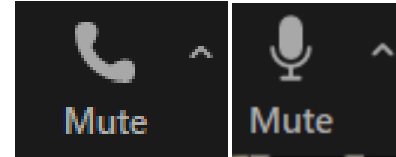


# **Columbia Basin Collaborative Habitat Work Group**

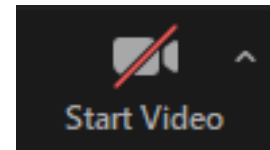
**November 9th, 2022**

# Zoom Features

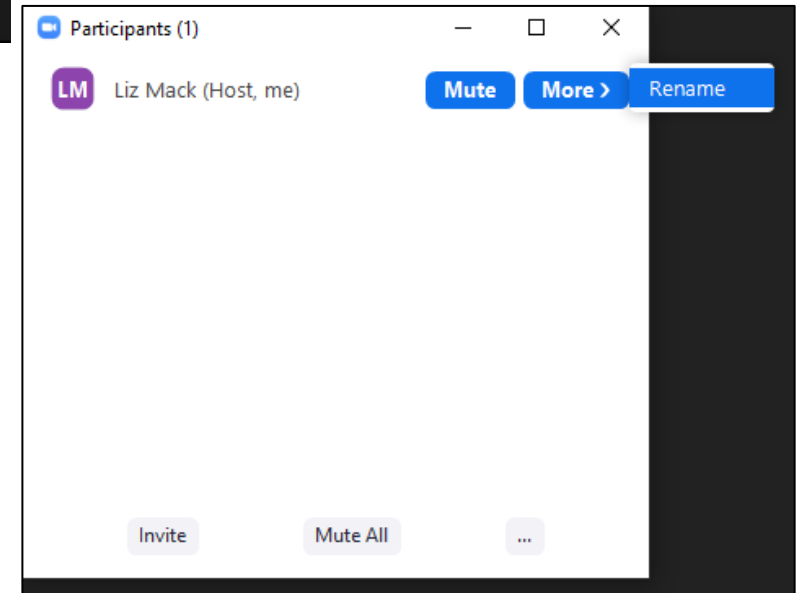
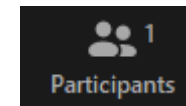
Keep yourself on mute when not speaking.



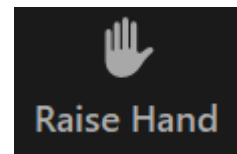
Use video, if possible, to promote face to face communication.



If needed rename yourself in the participant panel.

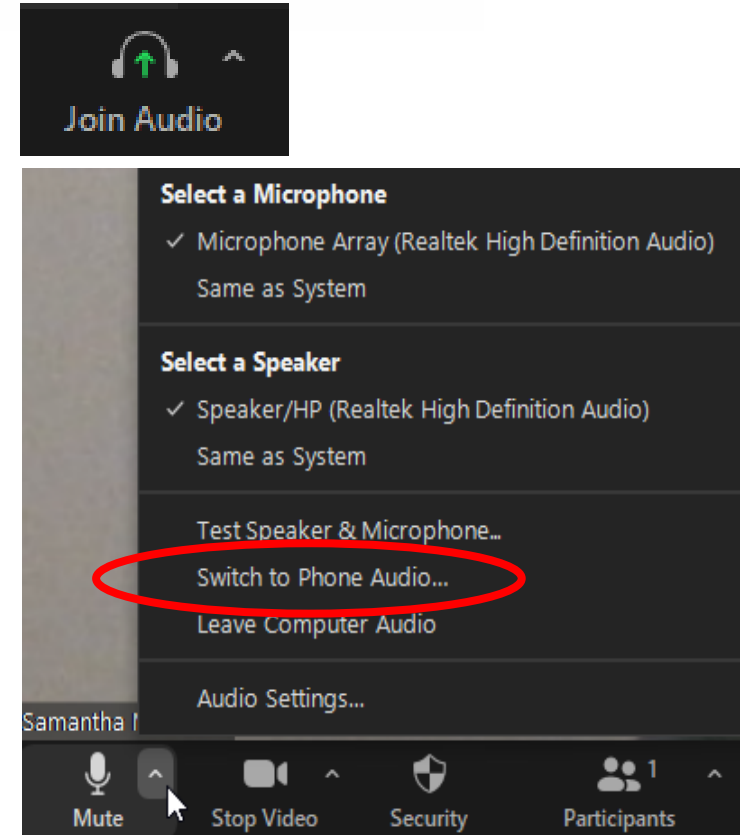


Find your raise hand function at the bottom of your screen



# Zoom Features

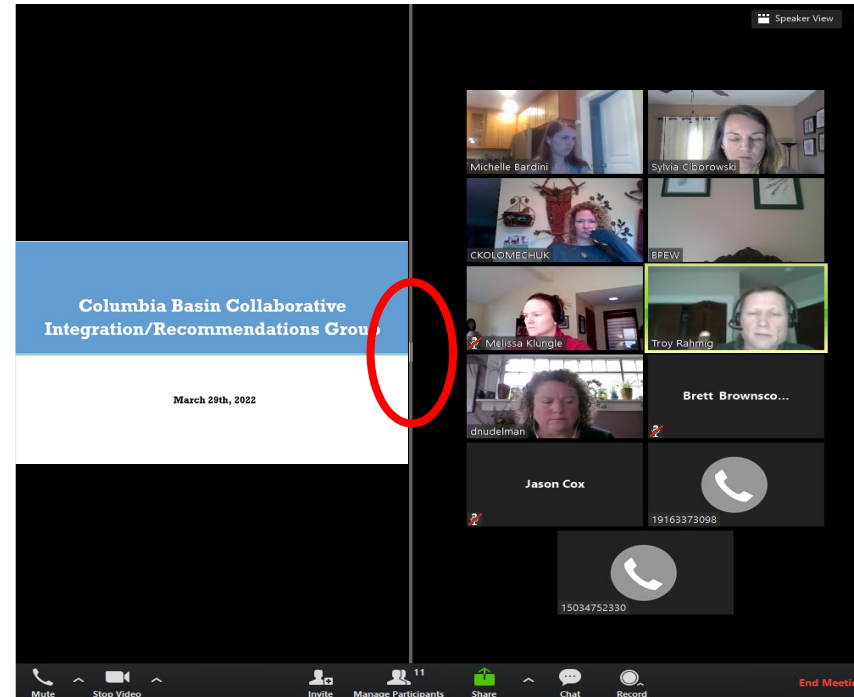
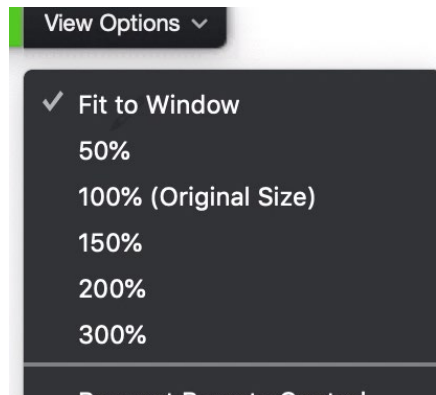
