLIFE**

- |                                 |                                     |                              |                                |                |
|---------------------------------|-------------------------------------|------------------------------|--------------------------------|----------------|
| ● Not a barrier                 | ▲ Total Fish Passage Blockage       | ■ Diversion                  | <b>NHD Water Courses</b>       | — Canal, Ditch |
| ▲ Partial Fish Passage Blockage | ▲ Barrier, Unknown Percent Passable | ▲ Natural Barrier - Verified | — Coastline                    |                |
|                                 |                                     | ● Unknown                    | — Stream / Perennial           |                |
|                                 |                                     | ○ Corrected Barriers         | - - - Intermittent / Ephemeral |                |

# Upstream of Deegan Road





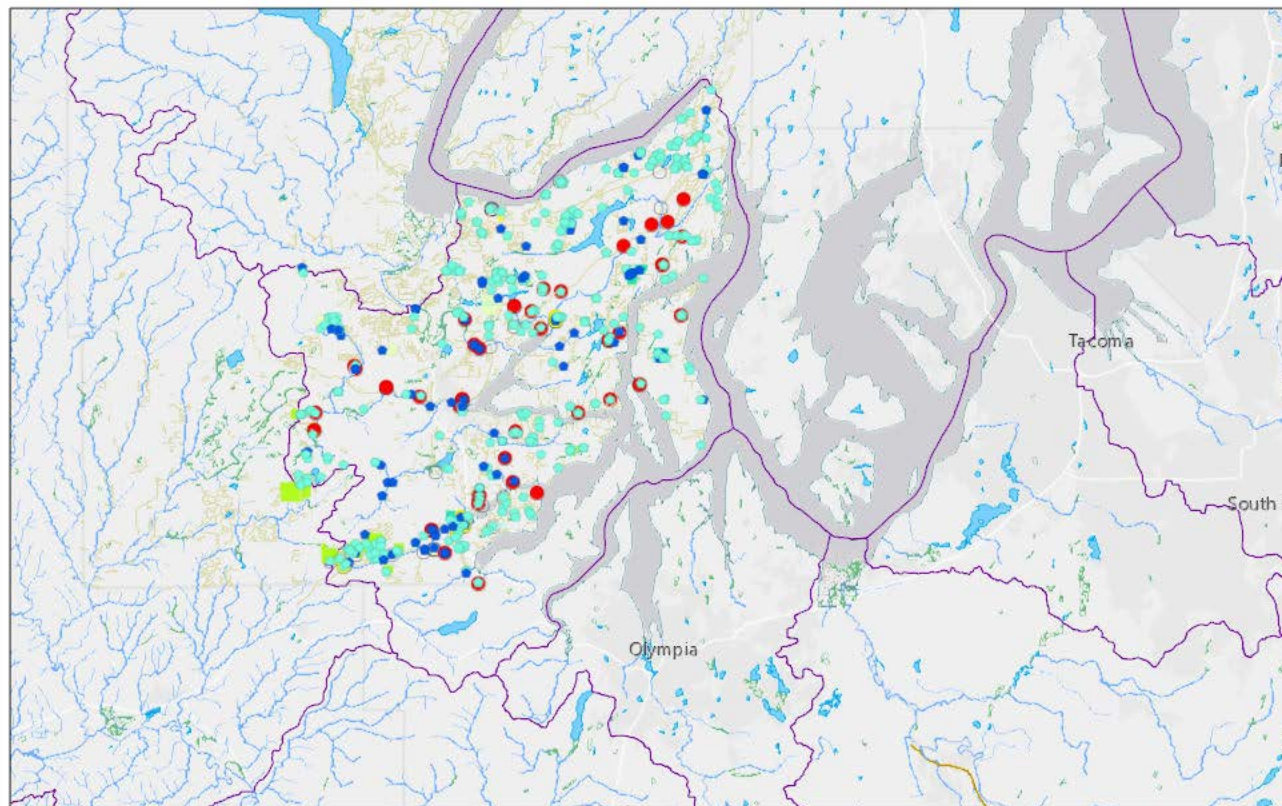
# Upstream of Shelton Valley Road



# Upcoming Efforts

## New Inventory of Private Crossings

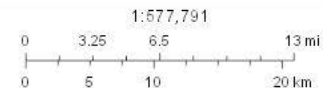
ArcGIS Web Map



3/11/2019, 4:56:12 PM

Intersects: PrivateRoads/NHD WRIA 14  
Parcels\_with\_Intersects WRIA 14

● Intermittent	■ Residential - 100	■ Recreational - Private - 5
● Perennial	■ Undeveloped Land - Private - 62	■ Transportation - Private - 3
		■ Squaxin - 2



Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user

Web AppBuilder for ArcGIS

Esri, HERE, Garmin, NGA, USGS, NPS | See dataset specific metadata | Data was compiled by the StreamNet project (<http://www.streamnet.org>), which is administered by the Pacific States Marine Fisheries Commission and funded by Bonneville Power

# Upcoming Efforts

## New Inventory of Private Crossings

### Outcomes:

1. Survey as many private barriers as possible
2. Combine database with recent County inventory
3. Prioritize all sites within WRIA
4. Updated database to WDFW

# FBRB Recommendations

1. Keep WDFW staff support
2. Keep working with Lead Entity to select proposed barriers
  - Consistency with local prioritization scheme
  - Institutional/Regional knowledge
3. Integration with other funding sources
4. Fill gaps – eligibility; match
5. Flexibility in Ranking and Prioritization
  - As data gaps are filled and updated inventories
  - Consider Quality of habitat, not just miles
  - Site specific constraints or opportunities
  - Voting system or WRIA approval for deviating from prioritization

# Questions?

Contact Info:

Evan Bauder, Mason Conservation District  
[evan@masoncd.org](mailto:evan@masoncd.org)

Brian Combs, S. Puget Sound SEG  
[brianc@spsseg.org](mailto:brianc@spsseg.org)

Loretta Swanson, Mason County Public Works  
[LorettaS@co.mason.wa.us](mailto:LorettaS@co.mason.wa.us)

# Lower Columbia FBRB Watershed Pathway

Delameter- Lower Cowlitz





# Lower Columbia Fish Recovery Board (LCFRB) Introduction

- ▶ Who is the LCFRB?
  - ▶ **Established by RCW 77.85 in 1998, the LCFRB was recognized as both the regional Recovery Organization (RO) and the Lead Entity (LE) for the Lower Columbia salmon recovery effort**
- ▶ What does the LCFRB do?
  - ▶ **The Lower Columbia Fish Recovery Board leads the coordinated implementation of locally-driven salmon recovery and watershed management plans across our region to restore at-risk fish and ensure we have clean water, healthy forests, working farms, and thriving rural and urban communities into the future.**

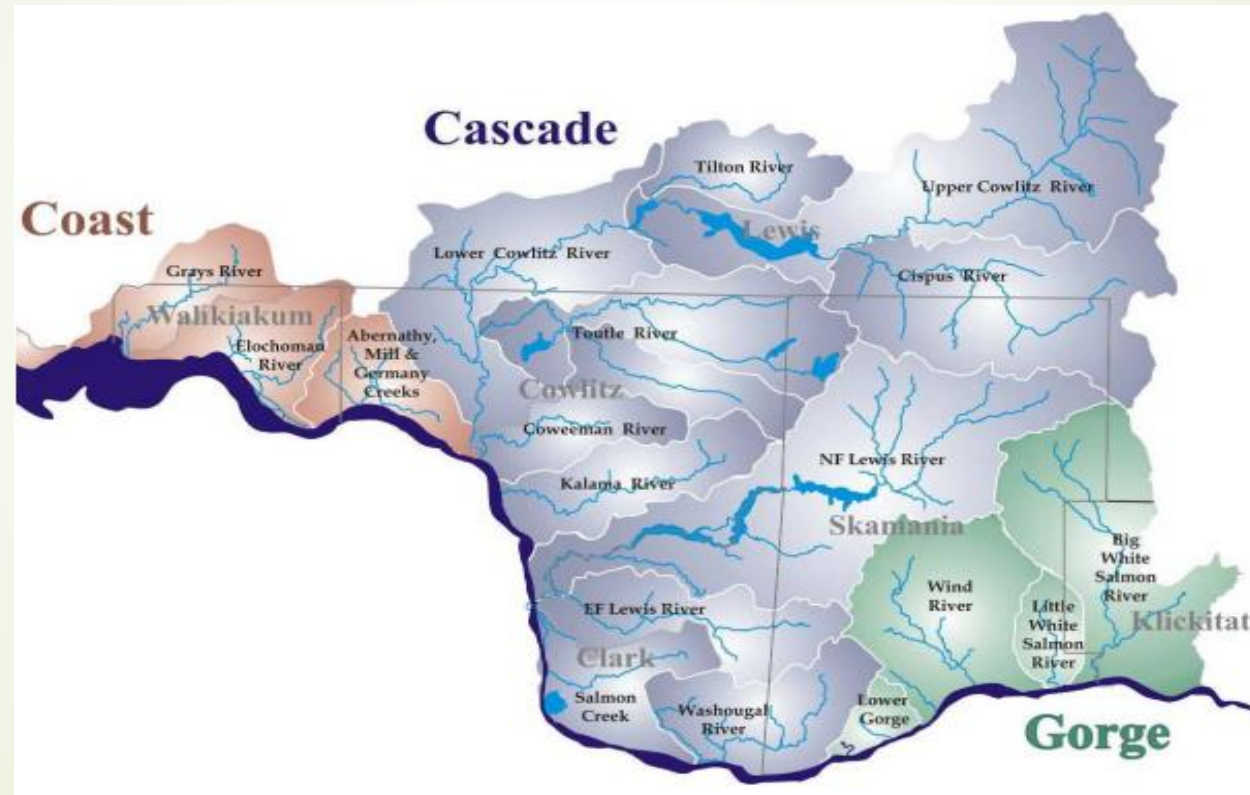


# Lower Columbia Fish Recovery Board (LCFRB) Geographic Planning Area

- ▶ What is the Geographic Planning Area?
  - ▶ The Lower Columbia Salmon Recovery Region encompasses 5,700 miles<sup>2</sup>
    - ▶ Spans the area from the Columbia River mouth upstream to the White Salmon River
    - ▶ Includes five entire counties, and two partial counties (Pacific Co. and Klickitat Co.)
    - ▶ Includes eight NPCC subbasins: Grays, Elochoman, Cowlitz, Kalama, Lewis, Washougal, Wind, and Little White Salmon
    - ▶ Includes the Washington side of the mainstem Columbia River and estuary of the lower Columbia River as well as 18 major and a number of lesser tributary watersheds: Chinook, Grays, Skamokawa, Elochoman, Mill, Abernathy, Germany, Cowlitz, Coweeman, Kalama, Lewis, Lake, Washougal, Duncan, Hardy, Hamilton, Wind, and Little White Salmon rivers
    - ▶ All told, these tributaries total more than 2,250 river miles



# Lower Columbia Fish Recovery Board Geographic Planning Area



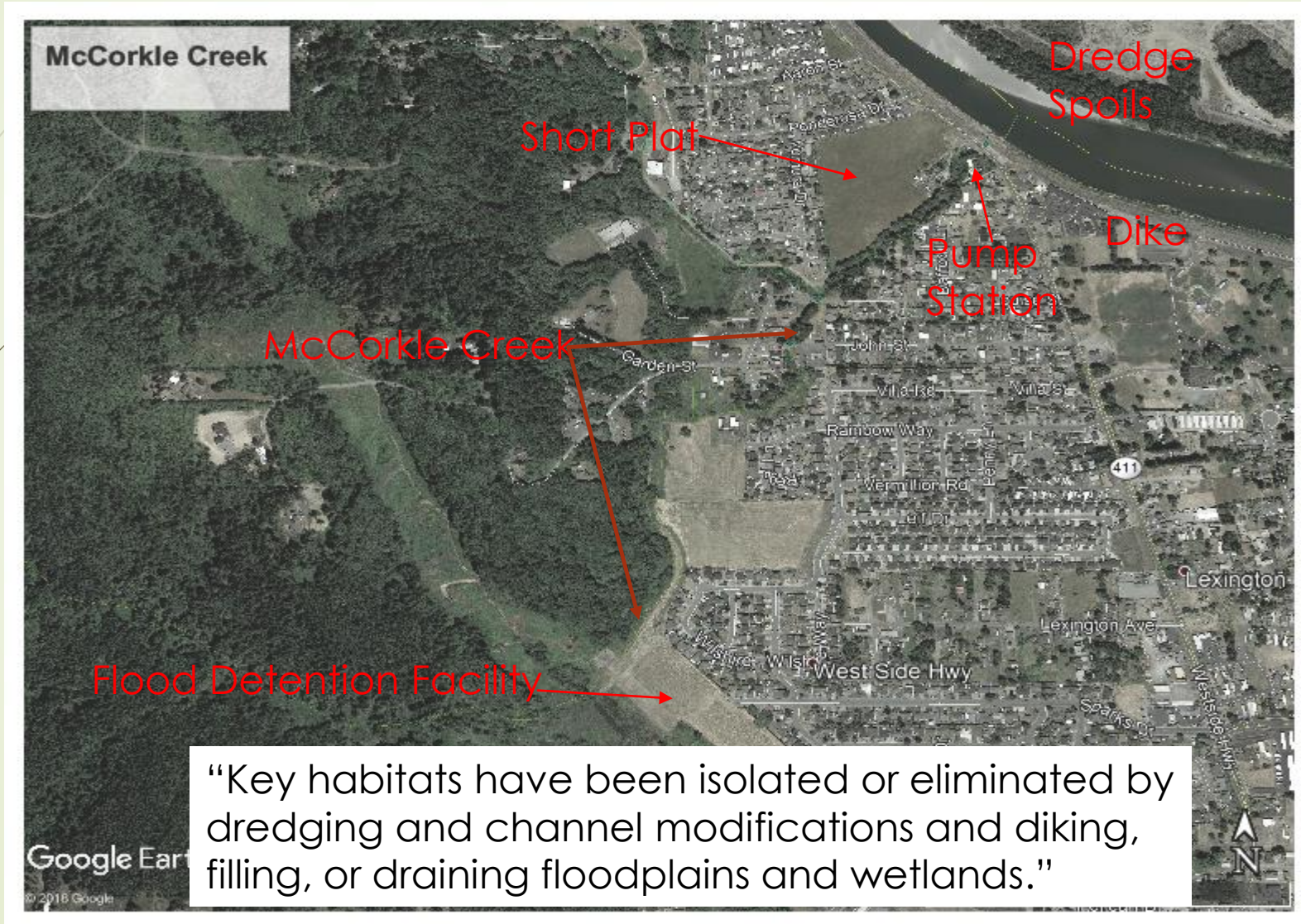
The region is comprised of three strata: Coast, Cascade, and Gorge



# LCFRB Approach to Regional Threats: “All H”

- ▶ Habitat,
  - ▶ population growth, development, etc
- ▶ Harvest,
  - ▶ many important tribal, sport, and commercial fisheries
- ▶ Hatchery,
  - ▶ more than 20 hatcheries
- ▶ Hydro
  - ▶ 8 major tributary dams and one Columbia River dam
- ▶ Ecological Interactions
  - ▶ predation, climate change, etc.

# Habitat Threats



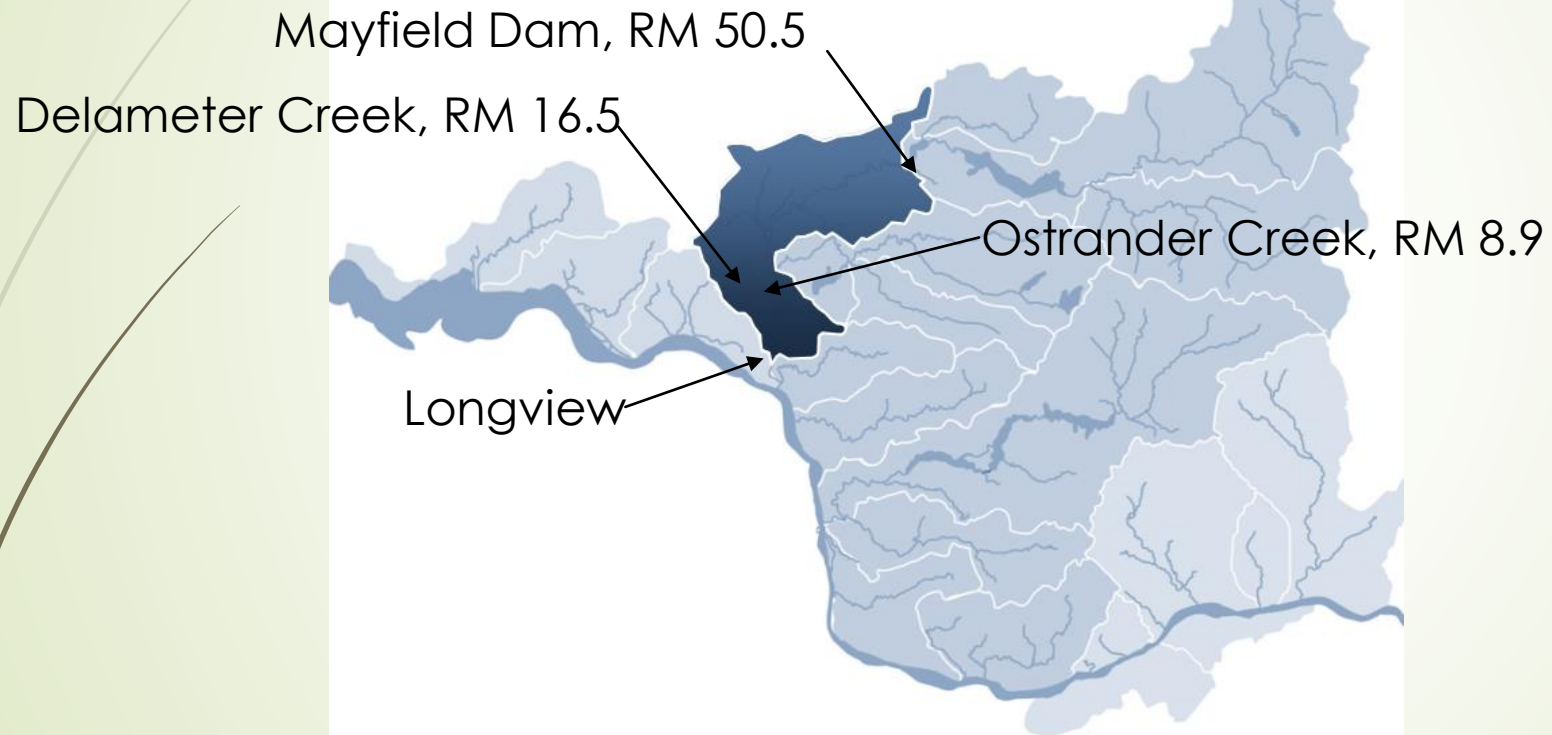
“Key habitats have been isolated or eliminated by dredging and channel modifications and diking, filling, or draining floodplains and wetlands.”



# Lower Columbia Fish Recovery Board Fish Presence and Status

- ▶ Our region is home to more fish listed under the federal Endangered Species Act (ESA) than any other region in Washington state.
  - ▶ These populations represent 60% of ESA-listed Columbia River salmon, steelhead, and bull trout populations;
  - ▶ These populations include five species
    - ▶ Chinook (Spring and Fall [Brights and Tules])
    - ▶ Coho
    - ▶ Chum (Summer and Fall)
    - ▶ Steelhead (Summer and Winter)
    - ▶ Bull Trout
  - ▶ These populations comprise 74 distinct populations

# LCFRB Watershed Pathway- Lower Cowlitz Subbasin



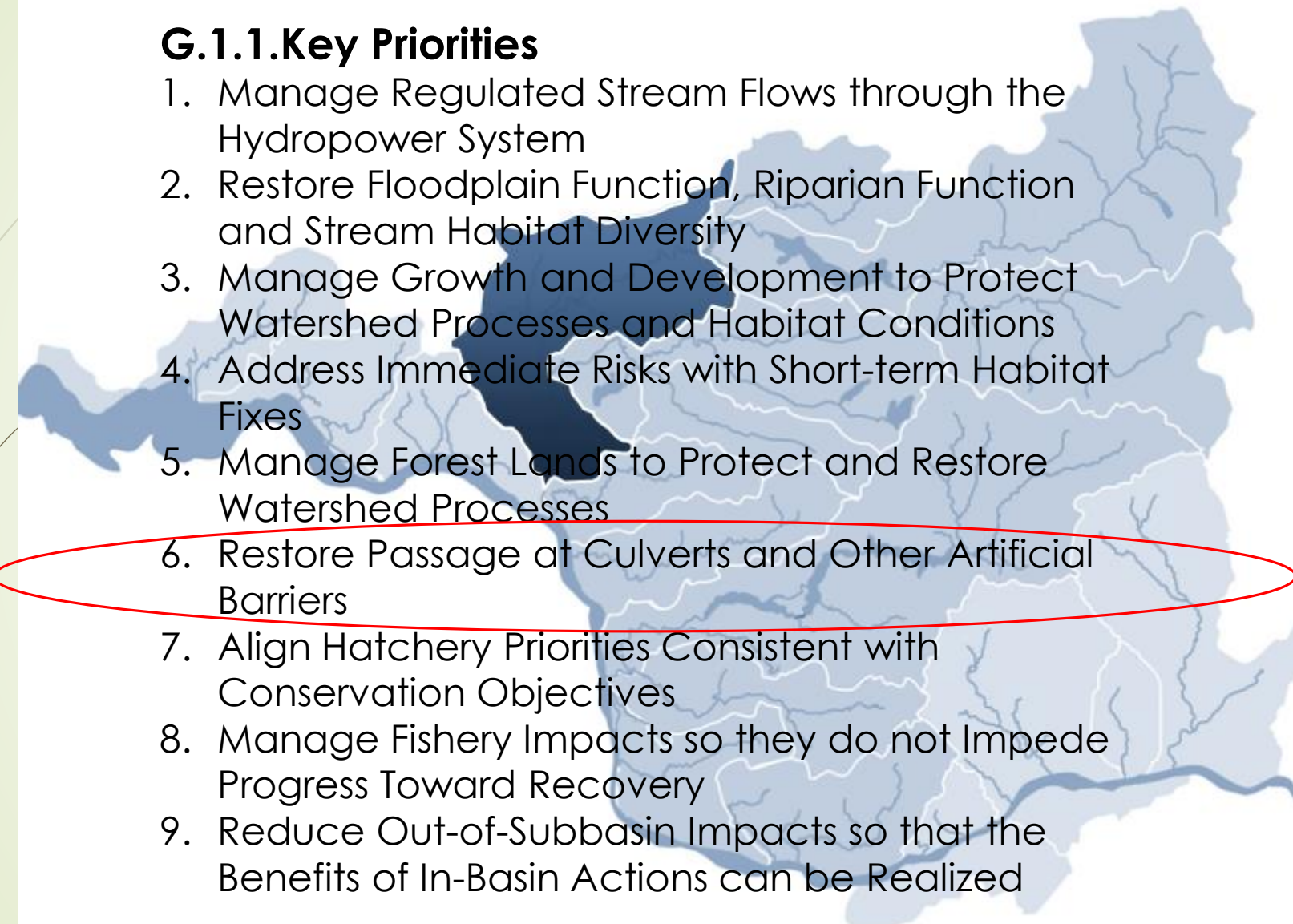
# Why the Lower Cowlitz Basin?

- ▶ Number of populations
  - ▶ Five
- ▶ Population status
  - ▶ One primary
    - ▶ Coho
  - ▶ Four contributing
    - ▶ Summer Chum, Fall Chum, Fall Chinook, Winter Steelhead
- ▶ Number of anadromous miles
  - ▶ 356
- ▶ Number of barriers
  - ▶ 701; 85 on Tiered reaches

*\* For comparison, the Toutle R. supports five primary pops, has 308 anadromous miles, 992 barriers; 99 on tiered reaches.*



### **G.1.1.Key Priorities**

- 
1. Manage Regulated Stream Flows through the Hydropower System
  2. Restore Floodplain Function, Riparian Function and Stream Habitat Diversity
  3. Manage Growth and Development to Protect Watershed Processes and Habitat Conditions
  4. Address Immediate Risks with Short-term Habitat Fixes
  5. Manage Forest Lands to Protect and Restore Watershed Processes
  6. Restore Passage at Culverts and Other Artificial Barriers
  7. Align Hatchery Priorities Consistent with Conservation Objectives
  8. Manage Fishery Impacts so they do not Impede Progress Toward Recovery
  9. Reduce Out-of-Subbasin Impacts so that the Benefits of In-Basin Actions can be Realized



## Six-Year Habitat Work Schedule

- (1) Protect stream corridor structure and function
- (2) Protect hillslope processes
- (3) Manage regulated stream flows to provide for critical components of the natural flow regime
- (4) Create/restore off-channel and side channel habitat
- (5) Restore floodplain function and channel migration processes in the mainstem and major tributaries
- (6) Restore access to habitat blocked by artificial barriers.
- (7) Provide for adequate instream flows during critical periods in tributaries
- (8) Restore degraded hillslope processes on forest, agricultural, and developed lands
- (9) Restore riparian conditions throughout the basin
- (10) Restore degraded water quality with emphasis on temperature impairments
- (11) Restore channel structure and stability



# Status and goals of focal salmonid and steelhead populations in the lower Cowlitz basin

Species	Population	Recovery Priority	Viability		Improvement	Abundance		
			Status	Objective		Historic	Current	Target
Fall Chinook	L. Cowlitz	Contributing	VL	M+	50%	24,000	500	3,000
Chum (Fall)	L. Cowlitz	Contributing	VL	M	>500%	195,000	<300	900
Chum (Summer)	L. Cowlitz	Contributing	VL	M	>500%	n/a	n/a	900
Winter Steelhead	L. Cowlitz	Contributing	L	M	5%	1,400	350	400
Coho	L. Cowlitz	Primary	VL	H	100%	18,000	500	3,700

**Primary Populations:** are targeted for restoration to high or greater level of viability; these are the foundation of salmon recovery. At least two populations per strata must be high or better viability to meet criteria.

**Contributing Populations:** targeted some improvement in viability to achieve strata-level medium viability.

**Stabilizing Populations:** targeted to maintain current viability, which is typically very low.

# Status and goals of focal salmonid and steelhead populations in the lower Cowlitz basin

- Abundance
- Productivity
- Spatial Structure
- Diversity

Species	Population	Recovery Priority	Viability			Abundance		
			Status	Objective	Improvement	Historic	Current	Target
Fall Chinook	L. Cowlitz	Contributing	VL	M+	50%	24,000	500	3,000
Chum (Fall)	L. Cowlitz	Contributing	VL	M	>500%	195,000	<300	900
Chum (Summer)	L. Cowlitz	Contributing	VL	M	>500%	n/a	n/a	900
Winter Steelhead	L. Cowlitz	Contributing	L	M	5%	1,400	350	400
Coho	L. Cowlitz	Primary	VL	H	100%	18,000	500	3,700

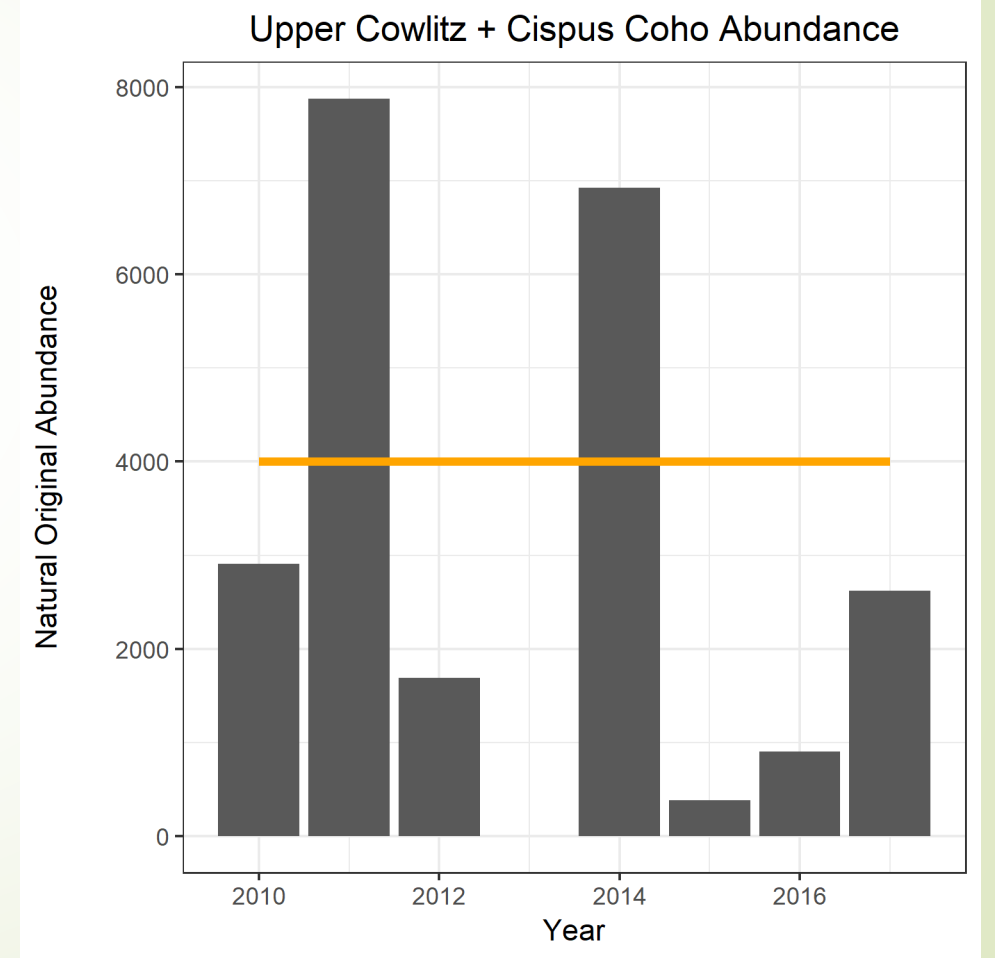
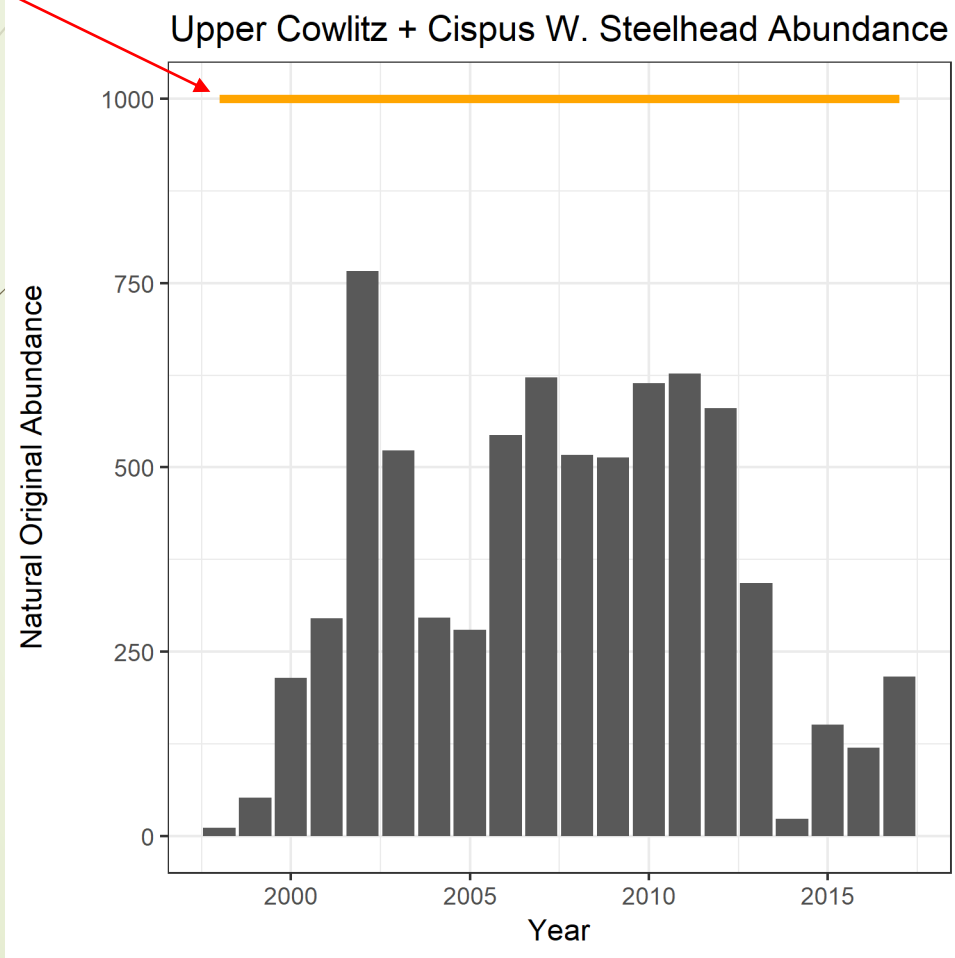
**Primary Populations:** are targeted for restoration to high or greater level of viability; these are the foundation of salmon recovery. At least two populations per strata must be high or better viability to meet criteria.

**Contributing Populations:** targeted some improvement in viability to achieve strata-level medium viability.

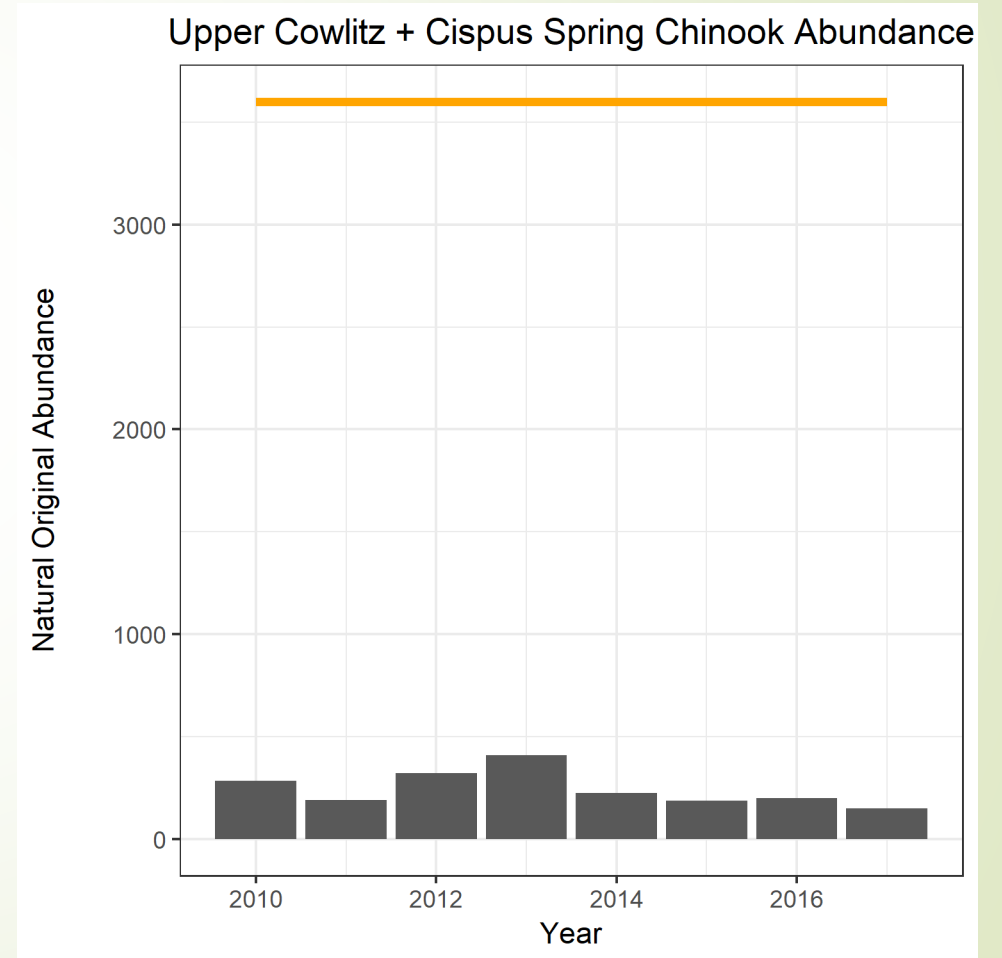
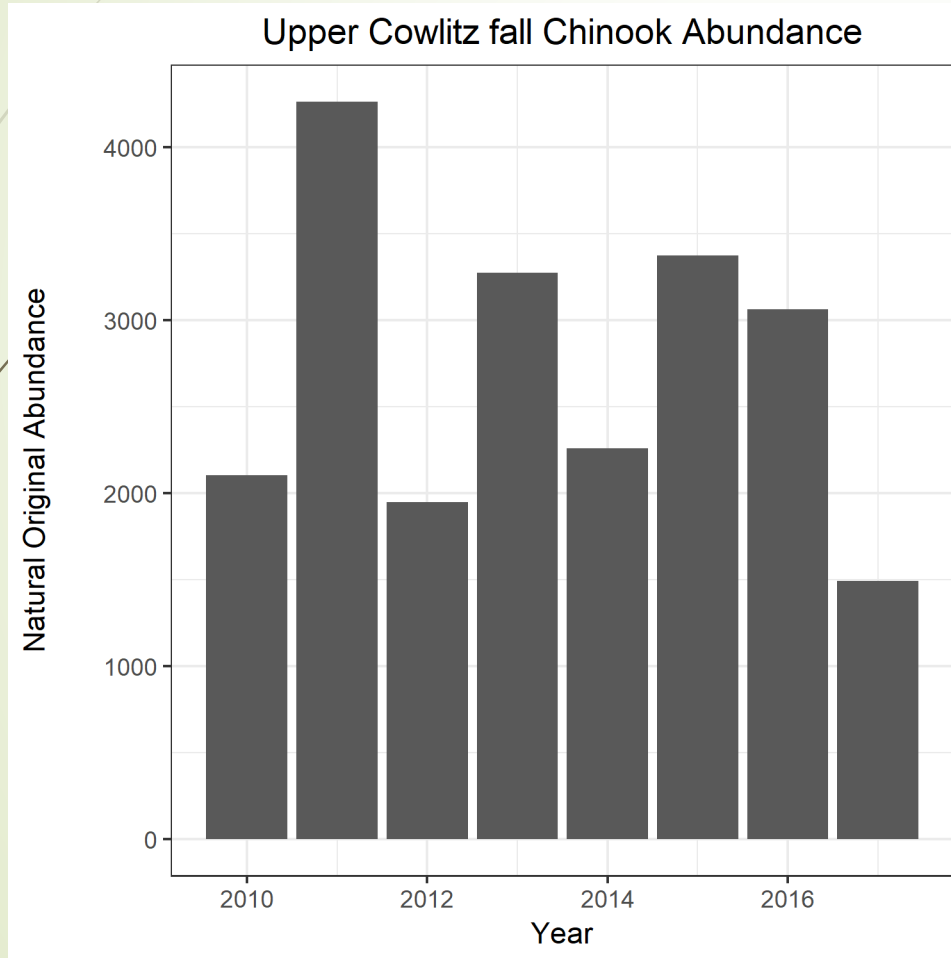
**Stabilizing Populations:** targeted to maintain current viability, which is typically very low.

# UPPER COWLITZ SUBBASIN POPULATION ABUNDANCE

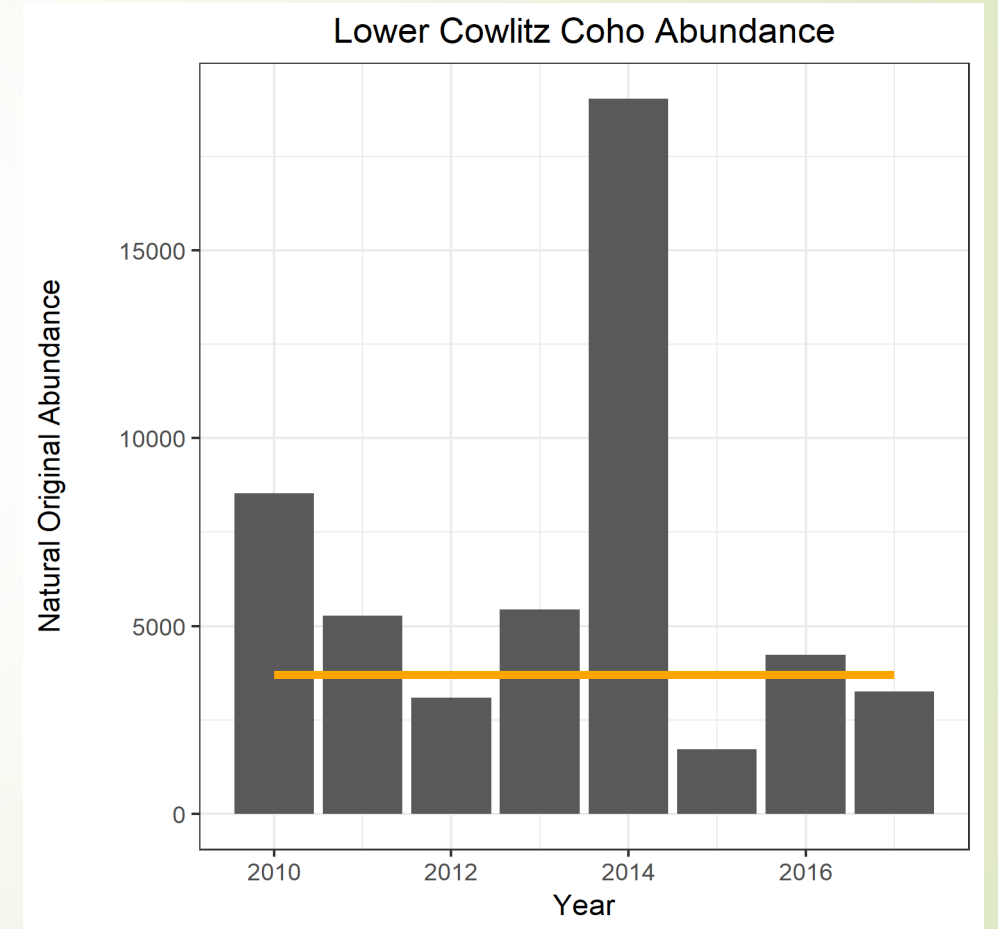
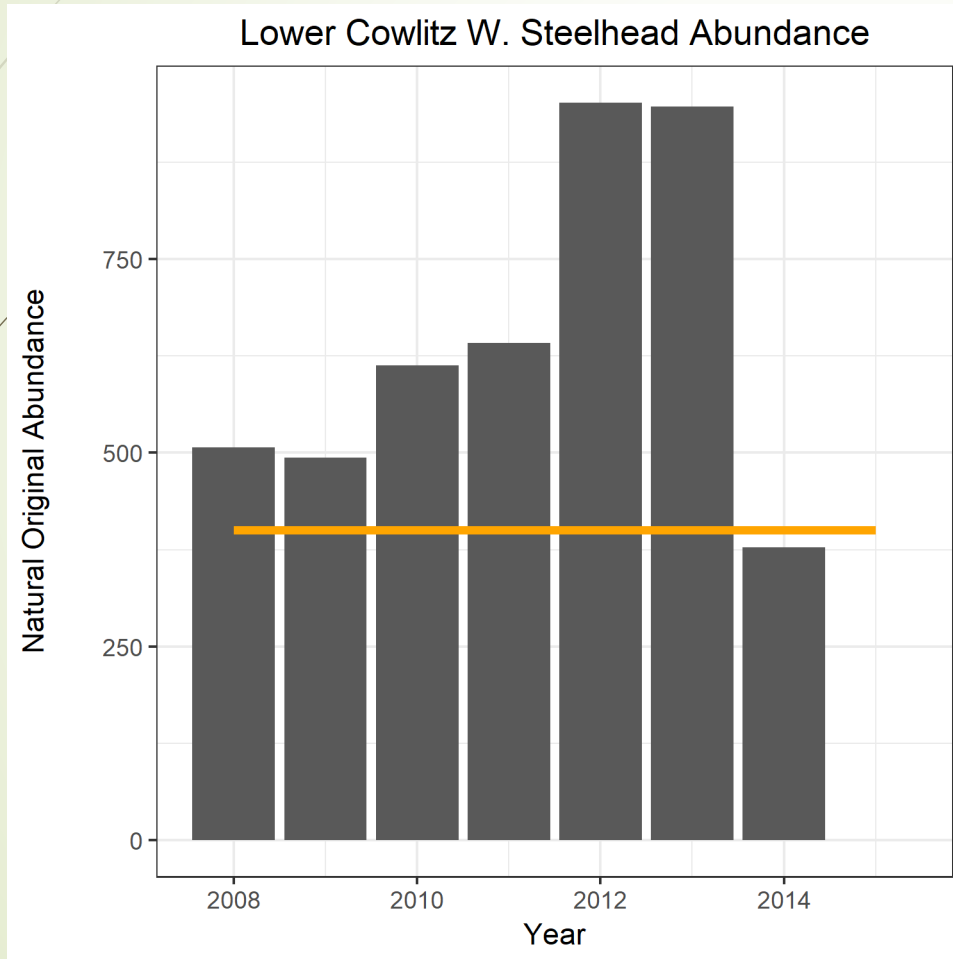
De-listing Goal



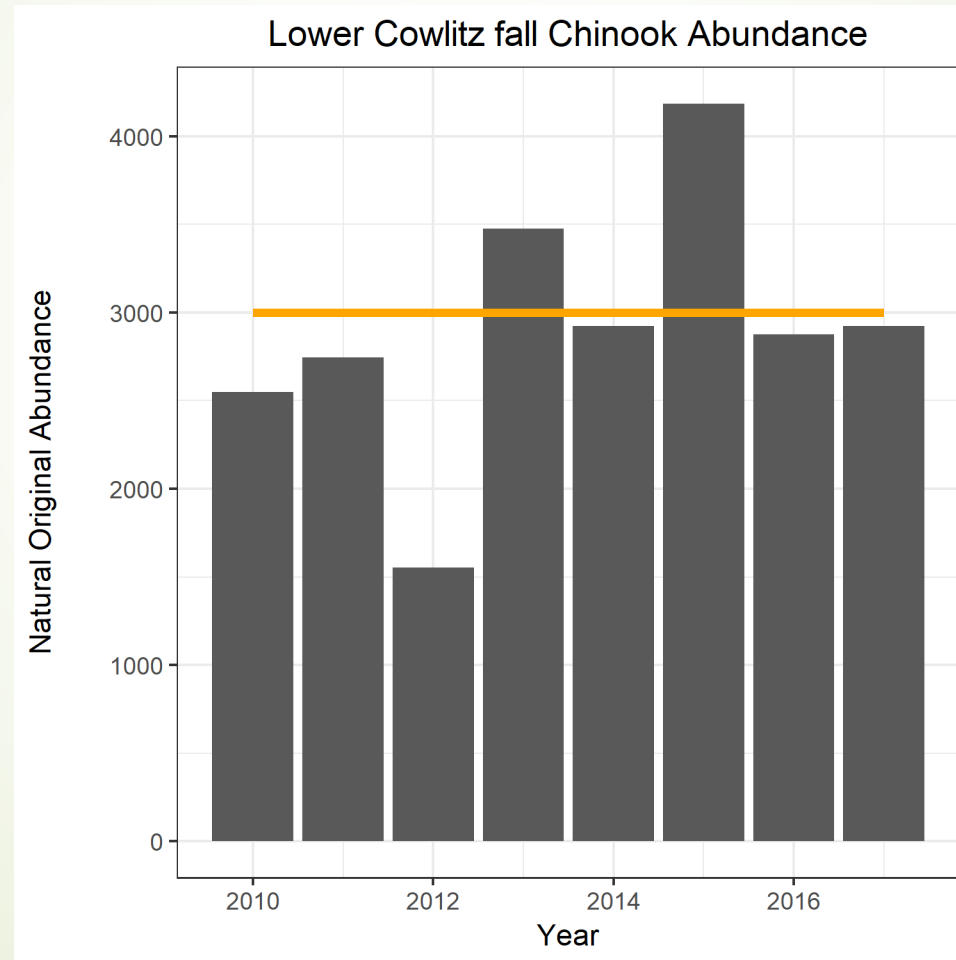
# UPPER COWLITZ SUBBASIN POPULATION ABUNDANCE



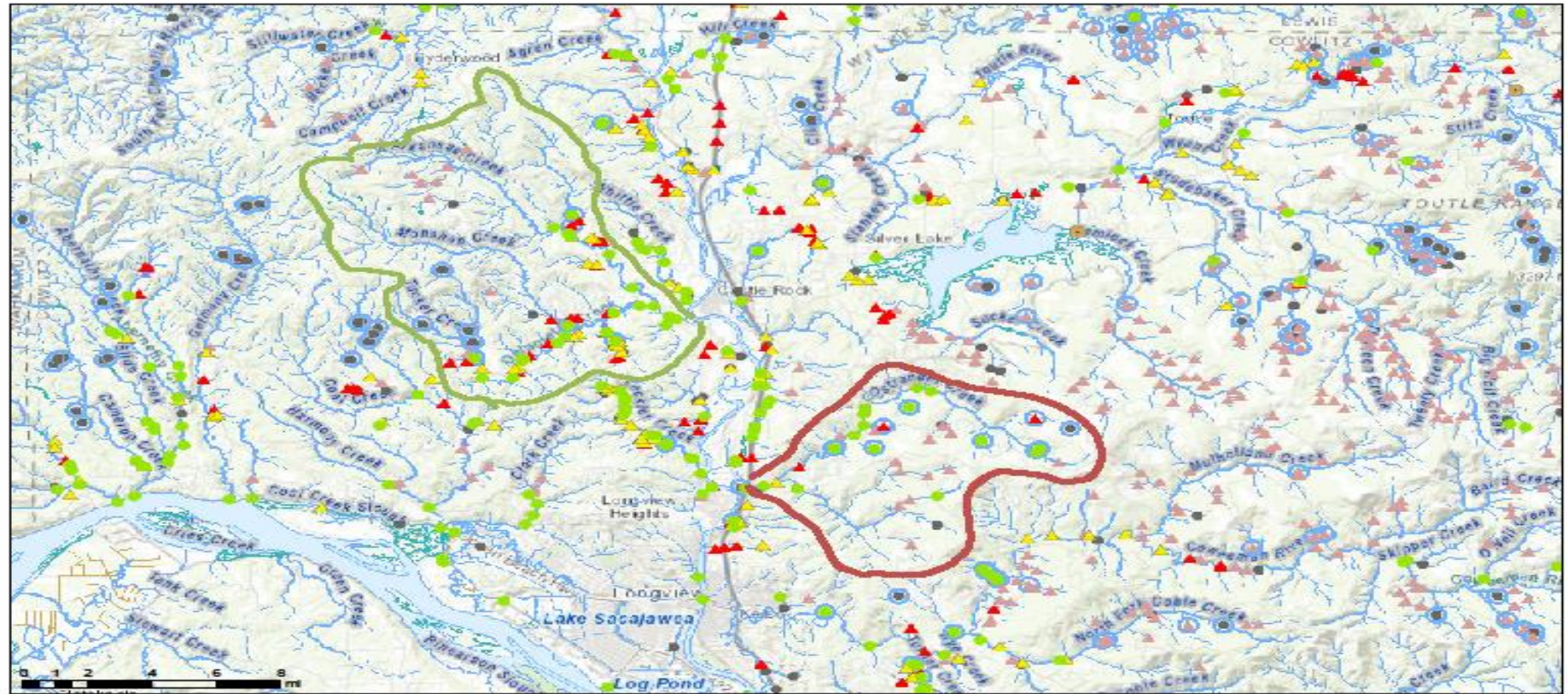
# LOWER COWLITZ SUBBASIN POPULATION ABUNDANCE



# LOWER COWLITZ SUBBASIN POPULATION ABUNDANCE



# Delameter and Ostrander Proximity



## Washington State Fish Passage



Washington  
Department of  
**FISH and  
WILDLIFE**

### Lines

- Override 1
- Override 2
- Major Dams
- Not a barrier

- Partial Fish Passage Blockage
- Total Fish Passage Blockage

- Barrier, Unknown Percent Passable
- Diversion

- Natural Barrier - Verified
- Unknown
- Corrected Barriers

# Proposed Delemeter/Arkansas Barrier Package

19-21 Biennium  
Time Frame

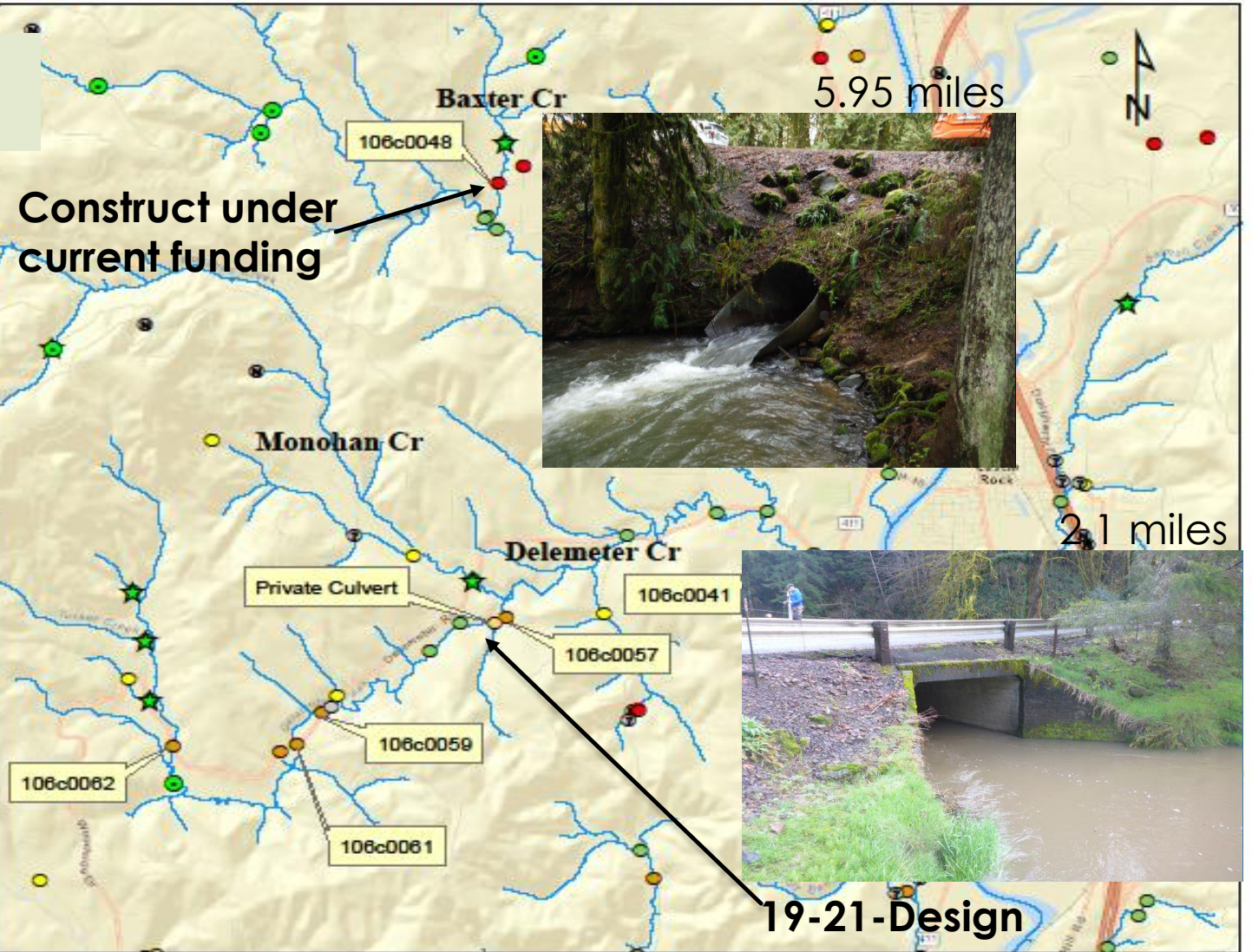
Construct under  
current funding

5.95 miles

2.1 miles

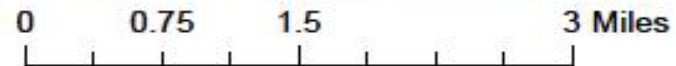
## Legend

- Fixed RMAP
- ★ Repaired Sites
- FPDSI Sites Test RDS Layer**
- 
- Barrier, FishPass**
- Full Barrier
- Partial Barrier
- Barrier (Unk Passability)
- Passable
- Unknown Barrier Status
- Non-fish
- No Fish Passage Feature at Site
- Privately Owned Culvert
- DNR Stream Layer Type S and F



19-21-Design

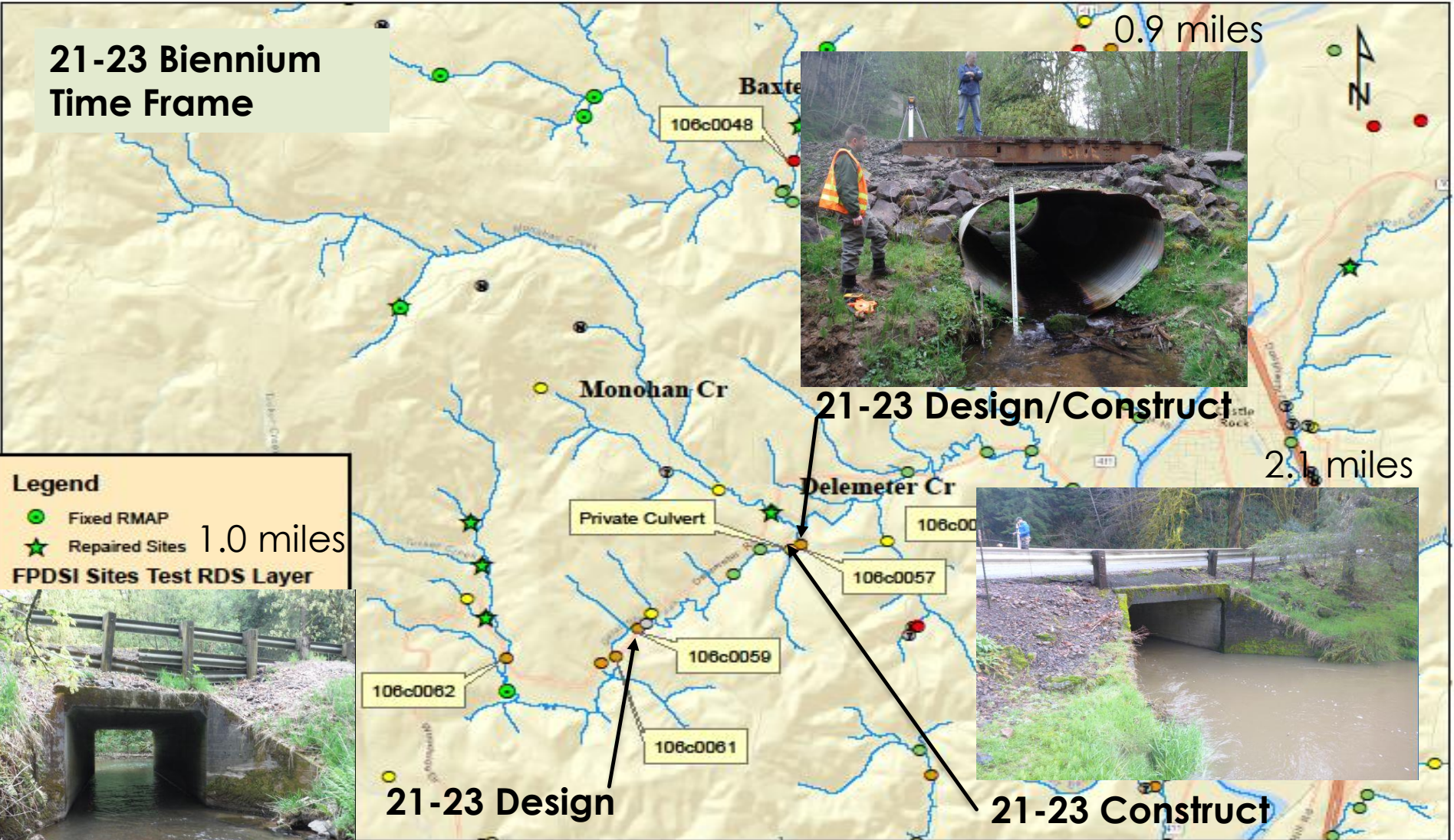
Author: Cade Roler  
Draft Date: 4/13/2016





# Proposed Delemeter/Arkansas Barrier Package

21-23 Biennium  
Time Frame



0.9 miles

2.1 miles

### Legend

- Fixed RMAP
  - ★ Repaired Sites
- 1.0 miles
- FPDSI Sites Test RDS Layer



21-23 Design/Construct

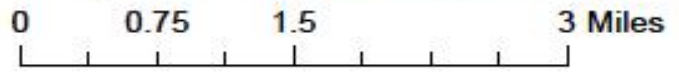


21-23 Design



21-23 Construct

Author: Cade Roler  
Draft Date: 4/13/2016



# Proposed Delemeter/Arkansas Barrier Package

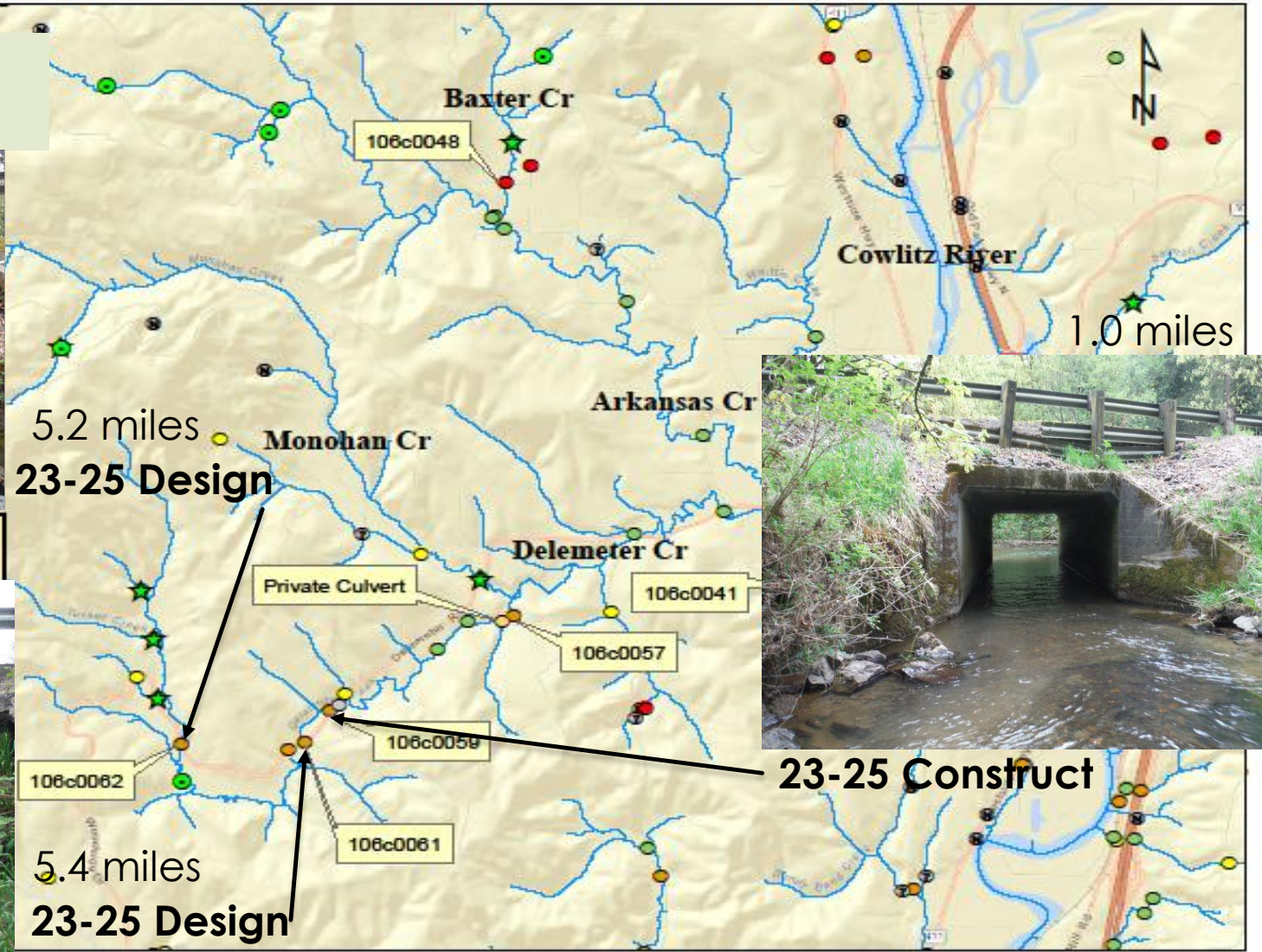
23-25 Biennium  
Time Frame



Legend



- Privately Owned Culvert
- DNR Stream Layer Type S and F



5.2 miles  
23-25 Design

5.4 miles  
23-25 Design

23-25 Construct

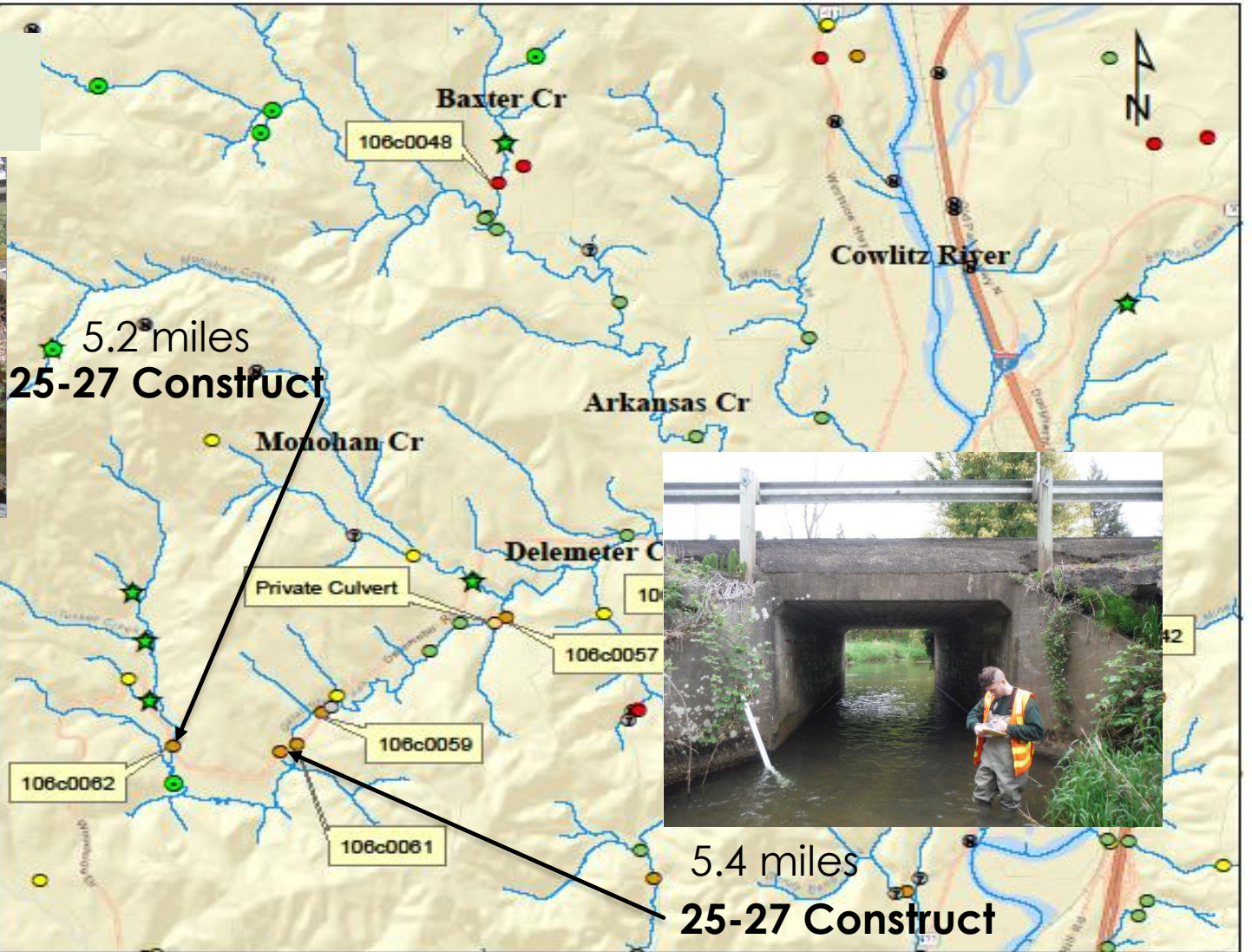
Author: Cade Roler  
Draft Date: 4/13/2016

0 0.75 1.5 3 Miles



# Proposed Delemeter/Arkansas Barrier Package

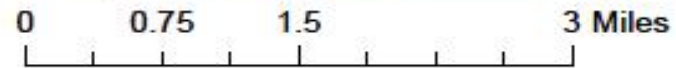
25-27 Biennium  
Time Frame



## Legend

- Fixed RMAP
- ★ Repaired Sites
- FPDSI Sites Test RDS Layer**
- 
- Barrier, FishPass**
- Full Barrier
- Partial Barrier
- Barrier (Unk Passability)
- Passable
- Unknown Barrier Status
- Non-fish
- No Fish Passage Feature at Site
- Privately Owned Culvert
- DNR Stream Layer Type S and F

Author: Cade Roler  
Draft Date: 4/13/2016

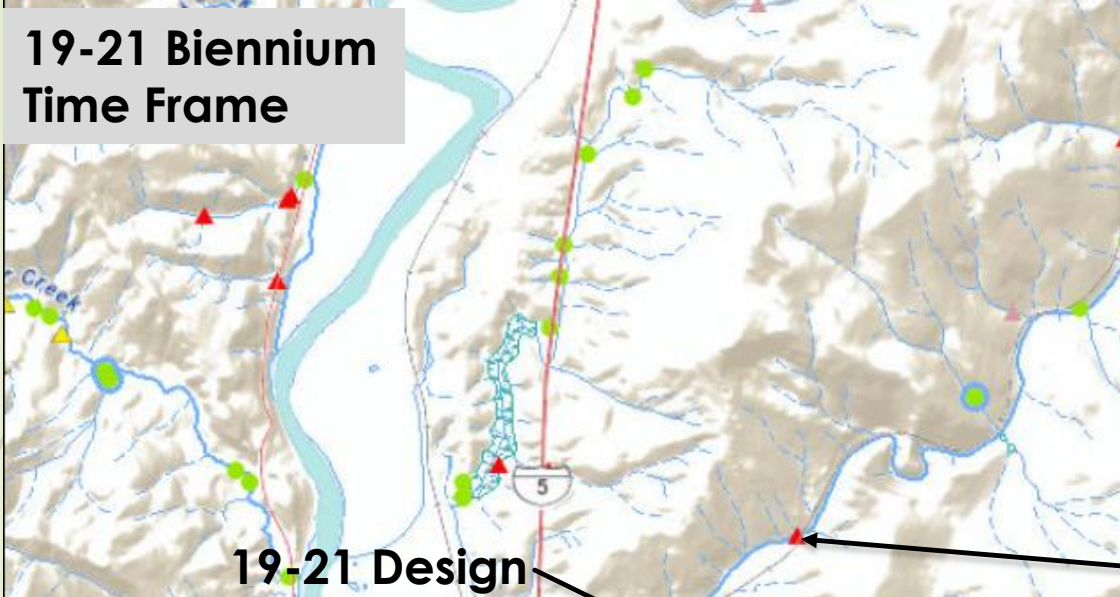


# Delameter/ Arkansas Strategy Specifics

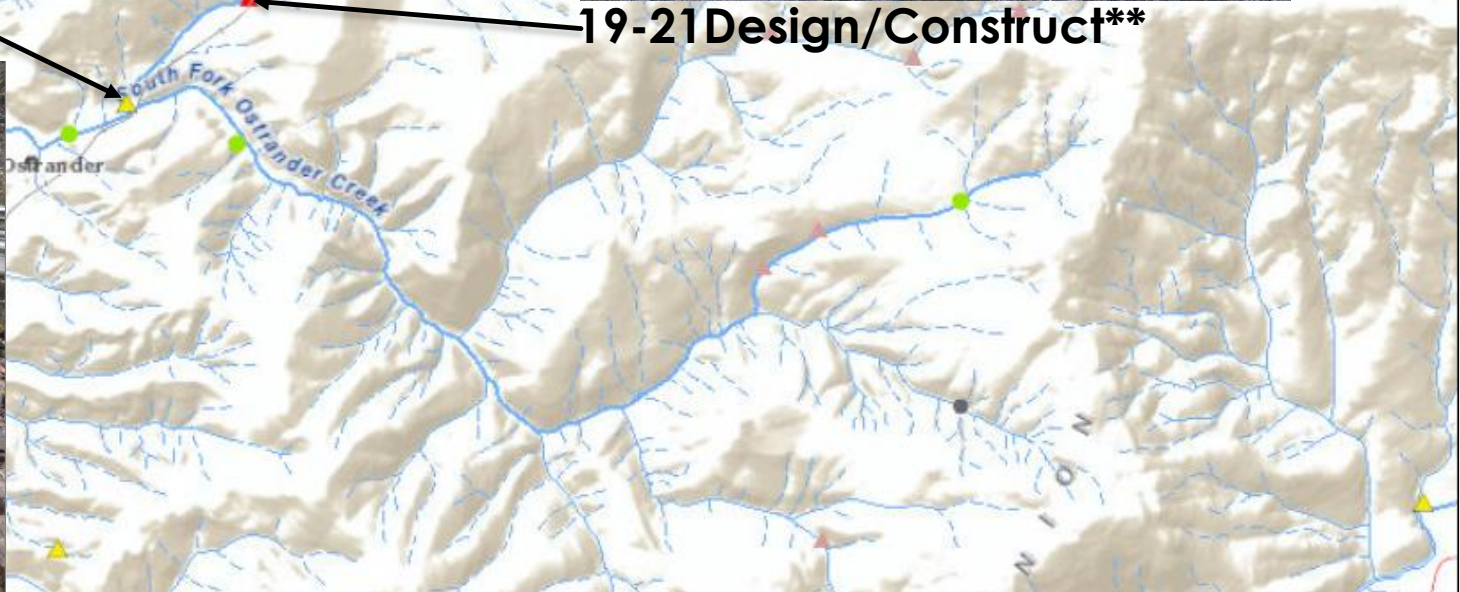
SITE #	SITE ID	DISTANCE BETWEEN BARRIERS				COST ESTIMATE
1	106c0042	11,616	ft.	2.2	mi.	\$261,000
2	106c0048	31,416	ft.	5.95	mi.	\$2,001,000
3	106c0057	11,088	ft.	2.1	mi.	\$1,459,000
4	601597	4,752	ft.	0.9	mi.	\$140,000
5	106c0059	5,280	ft.	1.0	mi.	\$1,690,000
6	106c0061	28,512	ft.	5.4	mi.	\$1,615,000
7	106c0062	27,456	ft.	5.2	mi.	\$545,000
<b>TOTAL</b>		120,120	ft.	22.75	mi.	\$7,711,000

# Ostrander Creek

19-21 Biennium  
Time Frame



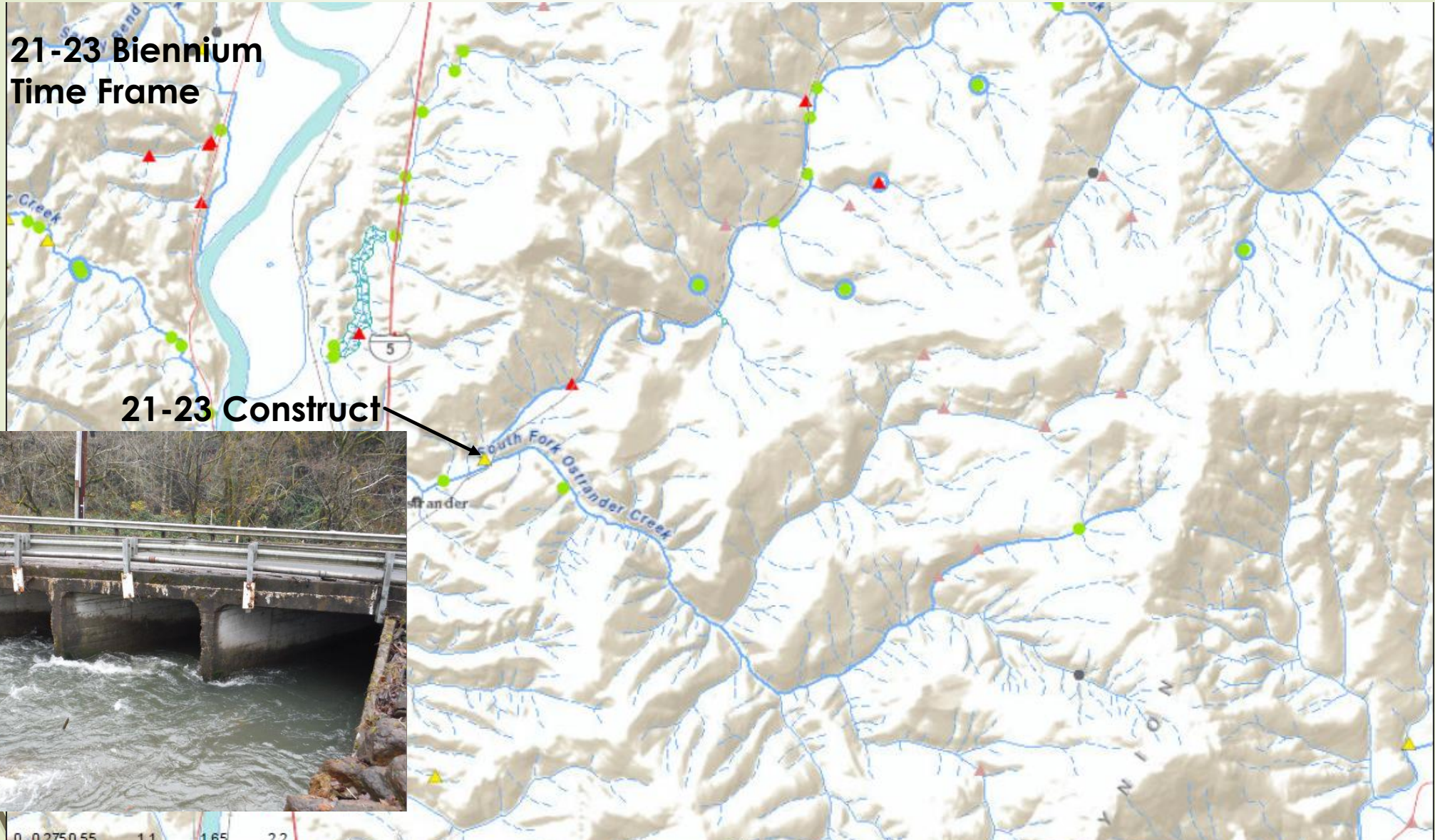
19-21 Design/Construct\*\*



# Ostrander Creek

21-23 Biennium  
Time Frame

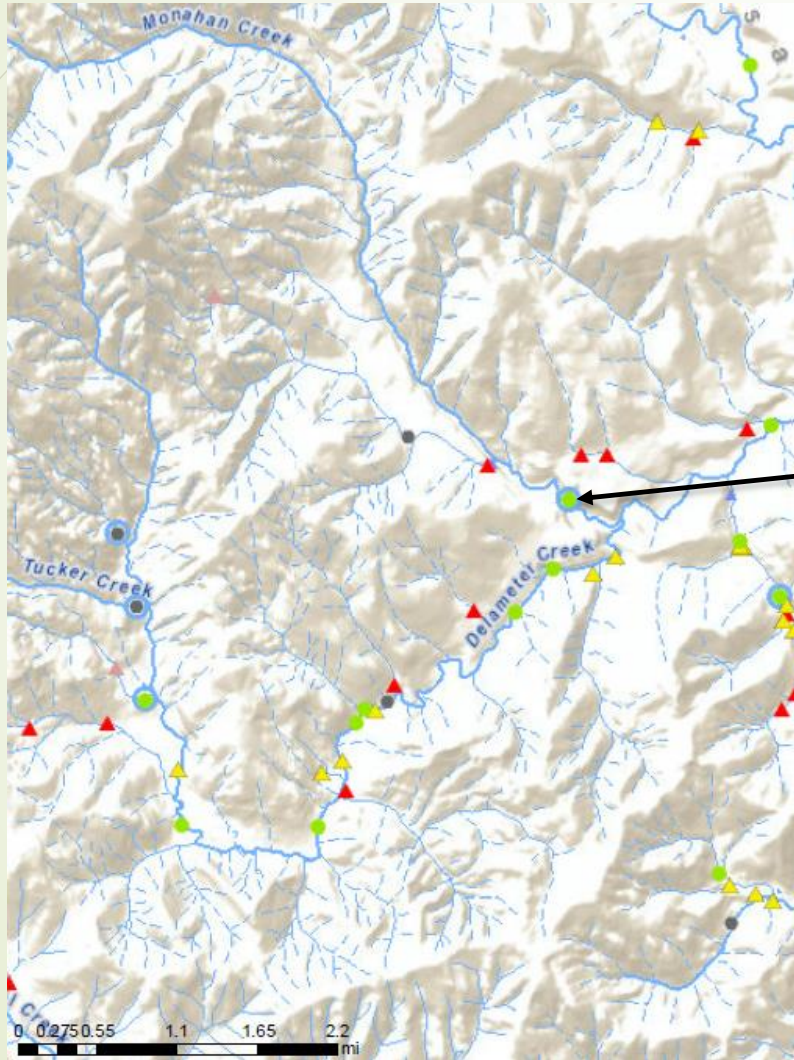
21-23 Construct



# Other Delameter/Arkansas Creek Projects

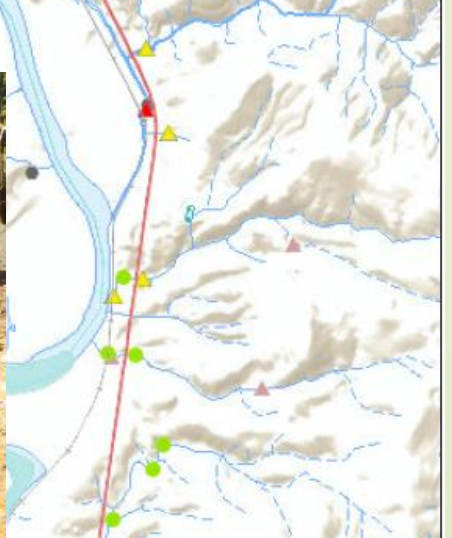
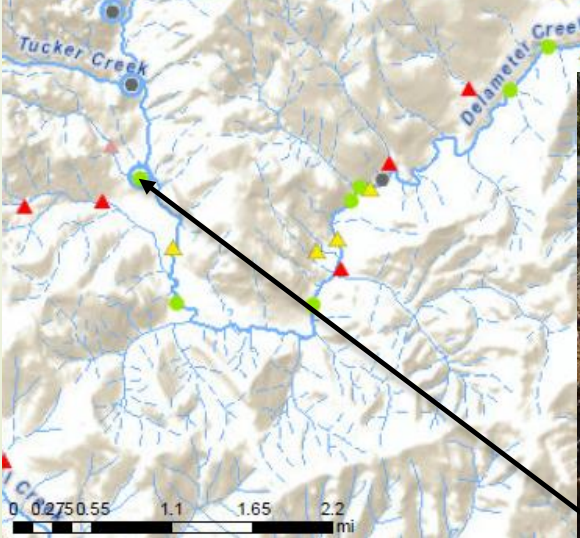
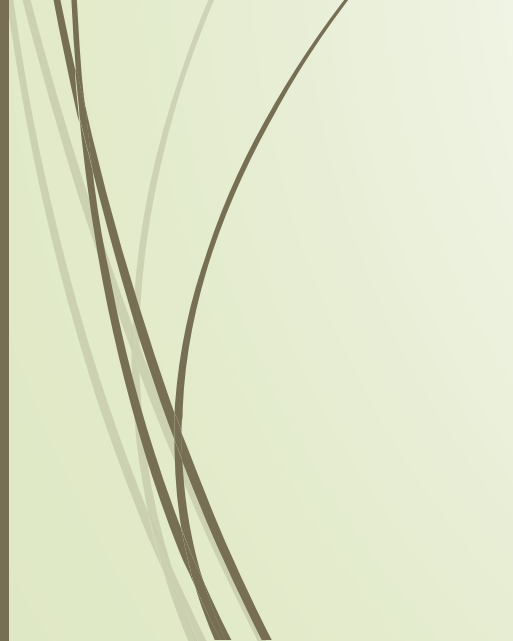
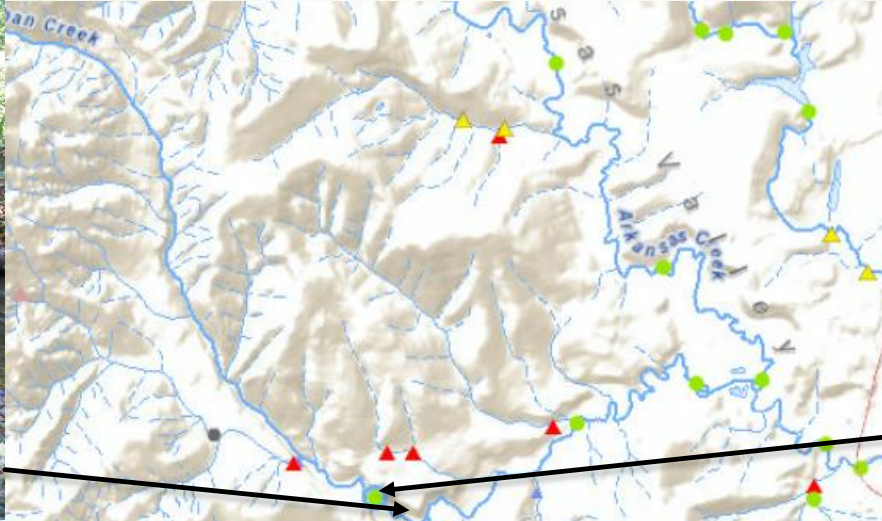


# Other Delameter/Arkansas Creek Projects





# Other Delameter/Arkansas Creek Projects



Questions?

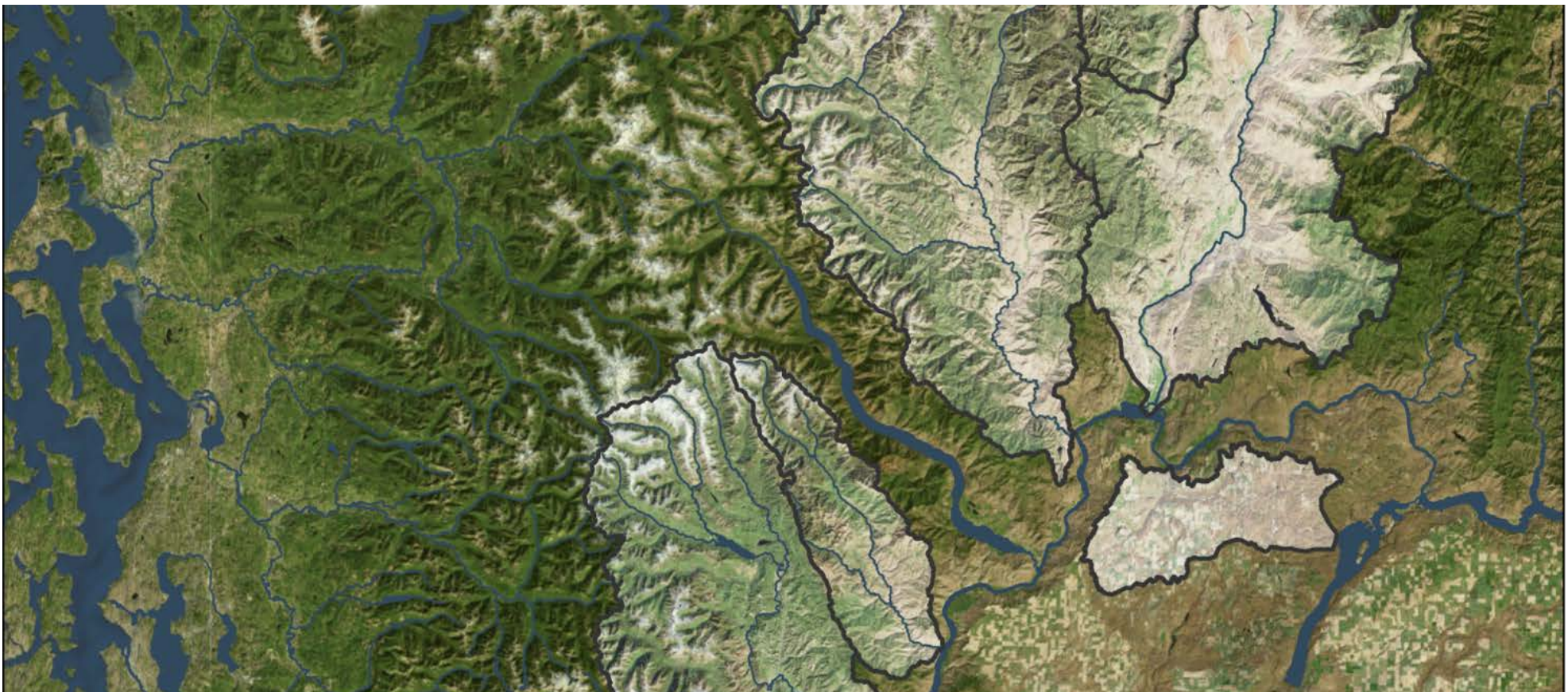




# UPPER COLUMBIA

**FISH BARRIER REMOVAL BOARD - WATERSHED PATHWAY**

Greer Maier, Science Program Manager, Upper Columbia Salmon Recovery Board



## **UCSRB**

Our Mission is to restore viable and sustainable populations of salmon, steelhead and other at-risk species through collaborative, economically sensitive efforts, combined resources, and wise resource management of the Upper Columbia region. Since 1999 partners in the region have worked to address 110 barriers and restore fish passage to over 300 miles of habitat.



# FBRB WATERSHED PATHWAY

Priority 1: Area where fish passage barriers contribute substantially to reduced spatial structure, abundance, productivity and diversity and where blocked habitat would contribute to achieving improved viability;

Priority 2: Area where fish passage barriers contribute to some extent to reduced spatial structure, abundance, productivity and diversity and where opening blocked habitat could contribute to improved viability;

Priority 3: Area where fish passage barriers have been identified but habitat upstream is not vital to the viability of the parent population.





West Coast Region Home » Status Reviews



# SALMON & STEELHEAD 2016 STATUS REVIEWS

## 2016 Status Reviews of Listed Salmon & Steelhead

As directed by the Endangered Species Act, NOAA Fisheries reviews the status of all listed species every five years to determine whether a species should be delisted, reclassified from endangered to threatened or threatened to endangered, or whether the current classification should be retained. We completed our most recent five-year status review of all 28 Pacific salmon and steelhead in 2016. The review found that no species warranted a change in status at this time. Many species have either improved or remained stable since the previous review in 2011.



### Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan\*

August 2007

Upper Columbia Salmon Recovery Board

\*This Plan also covers bull trout, which are under the jurisdiction of the U.S. Fish and Wildlife Service. The strategies and actions in this proposed plan are intended as additional recommendations for the draft bull trout recovery plan that was published by the U.S. Fish and Wildlife Service in April 2002.

### A BIOLOGICAL STRATEGY TO PROTECT AND RESTORE SALMONID HABITAT IN THE UPPER COLUMBIA REGION

A Draft Report to the Upper Columbia Salmon Recovery Board  
From the Upper Columbia Regional Technical Team

- John Arterburn
- Casey Baldwin
- Dale Bambrick
- Jeremy Cran
- Steve Hays
- Tracy Hillman
- Tom Kahler
- Keely Murdoch
- Karl Polivka
- Brandon Rogers
- Kate Terrell
- Mike Ward
- Justin Yeager

Last Revision: 2017

# FISH PASSAGE IN THE UPPER COLUMBIA

Okanogan – Priority 1  
Tributaries (in priority order)-  
Johnson Creek, Loup Loup, ,  
Antoine, Omak, Aeneas

Methow and Wenatchee –  
Priority 2  
Tributaries (in priority order) –  
Icicle, Mission, Peshastin,  
Chiwawa, Beaver (Methow),  
Gold (Methow)



# WHY THE OKANOGAN?

- Contribution to Population Viability
- High priority watersheds with barriers
- Met FBRB criteria
- Nexus to state-owned barriers
- Highly competitive for funding

# THE OKANOGAN

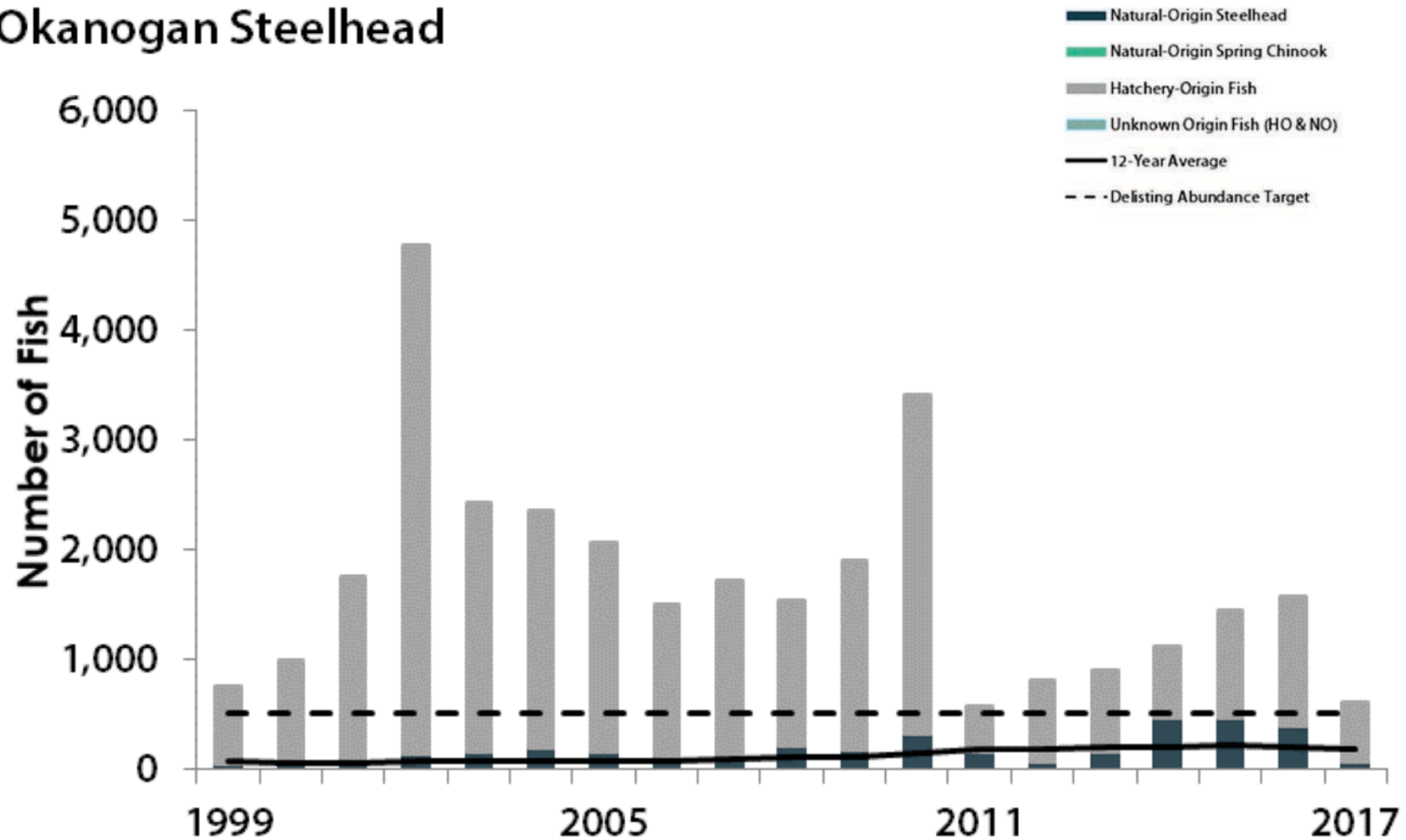
## FISH PASSAGE & VIABILITY

- Steelhead in this area are naturally segregated into distinct subpopulations that rely on high quality habitat in cold water tributaries.
- Seasonal temperatures and flow issues in most of the Okanogan mainstem limit movement within and between tributaries and only a few tributaries have adequate conditions for salmonids.
- Habitat is limited in these tributaries and any barriers to fish passage can have a substantial effect on overall productivity of the population.
- Within the Okanogan, several tributaries are priorities for fish passage projects because they have a large proportion of the steelhead in the population and have fish passage barriers blocking access to high quality habitat.



# FISH RETURNS

## Okanogon Steelhead



# t Report

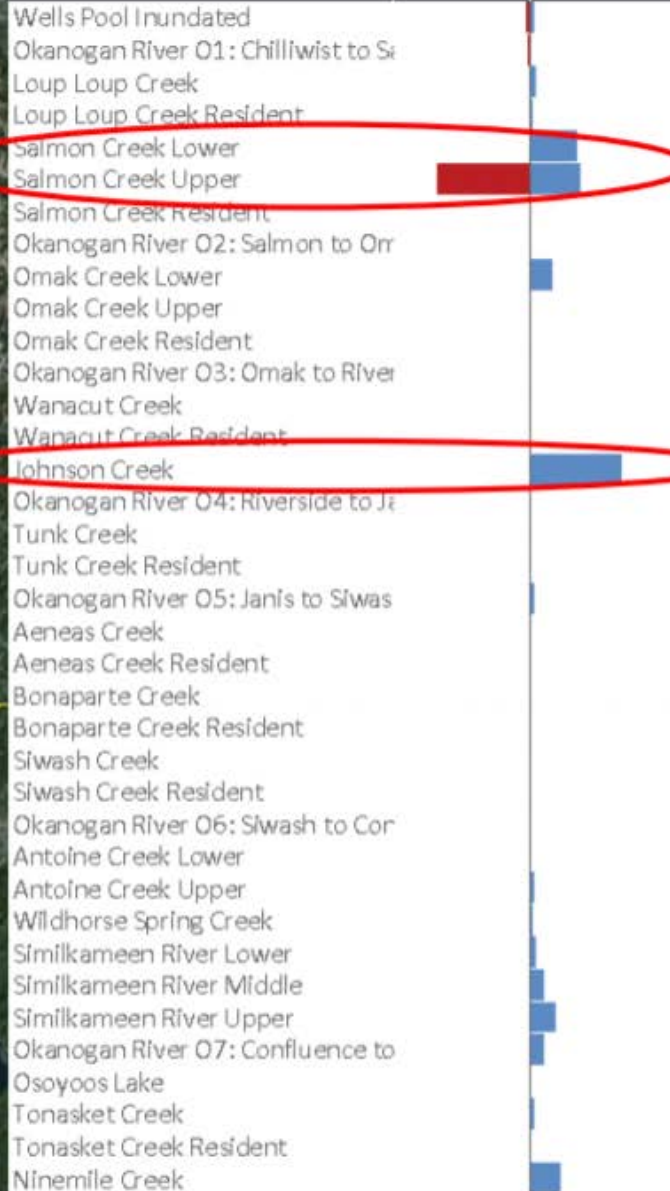
## Priority Habitats for Steelhead

Change in Population Productivity If...

This Diagnostic Unit

Degrades

Is Restored

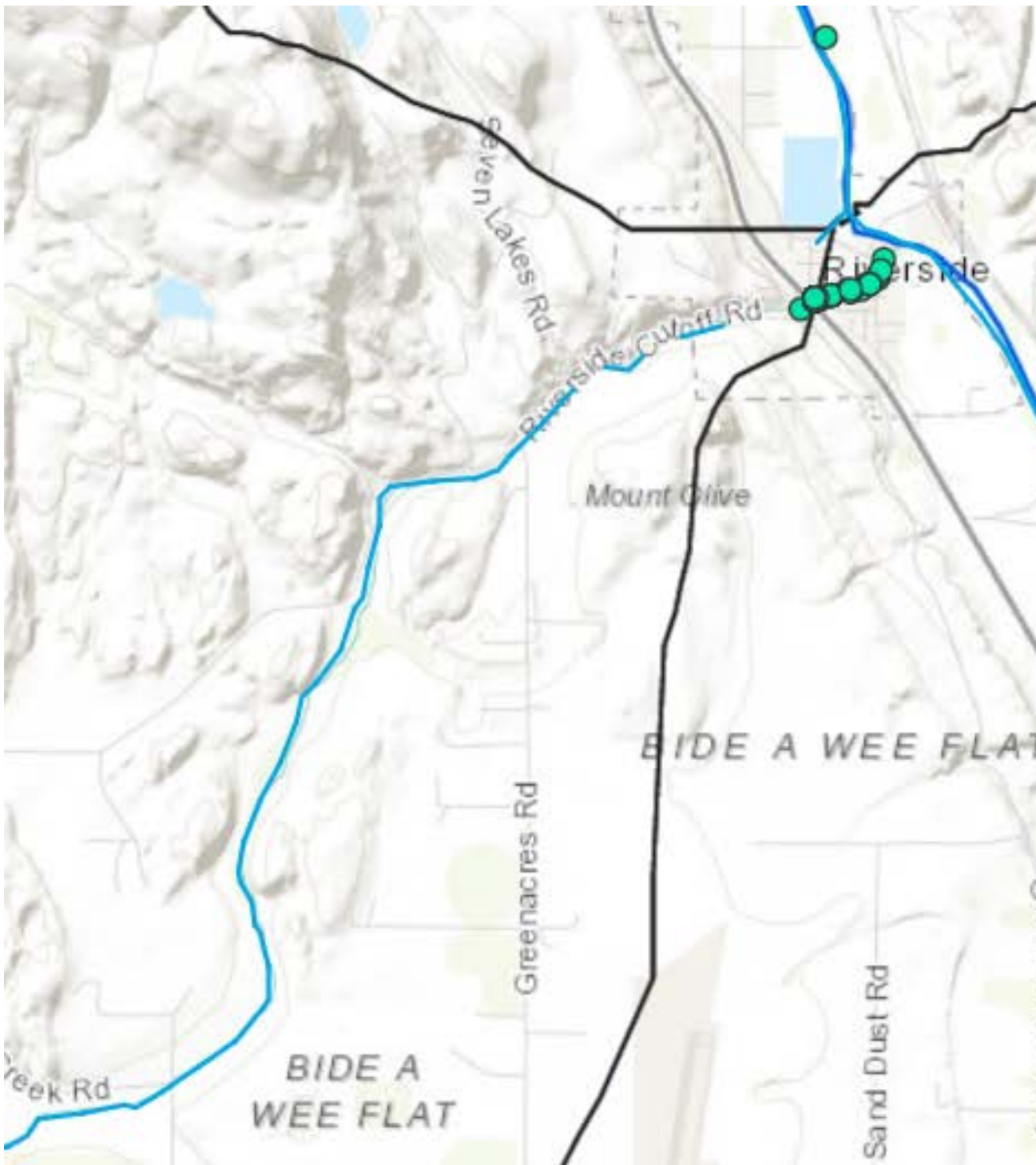


# JOHNSON CREEK



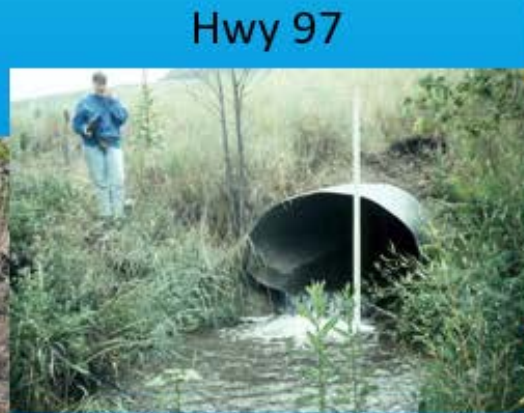
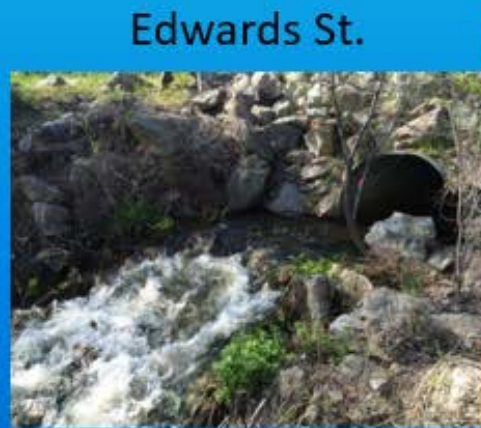
Google earth

# JOHNSON CREEK



# PIT tag data for Adult Steelhead 2013-2015

<u>Location</u>	<u>All Yrs #</u>	<u>All Yr %</u>
in town of Riverside	39	100%
above HWY culvert, below gabion weir	8	21%
above gabion weir	6	15%



# Barriers in Johnson Creek



13 barriers  
3- 0% passable

# Partners Working in Johnson Creek



Washington  
Department of  
**FISH and  
WILDLIFE**



**Washington State  
Department of Transportation**



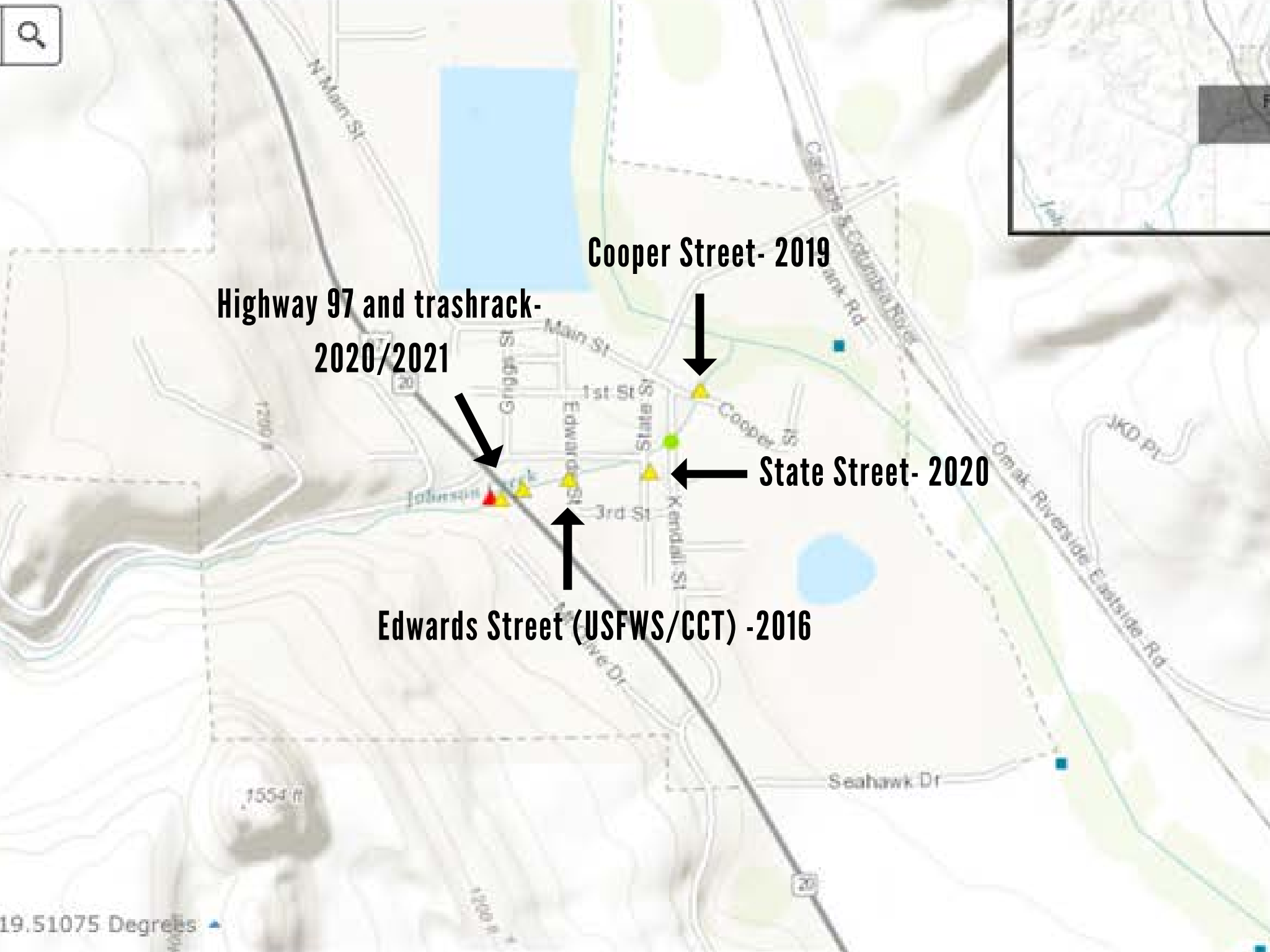


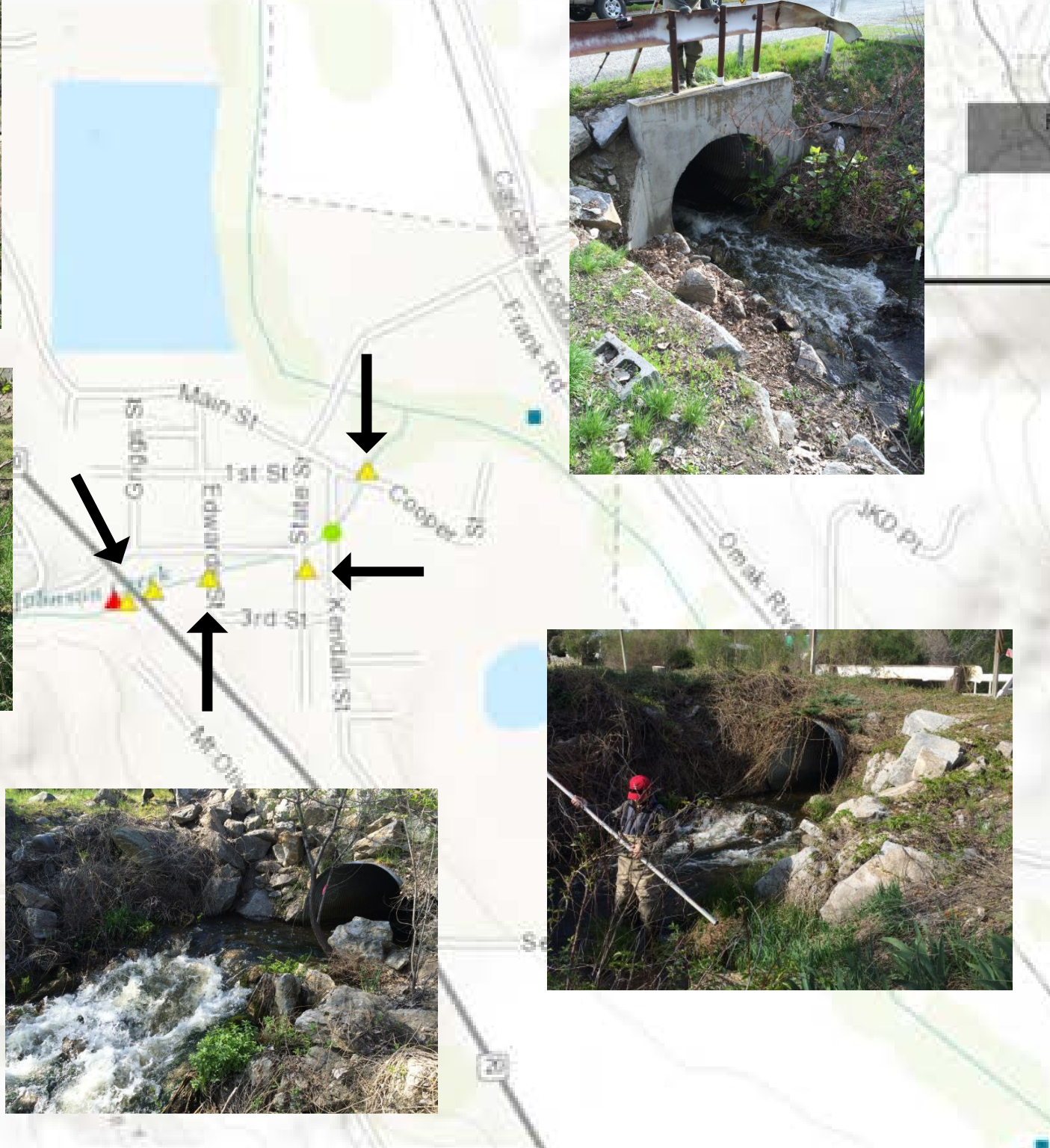
**Highway 97 and trashrack-  
2020/2021**

**Cooper Street- 2019**

**State Street- 2020**

**Edwards Street (USFWS/CCT) -2016**









## Amount of Habitat Opened by Barrier Package

SITE #	SITE ID		DISTANCE BETWEEN BARRIERS			COST ESTIMATE
1	114JC001	<b>Copper St</b>	898 ft.	0.17 mi.		\$499,000
2	992055	<b>State St</b>	370 ft.	0.07 mi.		\$550,951
3	990217	<b>Highway 97</b>	42 ft.	0.008 mi.		\$973,851
4	960240	<b>Highway 97</b>	5,280 ft.	1 mi.		Included in 990217
5	114JC005	<b>Green Acres</b>	1,795 ft.	0.34 mi.		\$1,422,778
		<b>TOTAL</b>	8,385 ft.	1.588 mi.		\$3,446,580

# NET BENEFITS

After implementation of the 7 barrier projects it is expected that fish will be able to access the lower 1.6 miles of Johnson Creek which has high quality spawning habitat for steelhead. Restoration could double the number of steelhead that spawn in the creek.



# WHERE ARE WE GOING NEXT?

The UCSRB is committed to carrying out a collaborative, transparent, scientifically-sound process for deciding what next steps will be for the watershed pathway in the Upper Columbia. The process will involve local watershed groups and the Regional Technical Team. It will be informed by ongoing assessment and prioritization as well as other supporting information.



# UPPER COLUMBIA BARRIER PRIORITIZATION

Since 2016 partners in the Upper Columbia have been working to assess and prioritized fish passage projects. The primary sponsor leading this effort is the Cascade Columbia Fisheries Enhancement Group (CCFEG).



# CURRENT PROGRESS

Wenatchee- Assessment (completed 2017), Prioritization (completed 2018)

Methow (underway), Prioritization (expected 2020)

Entiat- Assessment (funded 2018), Prioritization (expected 2021)

Okanogan (proposed), Prioritization (expected 2022)





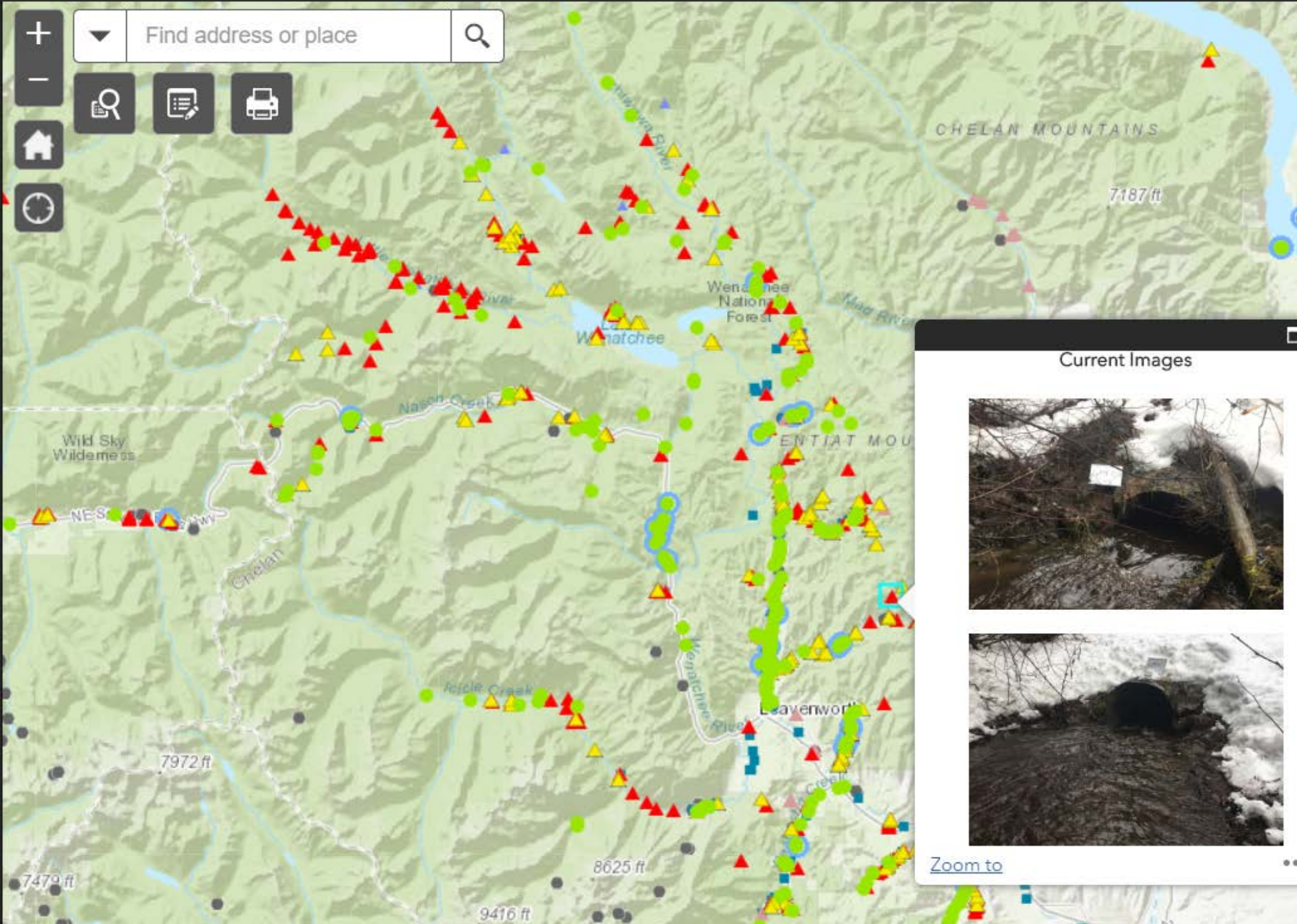
# THE CHALLENGE

- 1,000 known barriers in the UC
- Countless more unknown barriers...
- Existing prioritization was outdated
- Lack of common currency for comparing projects
- There is little available data for new prioritization
- Tools need to be easily run and updated

A topographic map of Washington state with a blue outline. The map is divided into several colored regions: a yellow region in the west-central part, a purple region in the south-central part, an orange region in the north-central part, and a green region in the north-eastern part. The text "STEP 1. BARRIER ASSESSMENT" is overlaid in large, bold, black letters. In the top left, there is a small inset map showing the state's location relative to Canada and the United States, with labels "CANADA" and "UNITED STATES".

**STEP 1.**  
**BARRIER ASSESSMENT**

# Washington State Fish Passage



### Current Images

The "Current Images" panel contains two photographs of fish passage structures. The top photo shows a dark, circular opening in a rocky stream bed, partially covered by snow and surrounded by bare trees. A white tag is visible near the opening. The bottom photo shows a similar structure, a dark pipe or culvert, with a path leading to it through a snowy area. A "Zoom to" button is located at the bottom of this panel.



# STEP 2. STRATEGY DEVELOPMENT



STRATEGY

## FISH PASSAGE PROJECT PRIORITIZATION IN THE UPPER COLUMBIA

---

Prepared by the Upper Columbia Salmon Recovery Board and Aspect Consulting Inc.

An aerial photograph of a river valley. A river flows through the center, surrounded by green banks and some trees. A winding road follows the river's path. There are some buildings and fields visible on the right side of the valley. The overall scene is a rural, mountainous area.

## *Factors Considered*

# PRIORITIZATION

- Literature
- Funding Criteria- Fish Barrier Removal Board
- Other Prioritization Criteria- RTT, WDFW

Metrics were selected based on their ability to distinguish fish passage projects that had high biological benefit and would contribute the most to recovery of listed spring Chinook, steelhead, and bull trout.

# METRICS & WEIGHTS

## SPECIES INDICATORS

- Spawning Area Designation (12%)
- Colonization Potential (13%)
- Number of Species Benefiting (8%)

## HABITAT INDICATORS

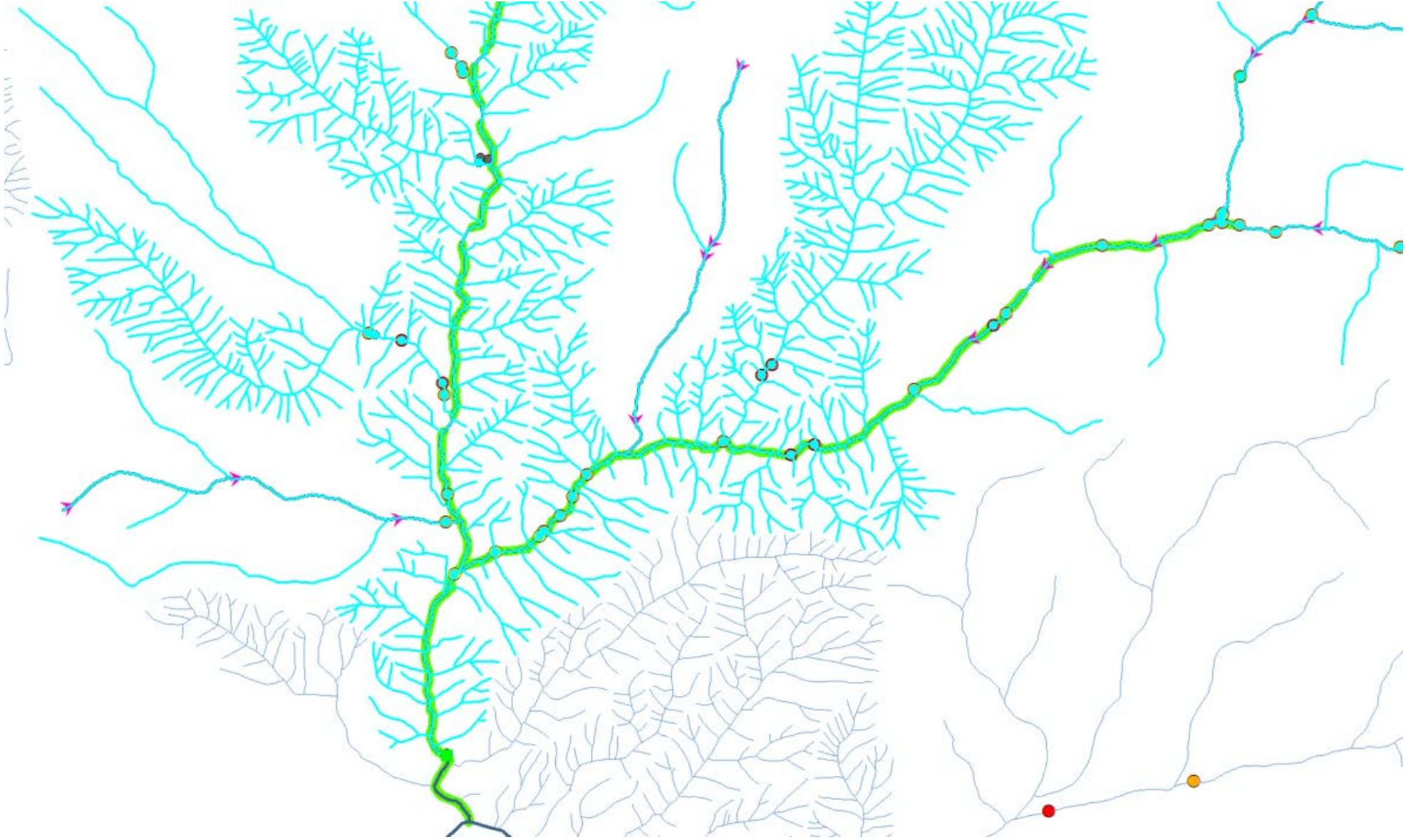
- Miles of Upstream Habitat (20%)
- Upstream Habitat Quality (15%)
- Climate Change Risk (6%)

## BARRIER INDICATORS

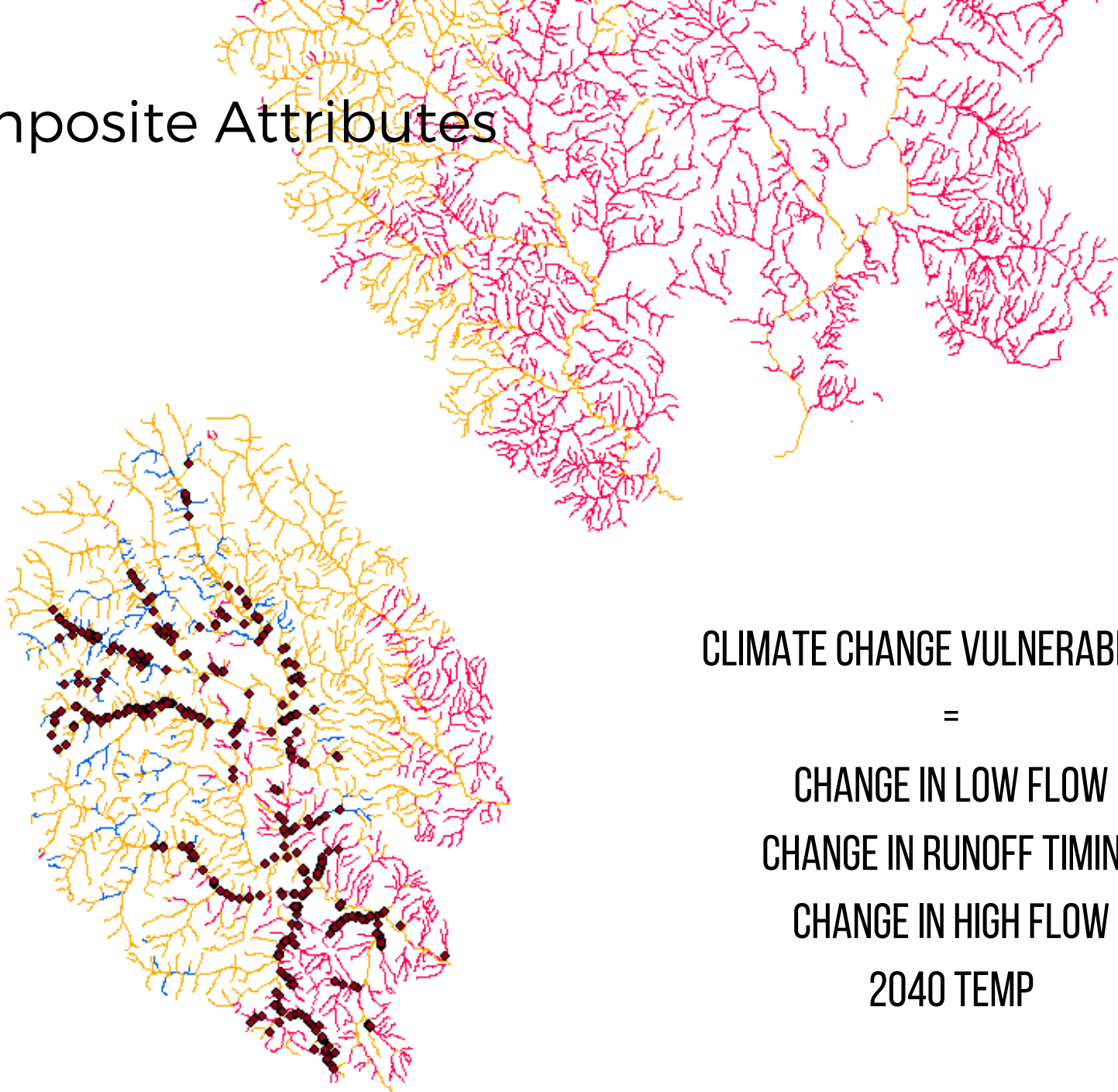
- Barrier Severity (16%)
- Downstream Barriers (10%)



# Network Analysis



# Composite Attributes

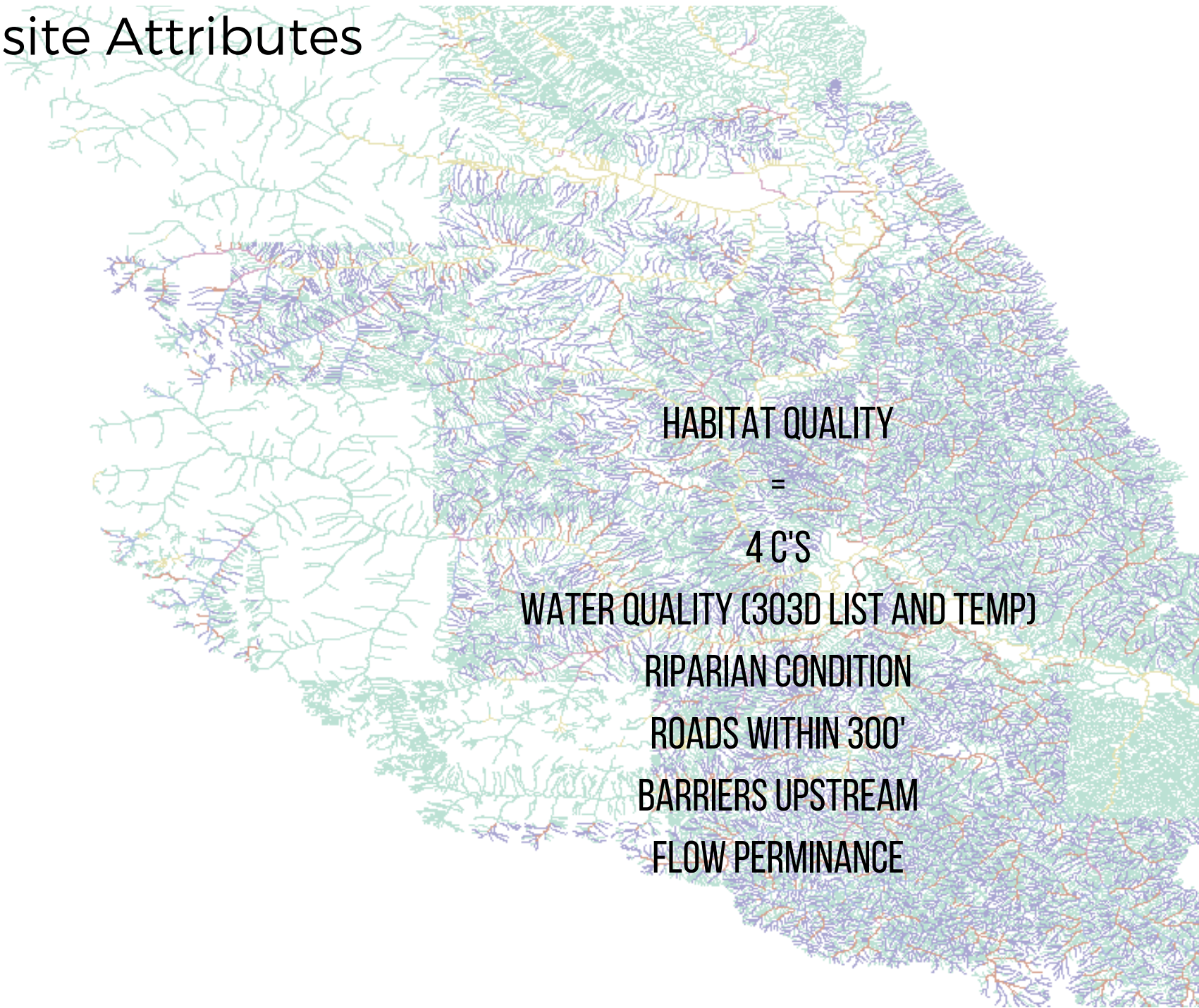


CLIMATE CHANGE VULNERABILITY

=

CHANGE IN LOW FLOW  
CHANGE IN RUNOFF TIMING  
CHANGE IN HIGH FLOW  
2040 TEMP

# Composite Attributes



**HABITAT QUALITY**

=

**4 C'S**

**WATER QUALITY (303D LIST AND TEMP)**

**RIPARIAN CONDITION**

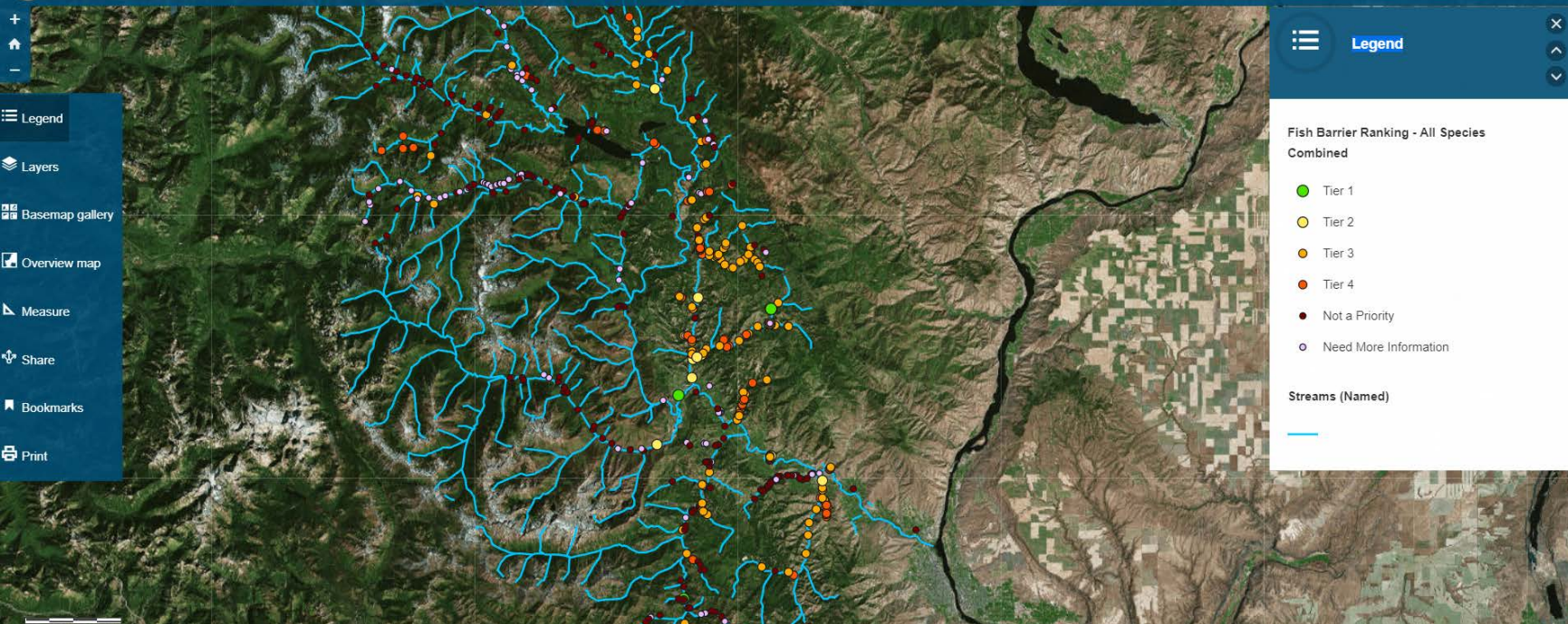
**ROADS WITHIN 300'**

**BARRIERS UPSTREAM**

**FLOW PERMINANCE**

## STEELHEAD AND SPRING CHINOOK

Indicator	Scoring Rules	Data Source
Core population area designation <i>(weighting factor = 2.4; 12%)</i>	5 = Barrier within <u>MaSA</u> 3 = Barrier within <u>MiSA</u> 1 = Barrier within the distribution of steelhead or spring Chinook but not within <u>MaSA</u> or <u>MiSA</u>	Maps of <u>MaSA</u> and <u>MiSA</u>
Colonization Potential <i>(weighting factor = 2.6, 13%)</i>	5 = Colonizers are within 50 m of the barrier 4 = Colonizers are within 50 to 200 m of the barrier 3 = Colonizers are within 200 to 500 m of the barrier 2 = Colonizers are within 500 to 1,000 m of the barrier 1 = Colonizers are greater than 1,000 m from the barrier	Fish Distribution (FS)
Species Benefitting <i>(weighting factor = 1.6, 8%)</i>	5 = All listed species will benefit from the action 3 = Two of the three listed species will benefit from the action 1 = One of the three listed species will benefit from the action 0 = No listed species will benefit from the action	IP
Habitat Potential: Habitat Quantity <i>(weighting factor = 2.0, 20%)</i>	10 = IP >50,000 <u>sq m</u> 9 = IP 41,000 - 50,000 <u>sq m</u> 8 = IP 24,000 - 41,000 <u>sq m</u> 7 = IP 19,000 - 24,000 <u>sq m</u> 6 = IP 15,000 - 19,000 <u>sq m</u> 5 = IP 13,000 - 15,000 <u>sq m</u> 4 = IP 8,000 - 13,000 <u>sq m</u>	Intrinsic Potential Maps- area attribute WDFW barrier inventory



**Fish Barrier Ranking - All Species Combined**

- Tier 1 (Green circle)
- Tier 2 (Yellow circle)
- Tier 3 (Orange circle)
- Tier 4 (Red circle)
- Not a Priority (Dark red circle)
- Need More Information (Purple circle)

**Streams (Named)**

Blue line

BARRIER INFORMATION			Priority	Passability	TOTAL SCORES			
Tributary To	RoadName	BarrierFlag	RTT Tier	RecordedBarrierPassibility	TotalScore_SPCH	TotalScore_SH	TotalScore_BT	TotalScore_AllSpecies
Chumstick Cr	driveway; Eagle Creek Rd	<Null>	2	33	68.2	78.2	42.2	188.6
Wenatchee R	Motteler Rd	<Null>	2	67	69.8	74.6	42.6	187
Wenatchee R		<Null>	2	33	66.6	74.4	56.8	197.8
Chumstick Cr	driveway; Eagle Creek Rd	<Null>	2	33	61.6	74.2	38.2	174
Wenatchee R	private; SR 209	No Bull Trout Habitat Upstream	3	33	59.2	73.8	0	133
Wenatchee R	Eagle Ridge Rd	<Null>	2	67	67.8	72.6	35.4	175.8
Chumstick Cr	private; CR 112	<Null>	2	33	59.6	72.2	36.2	168
Chiwawa Rd	Meadow Creek Rd	<Null>	2	67	69.6	69.6	60	199.2
Wenatchee R	N Dryden Rd	No Chinook Habitat Upstream	3	33	0	69.2	53.8	123
Wenatchee R		<Null>	3	33	56	66.4	43.6	166
Chiwawa R		No Chinook Habitat Upstream	3	67	0	64.8	44	108.8
Chumstick Cr	private; CR 112	<Null>	3	33	57	64.4	36.2	157.6
Chumstick Cr	private; CR 112	<Null>	3	33	57	64.4	36.2	157.6
Chumstick Cr	driveway; Eagle Creek Rd	<Null>	3	33	57	64.4	36.2	157.6
Chumstick Cr	private; Nfd 7801 Rd	No Chinook Habitat Upstream	3	33	0	64.4	52.8	117.2
Chumstick Cr	Merry Canyon Rd	No Chinook Habitat Upstream	3	33	0	64.4	49.8	114.2
Chumstick Cr	private; Nfd 7801 Rd	No Chinook Habitat Upstream	3	33	0	64.4	49.8	114.2
Chumstick Cr	private; Nfd 7801 Rd	No Chinook Habitat Upstream	3	33	0	64.4	49.8	114.2
Wenatchee R	<Null>	<Null>	2	33	41	63.8	71.2	176
Big Meadow Cr	Nfd 6300 Rd	No Chinook Habitat Upstream	3	0	0	63.4	51.2	114.6
Eagle Cr	Eagle Creek Rd	<Null>	3	33	52.2	63	49.4	164.6
Eagle Cr	private; Eagle Creek Rd	<Null>	3	33	52.2	63	49.4	164.6
Chumstick Cr	forest rd; Nfd 7500 Rd	No Bull Trout Habitat Upstream	3	0	51	61.8	0	112.8
Peshastin Cr	Mountain Home Ranch Rd	No Chinook or Bull Trout Habitat Up	3	33	0	61	0	61
Chumstick Cr	Dry Creek Rd	No Chinook Habitat Upstream	3	33	0	60.8	51.2	112
Wenatchee R	private; 2nd Creek Rd	No Chinook Habitat Upstream	3	33	0	60.8	51.2	112



# BARRIER TIERING

- Tier 1. High priority barrier for restoration
- Tier 2. Moderate biological benefit
- Tier 3. Low biological benefit
- Tier 4. Not a priority at this time
- 
- Need More Information
- Not a priority
- Proceed only as a complex

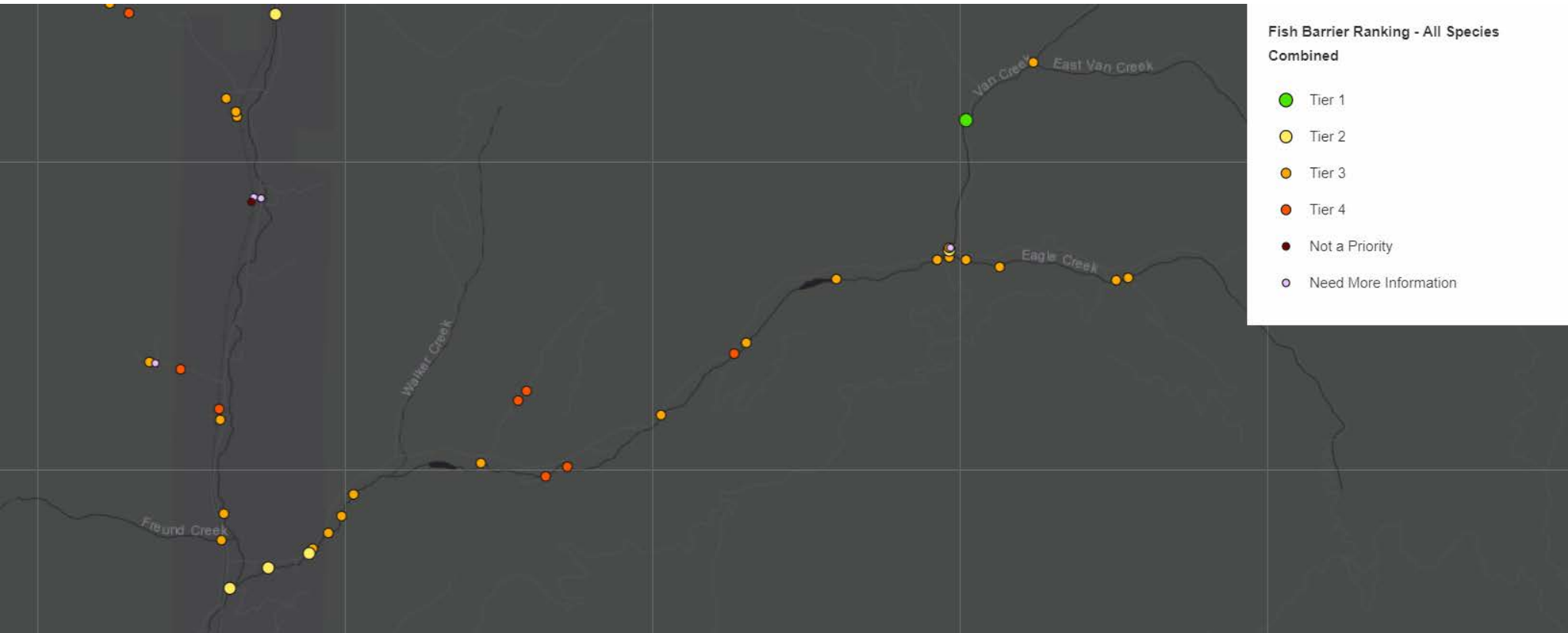
See full report for more detail on definitions

# WENATCHEE SUBBASIN OUTCOMES

- Tier 1. High priority barrier for restoration - 0 barriers
- Tier 2. Moderate biological benefit - 8 barriers (1%)
- Tier 3. Low biological benefit - 74 barriers (12%)
- Tier 4. Not a priority at this time - 52 barriers (9%)
- 
- Need More Information - 155 barriers (27%)
- Not a priority for listed species - 286 barriers (50%)
- Proceed only as a complex

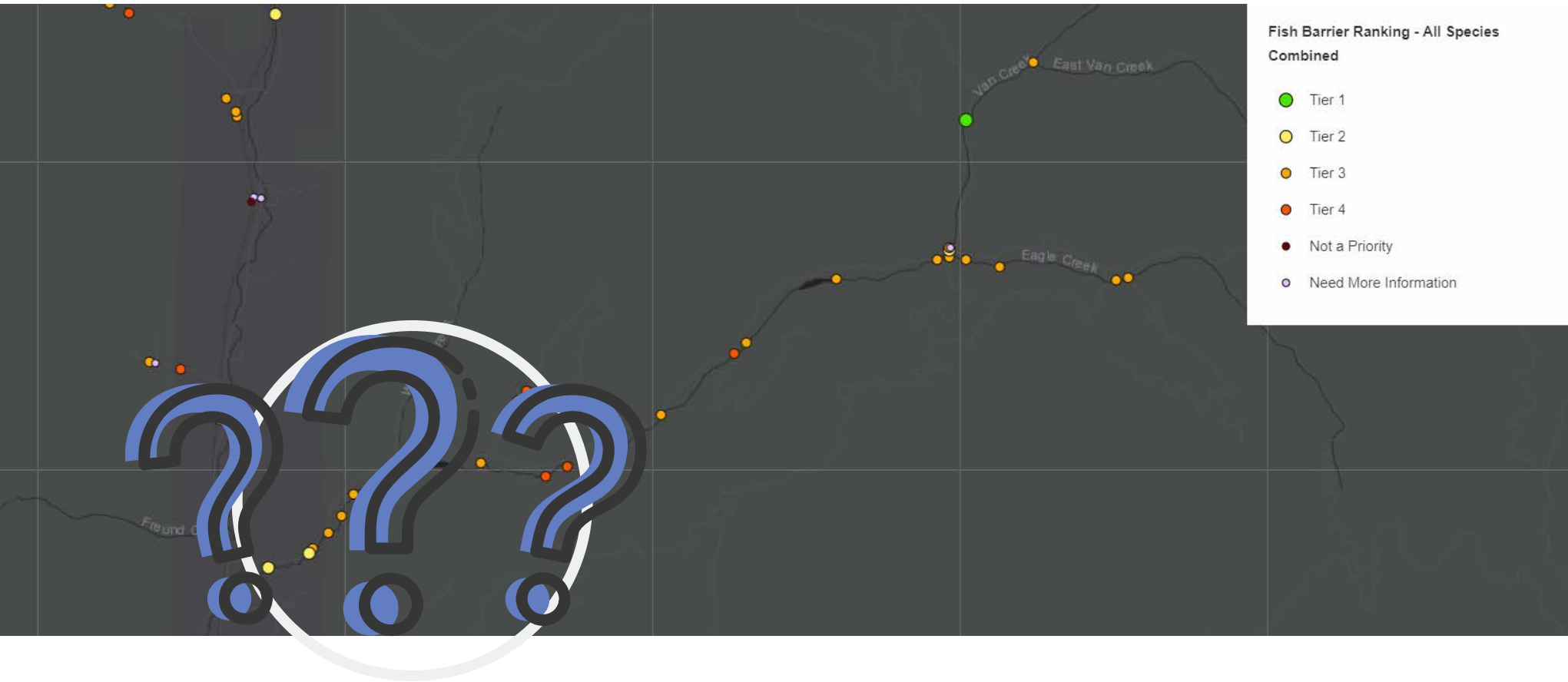
See full report for more detail on definitions

# BARRIER COMPLEXING



7 miles of habitat  
23 barriers (moderate to low priority),

# BARRIER COMPLEXING



# BARRIER COMPLEXING

Determine if the watershed is a worthwhile endeavor

- 1) Priority
- 2) Barrier density
- 3) General habitat conditions

Principles for when and how to group barriers in a complex

- 1) Include the furthest downstream barrier
- 2) Group enough barriers to get a meaningful quantity of habitat
- 3) Group by cost and feasibility considerations
- 4) Do not proceed if there are barriers of unknown status downstream

# SUCCESSSES & CHALLENGES



**COLLABORATION**



**TRANSPARENCY**



**SCIENCE**

# QUESTIONS?



Data - [www.ucsrb.org](http://www.ucsrb.org) ArcGIS online data portal

Maps - [www.ucsrb.org](http://www.ucsrb.org) Maps and Tools Page

Report - Final report @ [www.ucsrb.org](http://www.ucsrb.org)

Greer Maier, Science Program Manager  
[greer.maier@ucsrb.org](mailto:greer.maier@ucsrb.org)

# SALMON RESTORATION FUNDED BY



**BRIAN ABBOTT  
FISH BARRIER  
REMOVAL BOARD**

This program is a partnership between the Washington State Department of Fish and Wildlife and the Recreation and Conservation Office | [rco.wa.gov](http://rco.wa.gov)

IN MEMORY OF  
**BRIAN ABBOTT**  
A TIRELESS ADVOCATE FOR  
SALMON RECOVERY

# SALMON RESTORATION



**BRIAN ABBOTT  
FISH BARRIER  
REMOVAL BOARD**



IN MEMORY OF  
**BRIAN ABBOTT**  
A TIRELESS ADVOCATE FOR  
SALMON RECOVERY



2017-19 FBRB PROJECTS (March 18, 2019)

Rank	Project Name	WDFW / RCO	Amt. in enacted 2017-19 Capital Budget	Total Agreement Amt.	RCO Share	Real Match	Comment
1	Chico Cr	Piazza / Caudill	\$3,785,000	\$3,922,000	\$3,472,000	\$450,000	
2	Johnson Cr	Piazza / Caudill	\$3,008,000	\$2,256,632	\$2,158,432	\$98,200	Bid for entire project came in under (incl. creosote removal), so not expecting cost increase request
3	Buford Cr	Collins / Lambert	\$4,721,000	\$4,409,284	\$4,160,031	\$249,253	Total agreement amount is after adjustment approved on May 25, 2018 (clerical error)
4	MF Newaukum	Roler / Lambert	\$572,000	\$1,016,993	\$1,016,993	\$0	491,993\$ cost increase request approved
5	<del>Trib to Arkansas Cr</del>	<del>Roler</del>	<del>\$285,000</del>	<del>\$0</del>	<del>\$0</del>		<del>funded by FEMA -- application withdrawn</del>
6	Coleman Cr	Collins / Caudill	\$771,000	\$606,762	\$606,762	\$0	
7	Catherine Cr	Piazza / Lambert	\$566,000	\$316,389	\$307,427	\$8,962	
8	Trib to Coffee Cr	Piazza / Caudill	\$327,000	\$704,343	\$300,000	\$404,343	404,343\$ provided by Puget Sound Acq./Rest., bringing total RCO agreement amt. to 704,343\$
9	Johnson Cr	Collins / Caudill	\$544,000	\$499,000	\$499,000	\$0	
10	Baxter Cr	Roler / Lambert	\$2,181,000	\$2,354,118	\$2,001,000	\$353,118	
11	Turner Cr	Roler / Lambert	\$1,090,000	\$1,347,500	\$1,000,000	\$200,000	Anticipating 147,500\$ cost increase request; WDFW reviewed prelim designs and new cost estimate, sent comments to sponsor
12	Cottonwood Cr	Collins / Lambert	\$62,000	\$101,700	\$83,200	\$18,500	26,000\$ cost increase approved
13	Trib to Johnson Cr	Piazza / Caudill	\$1,835,000	\$1,980,000	\$1,683,000	\$297,000	If a bridge is req'd and cost increases above RCO Share amt. (1.68M\$), County will cover the overrun.
ALT 1	MF Newaukum	Roler / Lambert	\$0	\$97,730	\$97,730	\$0	Approved for design-only funding by FBRB (Nov 2018) - previously Alternate #1 on LEAP List
			\$19,747,000	\$19,612,451	\$17,385,575		

Budget Summary for \$19,747,000 in Capital Budget	
Item	Amount
Tot. Grant Awards for Implementation of Top 13 Projects	\$17,385,575
Facilitation Contract	\$68,500
RCO Administration and Project Management	\$813,576
WDFW Administration and Program Implementation	\$798,233
<b>Total</b>	<b>\$19,065,884</b>
<i>Remainder</i>	<i>\$681,116</i>

LEAP List Alternates					
Rank	Project	Cost Estimate in 'Binder'	2019-21 Funding Request / Scope	WDFW TRT BIO	Comment
ALT 1	MF Newaukum	\$850,500	\$97,730 / Planning	Roler	Funded by FBRB for Design
ALT 2	Dayton Cr	\$460,000	\$420,304 / Restoration	Piazza	
ALT 3	Coleman Cr	\$1,560,734	\$1,306,080 / Restoration	Collins	
ALT 4	Catherine Cr	\$400,000	\$89,611 / Planning	Piazza	
ALT 5	Johnson Cr	\$550,951	\$489,673 / Restoration	Collins	
ALT 6	Thorndyke Cr	\$1,412,000	\$198,313 / Planning	Roler	

# ALT 1: MF Newaukum

## Watershed Pathway Barrier Package


### Newaukum River Priority 1

#### Barrier Package Summary

WATERSHED	Middle Fork Newaukum River
LEAD ENTITY	Chehalis Basin Lead Entity – Coast Salmon Partnership
WRIA	23
COUNTY	Lewis
STREAMS IN PACKAGE	Middle Fork Newaukum River and Tributaries
TRIBUTARY OF	North Fork Newaukum River
NUMBER OF BARRIERS IN PACKAGE	7
NUMBER OF UPSTREAM BARRIERS	8
TOTAL LINEAR GAIN	9.7 miles

#### Individual Barrier Details (from lowest to highest barrier in the watershed)

2. SITE ID / STREAM 021(94001)(15790) / Middle Fork Newaukum River

ROAD/LAT-LONG	Centralia Alpha Rd/ 47.6154633, -122.6755447	
OWNERSHIP	Lewis County	
PASSABILITY/REASON	33% / Velocity	
POTENTIAL SPECIES	Steelhead, Coho, Sea Run Cutthroat	
BANK FULL WIDTH	15 ft	
CHANNEL GRADIENT	1-2%	
EXISTING STRUCTURE	7 ft x 5 ft x 58.4 ft Pipe Arch Culvert	
PROPOSED STRUCTURE	21 ft x 9 ft x 60 ft Box Culvert	
COST ESTIMATE	\$850,500	
GAIN TO NEXT BARRIER	1.3 miles	
COST BENEFIT	\$123 Per Foot / \$654,231 Per Mile	
HABITAT	The habitat consists of gravels and a relatively intact and healthy riparian. The stream also high habitat complexity with a lot of beaver activity.	
PROJECT READINESS	Project needs scoping and design.	
COMMENTS	This culvert barrier is downstream of multiple completed fish passage projects in forest land.	


# ALT 2: Dayton Cr Watershed Pathway Barrier Package

## Goldsborough Creek Watershed Priority 1

### Barrier Package Summary

WATERSHED	Goldsborough Creek
LEAD ENTITY	WRIA 14 Salmon Habitat Recovery Committee
WRIA	14
COUNTY	Mason
STREAMS IN PACKAGE	Coffee Creek, Dayton Creek, West Fork Coffee Creek, Uncle Johns Creek, and Deer Creek.
TRIBUTARY OF	Goldsborough Creek, Independent Tributaries
NUMBER OF BARRIERS IN PACKAGE	6
NUMBER OF UPSTREAM BARRIERS	8
TOTAL LINEAR GAIN	6 miles

### Individual Barrier Details (In the order of Lead Entity preferred ranking)

2. SITE ID / STREAM	115 MC209 / Dayton Creek	
ROAD/LAT-LONG	Highland Rd/47.222104681, -123.237504036	
OWNERSHIP	Mason County	
PASSABILITY/REASON	33% / Water Surface Drop	
POTENTIAL SPECIES	Chum, Coho, Steelhead, Sea Run Cutthroat	
BANK FULL WIDTH	13 ft	
CHANNEL GRADIENT	1-2%	
EXISTING STRUCTURE	3.3 ft x 5.5 ft x 48.2 ft pipe arch culverts (2)	
PROPOSED STRUCTURE	18 ft x 9 ft x 50 ft Arch Pipe of Bridge	
COST ESTIMATE	\$460,000	
GAIN TO NEXT BARRIER	0.8 miles	
COST BENEFIT	\$103 per Foot / \$575,000 per Mile	
HABITAT	Cold water tributary with good spawning and rearing.	
PROJECT READINESS	South Puget Sound Salmon Enhancement Group has developed conceptual designs.	
COMMENTS	County replacing upstream barrier in 2019 to complete the reach. High potential for Coho, Steelhead, and Cutthroat trout.	


# ALT 3: Coleman Cr Watershed Pathway Barrier Package

## Wilson/Cherry Watershed Priority 1

### Barrier Package Summary

WATERSHED	Wilson/Cherry Watershed
LEAD ENTITY	Yakima Basin Fish and Wildlife Recovery Board
WRIA	39
COUNTY	Kittitas
STREAMS IN PACKAGE	Coleman Creek, Caribou Creek
TRIBUTARY OF	Naneum and Wilson Creeks
NUMBER OF BARRIERS IN PACKAGE	4
NUMBER OF UPSTREAM BARRIERS	Unknown at this time
TOTAL LINEAR GAIN	3.17 Miles

### Individual Barrier Details (from lowest to highest barrier in the watershed)

2. SITE ID	Col05.09 / Coleman Creek	
ROAD/LAT-LONG	Vantage Highway / 47.00015, -120.46099	
OWNERSHIP	Kittitas County	
PASSABILITY/REASON	33% / Slope and Hydraulic Drop	
POTENTIAL SPECIES	Steelhead, Coho, Chinook, Resident Trout	
BANK FULL WIDTH	26 ft	
CHANNEL GRADIENT	1-3%	
EXISTING STRUCTURE	One 13 ft x 4 ft x 80 ft Box Culvert; one 6 ft x 4 ft x 81 ft Pipe Arch Culvert	
PROPOSED STRUCTURE	35 ft x 44 ft Bridge	
COST ESTIMATE	\$1,560,734	
GAIN TO NEXT BARRIER	0.35 miles	
COST BENEFIT	\$845 per Foot / \$4,459,240 per Mile	
HABITAT	Fair habitat complexity and riparian corridor. Spawning habitat upstream.	
PROJECT READINESS	No scoping or design work has been completed to date.	
COMMENTS	Proposed projects will provide passage into two of the Major Spawning Areas (MSAs) which are part of the Yakima Steelhead Recovery Plan's steelhead population's spatial structure goals. Access to these valuable spawning and rearing habitats is a key step towards recovery and delisting for the entire Middle Columbia Steelhead DPS.	


# ALT 4: Catherine Cr Watershed Pathway Barrier Package

## Little Pilchuck Watershed Priority 1

### Barrier Package Summary

WATERSHED	Little Pilchuck Creek
LEAD ENTITY	Snohomish Basin
WRIA	7
COUNTY	Snohomish
STREAMS IN PACKAGE	Catherine Creek, Little Pilchuck Creek
TRIBUTARY OF	Little Pilchuck Creek, Pilchuck River
NUMBER OF BARRIERS IN PACKAGE	4
NUMBER OF UPSTREAM BARRIERS	47
TOTAL LINEAR GAIN	16.8 miles

2. SITE ID / STREAM 993472 / Catherine Creek

ROAD/LAT-LONG	Callow Rd / 48.0314217, -122.073967	
OWNERSHIP	Private	
PASSABILITY/REASON	67% / Depth	
POTENTIAL SPECIES	Coho, Steelhead, Sea Run Cutthroat	
BANK FULL WIDTH	16 ft	
CHANNEL GRADIENT	0.7%	
EXISTING STRUCTURE	3.4 ft x 3.4 ft x 12 ft Round Culverts (5)	
PROPOSED STRUCTURE	40 ft x 18 ft Bridge	
COST ESTIMATE	\$400,000	
GAIN TO NEXT BARRIER	0.4 miles	
COST BENEFIT	\$188 per Foot / \$1,000,000 per Mile	
HABITAT	Coho observed in the area. Habitat consists of relatively intact riparian buffer and high levels of spawning and rearing potential.	
PROJECT READINESS	No scoping or designs completed at this time.	
COMMENTS	8+ acre multiphase riparian floodplain planting and invasive control effort on both banks of Catherine Creek immediately north of the culvert at the convergence with Stevens Creek since 2013.	

# ALT 5: Johnson Cr Watershed Pathway Barrier Package


## Okanogan River Watershed Priority 1

### Barrier Package Summary

WATERSHED	Okanogan River Watershed
LEAD ENTITY	Upper Columbia Salmon Recovery Board
WRIA	49.0202
COUNTY	Okanogan County
STREAMS IN PACKAGE	Johnson Creek
TRIBUTARY OF	Okanogan River
NUMBER OF BARRIERS IN PACKAGE	5
NUMBER OF UPSTREAM BARRIERS	7 – Two of which will be corrected summer 2016
TOTAL LINEAR GAIN	1.6 miles

### Individual Barrier Details (from lowest to highest barrier in the watershed)

2. SITE ID 992055 / Johnson Creek

ROAD/LAT-LONG	State St / 48.50088, -119.50585	
OWNERSHIP	City of Riverside	
PASSABILITY/REASON	33%/ Slope	
POTENTIAL SPECIES	Steelhead, Chinook and Resident Trout	
BANK FULL WIDTH	17 ft	
CHANNEL GRADIENT	3-5%	
EXISTING STRUCTURE	5.5 ft x 5.5 ft x 50 ft Round Culvert	
PROPOSED STRUCTURE	24 ft x 8 ft x 47 ft Bottomless Box Culvert	
COST ESTIMATE	\$550,951	
GAIN TO NEXT BARRIER	0.07 miles	
COST BENEFIT	\$1,489 per Foot / \$7,870,729 per Mile	Moderate gradients with limited channel complexity. Flows through City of Riverside.
HABITAT		
PROJECT READINESS	No designs or scoping completed.	
COMMENTS	City is supportive of correction efforts. Potential for increased juvenile access and off channel rearing opportunities.	

# ALT 6: Thorndyke Cr Coordinated Project Pathway

## Barrier Summary

WATERSHED	Little Quilcene River
NOMINATING ENTITY	Jefferson County
WRIA	17
COUNTY	Jefferson County
STREAMS IN PACKAGE	Thorndyke Creek
TRIBUTARY OF	Hood Canal
NUMBER OF BARRIERS IN NOMINATION	1
NUMBER OF CORRECTED/FUNDED BARRIERS (WITHIN THE LAST 5 YEARS)	2
TOTAL LINEAR GAIN	9.73 Miles

## Individual Barrier Details (from lowest to highest barrier in the watershed)

1. SITE ID / STREAM	160508 / Thorndyke Creek	
ROAD/LAT-LONG	Thorndyke Rd / 47.8237, -122.73975	
OWNERSHIP	Jefferson County	
PASSABILITY/REASON	67% / Slope, Velocity and Water Depth	
POTENTIAL SPECIES	Fall Chum, Coho, Steelhead	
BANK FULL WIDTH / GRADIENT	28.5 ft / 2-4%	
EXISTING STRUCTURE	5 ft x 5 ft x 89 ft Round Culverts (2)	
PROPOSED STRUCTURE	36 ft x 12 ft x 120 ft	
COST ESTIMATE	\$1,412,000	
COST BENEFIT	\$28 Per Foot / \$145,119 Per Mile	
GAIN TO NEXT BARRIER	10.04 Miles	
HABITAT QUALITY GAIN	Habitat consists of a healthy intact riparian buffer, excellent spawning and rearing opportunity, and good water quality.	
PROJECT READINESS	The county has done preliminary scoping, but additional scoping and designs are needed.	
ADJACENT RESTORATION (WITHIN LAST 5 YEARS)	2 Private RMAP fish passage repairs	
COMMENTS	Upstream habitat is excellent and capable of supporting healthy numbers of salmon. The estuary is also intact and undeveloped.	

Amount of Habitat Opened

SITE #	SITE ID	DISTANCE BETWEEN BARRIERS				COST ESTIMATES
<b>1</b>	160508	51,378	ft.	10.04	mi.	\$1,412,000
	<b>TOTAL</b>	51,378	ft.	10.04	mi.	\$1,412,000



# Fish Barrier Removal Board

## *Work Plan*<sup>1</sup>

---

In 2014, the Washington State Legislature created the Fish Passage Barrier Removal Board to develop a coordinated barrier removal strategy and provide the framework for a fish barrier removal grant program. The board is established by Chapter 77.95 RCW. This workplan is intended to serve as a guide for the Board's work over the next several years. It will be reviewed annually. The due dates for each action are intended to be general, since the Board's workload will be variable, and actual dates may be later. Detailed descriptions of tasks can be found in earlier versions of this work plan and the communications plan.

### **Mission**

The duty of the board is to identify and expedite the removal of human-made or caused impediments to anadromous fish passage in the most efficient manner practical through the development of a coordinated approach and schedule that identifies and prioritizes the projects necessary to eliminate fish passage barriers caused by state and local roads and highways and barriers owned by private parties.<sup>2</sup>

### **Values**

The board values all aspects of salmon recovery and the existing structure developed under the 1999 Salmon Recovery Act, and provides a statewide fish barrier removal strategy and program funding recommendations to the legislature. The board will ensure that the processes to identify, prioritize and fund projects are based on maximizing the opening of high quality habitat through a coordinated investment strategy that prioritizes projects necessary to eliminate fish barriers owned by state and local government, tribes, private parties, and others. This investment strategy values (1) opening high quality salmon habitat that can contribute to salmonid recovery, (2) coordinating with others doing barrier removals to achieve the greatest cost savings, and (3) correcting barriers located furthest downstream.

To achieve the mission, goals, and values the Board will:

- Improve coordination of existing fish passage programs to increase the benefits of barrier removal among multiple jurisdictions.
- Expedite the removal of barriers in the most efficient manner practical through economy of scale and streamline permitting processes.
- Facilitate collaboration, coordination, and communication among state, federal and local agencies, tribes, regional salmon recovery organizations, salmon recovery lead entities, regional fisheries enhancement groups, conservation districts, restoration contractors, landowners and other interested stakeholders on fish passage improvement programs and projects.
- Expedite implementation of on-the-ground projects by identifying and addressing institutional hurdles.
- Educate and increase the public and agency awareness of fish passage issues to develop support for solving problems and preventing new ones.
- Seek funding sources for fish passage projects within Washington and administer a strategic funding program to further the Board's mission once funding is secured.

---

<sup>1</sup>Workplan update approved November 2018; list of communications tasks approved and added May 2018

<sup>2</sup> RCW 77.95.160 (2) (a)

**GOALS, ACTIONS AND TIMELINES**

ACTION	TIMELINE	RESPONSIBILITY
<b>Goal 1: The Washington Department of Fish &amp; Wildlife shall chair and administer a Fish Barrier Removal Board (FBRB).</b>		
Chair and Support Fish Barrier Removal Board	Ongoing	WDFW
Review bylaws annually	Winter 2019	FBRB
Periodically review FBRB membership and consider changes	Winter 2019	Chair and FBRB
Develop a workplan and update annually	Fall 2019	FBRB
<b>Goal 2: The Board will strive to operate transparently and reach out to interested parties in developing and implementing its programs.</b>		
Develop and implement a communication strategy to include fact sheets and webpage.	Ongoing	FBRB
Participate in Salmon Recovery workshops	Biennial in odd-numbered years	Chair/other members
Foster ongoing partnership with WFPA	Ongoing	WDFW
Develop a stand-alone FBRB website	Ongoing	WDFW
<b>Goal 3: The FBRB will continue to refine its coordinated approach to identifying and expediting the removal of fish passage barriers.</b>		
Continue to refine a prioritization methodology aimed at prioritizing which focus areas should be addressed first. Board should re-visit its priorities and refine the methodology based upon the funding received for the grant program.	Ongoing	FBRB
Develop a plan to coordinate information sharing and coordination <sup>3</sup> between the FBRB and other entities involved in fish passage barrier removal projects. The Board needs to understand the needs for this task as well as the funding needed to support this. This task may include developing the website referenced in Goal 2 above.	Winter 2019	FBRB
Determine the scope of technical assistance needed through the program and how it has been/will be provided, as directed in RCW 77.95.170 (5) (b).	Ongoing	WDFW with FBRB assistance
Develop and approve a grant manual for use by grant administrators. Monitor any issues and revise as needed.	Completed; revisions ongoing as needed	FBRB and RCO
Develop guidance as needed for future grant rounds, or a process for developing such guidance (e.g. funding removal of creosote pilings found during construction of funded projects)	As needed	FBRB
Consider whether to revise policy around issue of partial and full barriers downstream from barriers proposed for correction.	Before next grant round (2019)	FBRB
Track relevant issues including the impacts of stormwater on fish, climate change	As appropriate	FBRB
Consider SRFB collaboration regarding future use of Intrinsic Potential model	Winter 2019	FBRB, RCO

<sup>3</sup> RCW 77.95.160 (2)(C)

<b>Goal 4: The FBRB will strive to seek out available data and information and develop ways to make data and information readily available.</b>		
Database presentation to FBRB	Fall 2018	WDFW
Training program presentation to FBRB	Fall 2017	WDFW
<b>Goal 5: The FBRB will develop a Grant Program for distributing available funding in an efficient and effective manner.</b>		
Continue to refine the grant program that will allocate available funding, and address elements including match requirements, whether and how funding might be allocated between regions, provisions for opportunities that emerge (“just-in-time” or “shovel-ready” projects) and other factors.	Ongoing	FBRB
<b>Goal 6: The FBRB will participate in efforts to streamline Project Permitting and seek ways to efficiently use mitigation funding for barrier removal projects.</b>		
Seek permitting efficiencies and streamlining regarding federal permits.	Ongoing	WDFW

**COMMUNICATION TASKS**

<b>ACTION</b>	<b>TIMELINE</b>	<b>RESPONSIBILITY</b>
Develop compelling story that communicates value and urgency of fish barrier removal	Ongoing	FBRB
Meet with SRFB periodically	As needed	FBRB
Reach out to Chehalis Basin program to explore connections	Fall 2018	WDFW
Work with SRFB regarding connections to Lead Entities on communications	Fall 2018	FBRB
Continue engaging with interested agencies to establish FBRB as a resource for fish barrier removal	Ongoing	FBRB
FBRB members update their websites regarding fish barrier removal	Ongoing	FBRB members
WDFW create archive of news stories	Ongoing	WDFW
Build relationships with media		
<ul style="list-style-type: none"> <li>Work with WDFW public information office to reach out to media contacts</li> </ul>	Ongoing	FBRB, WDFW
<ul style="list-style-type: none"> <li>Issue press releases when key milestones occur</li> </ul>	Ongoing	FBRB
Engage with national organizations and Federal agencies committed to fish passage	Ongoing	FBRB

BYLAWS  
FISH PASSAGE BARRIER REMOVAL BOARD (FBRB)  
September 9, 2014

**ARTICLE I - Name**

The name of this board shall be the Fish Passage Barrier Removal Board (FBRB) ([RCW 77.95.160](#)).

**ARTICLE II - Purpose**

The purpose of the board shall be to identify and expedite the removal of human-made or caused impediments to anadromous fish passage in the most efficient manner practical. This will be completed through the development of a coordinated approach and schedule that identifies and prioritizes projects necessary to eliminate fish passage barriers caused by state and local roads and highways and barriers owned by private parties ([RCW 77.95.160](#)). The board will develop a statewide fish passage barrier correction strategy. This strategy will focus on the principals in [RCW 77.95.180](#) and [RCW 77.95.160](#) including development of recommendations for funding as well as the review and approval of projects to be funded under the fish passage barrier removal program.

**ARTICLE III - Membership**

Members of the FBRB will be selected based on membership recommendations in [RCW 77.95.160](#).

Voting members of the FBRB include one representative from the Department of Fish and Wildlife (DFW), Department of Transportation, Department of Natural Resources, Governor's Salmon Recovery Office, counties, cities, Northwest Indian Fisheries Commission, Confederate Tribes of the Colville Reservation, and Yakama Nation.

The Chair shall be held by the DFW representative ([RCW 77.95.160](#)). If the Chair is not present, the DFW alternate designee will serve as Chair.

Each organization may designate a primary representative and an alternate representative. Each organization will have one vote. Only the primary and alternate designated representatives that have been identified in writing to DFW are entitled to participate in conducting board business. If an alternate is designated, they can serve as the proxy in the absence of the designated representative. Each designated alternate member will abstain from voting when the organization's primary designee is present. Due to the considerable level of preparation required for participation, each organization is limited to one alternate.

Once a statewide coordinated approach has been developed, the Board may consider inviting others to participate in conducting board business. The Board shall determine, in consultation with the chair, whether an organization should be invited to participate and whether they are considered a voting member. The FBRB will discuss any potential new members. The FBRB shall consider new members that can contribute to making the board a success and can be additive to the overall goals and objectives of the FBRB.

The Chair will officially request an organization to join the Board if the members support the action.

If a member does not attend three regularly scheduled meetings in a row, and fails to send their alternate, she or he may be considered “inactive” and will be ineligible to participate in formal decisions. The FBRB may elect to address non-attendance by members, as appropriate. Members may also declare themselves inactive for future time periods if they anticipate poor attendance in upcoming months, thereby allowing the FBRB to more effectively make decisions.

Board members shall provide written notice of their intent to leave the board. The departing board member may recommend a replacement board member from within their organization. The Chair will officially request that the organization choose a replacement board member.

## **ARTICLE IV – Roles and Responsibilities**

### Chair Responsibilities

The Chair has primary responsibility to set up the board, invite participants, develop meeting agenda's, and represent the FBRB in all appropriate matters.

Responsibilities of the Chair include, but are not limited to, ensuring all members are heard equally in debate, facilitate the discussion and keep order, and strive to ensure the meetings stay on track with the agenda so the meetings are as effective as possible. The Chair is responsible for reporting to the legislature on FBRB progress and recommendations.

The Chair is the spokesperson for the FBRB. Board members should not represent or speak on behalf of the FBRB when attending other meetings or forums unless assigned to do so by the Chair.

### Board Member Responsibilities

All voting members are expected to attend each meeting. If a board member is unable to attend a meeting, he/she will notify the Chair prior to the meeting whether they are sending their alternate designee to serve as a voting member.

Responsibilities of board members in the first year shall be to develop a statewide coordinated approach to barrier corrections and thereafter, apply the approach to review and adopt barrier projects for funding.

The board may not make decisions on fish passage standards or categorize as impassible culverts or other infrastructure developments that have been deemed passable by the Department of Fish and Wildlife.

## **ARTICLE V - Meetings**

### Frequency

Regular meetings of the Board will be scheduled on the third Tuesday of each month. The Board may set additional meetings as necessary. All meeting times and places may be changed, as needed, with at least a 5 working day notice.

### Open public meetings

Meetings of the FBRB are open to the public and follow the Open Public Meetings Act ([RCW 42.30](#)). Materials explaining the provisions of this law are available at the Office of the Attorney General's Open Government Internet Manual webpage. All new members must take open government training within 90 days of assuming their duties. The training must cover Open Public Meetings, Public Records, and Records Retention.

Members acknowledge that all documents generated in this process are a public record and are subject to the Public Records Act (RCW 42.56)

Meeting agendas, minutes, and materials will be posted on the DFW Board website (<http://wdfw.wa.gov/about/advisory/fbrb/>).

### Special Meeting

A special meeting may be called at any time by the Chair or by a quorum of the board. The purpose, time, and location of the meeting shall be set forth in the notice. Written notice of a special meeting shall be delivered, including electronically, at least 24 hours in advance to all board members.

### Executive Session

The FBRB, by call of any voting member and approval from the Chair, may excuse itself to an executive session by closing a meeting to all non-members. An executive session can be called for any reason allowed by law, if deemed appropriate by the Chair, but no formal recommendations will be adopted during an executive session.

## **ARTICLE VI - Meeting Ground Rules**

The board is comprised of people with a variety of perspectives and interests representing organizations with varied missions. Each member is an equal participant in the process, and thus has an equal opportunity to voice opinions and contribute ideas. Differences of opinion are to be expected and will be respected. Members will honor brainstorming without being attached to their own viewpoints.

With respect for every member's time and perspective, each member agrees:

- 1) To review any provided materials prior to meetings;
- 2) To contribute to discussions at every meeting;
- 3) To stay on track with the agenda;
- 4) To listen actively and keep an open mind;
- 5) To pose questions and comments to the group as a whole;
- 6) To respect the rights of others, especially in debate; and
- 7) To participate fully through open, honest and candid discussions.

Meeting materials will be sent to board members at least 5 business days in advance of the meetings to allow for proper preparation. Information (studies, reports, data, etc.) requested by a board member will be made available to all members.

Meeting minutes will be prepared and distributed to all board members.

Interested parties not participating as a board member may attend meetings and sit in the audience. The Chair will provide an opportunity at least once during each meeting for interested parties to provide input.

## **ARTICLE VII - Voting**

The board shall strive for consensus on matters and issues that are brought before it. Key actions shall be voted on and each voting organization will have one vote. A quorum of the FBRB must be present during a meeting to vote on key actions. A majority of the entire active membership constitutes a quorum.. Key actions will be passed by simple majority vote however, a minimum of 5 votes in favor of, is needed to pass a key action. The chair shall be a voting member. Voting members not present at a meeting may vote by their alternate designee, by telephone, by written communications (including electronic transmissions) prior to the meeting, or by other means deemed appropriate by the Chair. A no-response on voting matters indicates concurrence. In the absence of a majority vote, committee members will be asked to indicate clearly where they disagree, and their individual level of support for the proposal. The formal action will describe areas of agreement and disagreement. Every effort will be made to state all points clearly, accurately and fairly.

During the process, the board will revisit decisions only when it can be demonstrated that new information will improve their quality.

Key decisions made by the board will be documented in meeting minutes.

To reduce the potential for conflict of interests which may be relevant to a matter requiring action by the FBRB, the interested person shall call it to the attention of the Board, provide any and all relevant information, and shall not participate in the final deliberation or decision regarding the matter under consideration, and not vote on the matter. At the discretion of the disinterested persons present, the person may be required to leave the meeting during the discussion and the voting on the matter.

## **ARTICLE VIII – Committees**

From time to time the board may establish standing or advisory committees for the purpose of assisting the board in carry out its responsibilities as well as obtain the community involvement and representation.

## **ARTICLE IX – Amendments to Bylaws**

Amendments to these bylaws shall be amended by a simple majority vote however, a minimum of 5 votes in favor of, is needed. Any proposed change or changes shall be furnished to each member at least 5 days prior to the business meeting at which change is considered. Amended bylaws are effective immediately after adoption.



# Membership Roster

## Updated 3-14-19

### Voting Members

Tom Jameson, Department of Fish and Wildlife, Fish Passage Division Manager

Paul Wagner, Department of Transportation, Biology Branch Manager for Environmental Services Office

Jon Brand, PE, Washington State Association of Counties, Kitsap County Engineer

Carl Schroeder, Association of Washington Cities, Government Relations Advocate

Dave Caudill, Recreation and Conservation Office/ Governor's Salmon Recovery Office, Outdoor Grants Manager

Joe Shramek, Department of Natural Resources, Natural Resources Division Manager

Casey Baldwin, The Confederated Tribes of the Colville Reservation, Sr. Research Scientist

Jonalee Squeochs, Yakama Indian Nation, Environmental Coordinator

John Foltz, Snake River Salmon Recovery Board, Executive Director

### Alternate Voting Members

Justin Zweifel, Department of Fish and Wildlife, Fish Passage Section Manager

Susan Kanzler, Department of Transportation, Fish Passage Coordinator

Jane Wall, Washington State Association of Counties, Managing Director

VACANT, Association of Washington Cities

Wendy Brown, Recreation and Conservation Office/ Governor's Salmon Recovery Office, Policy Coordinator

Donelle Mahan, Department of Natural Resources, Assistant Forest Practices Division Manager for Operations

Lee Carlson, Yakama Indian Nation, Habitat Section Coordinator

Amber Moore, Council of Regions, Salmon Recovery Manager for the Puget Sound Partnership

### Non-Voting Members

David Price, National Oceanic and Atmospheric Administration, Biologist, West Coast Region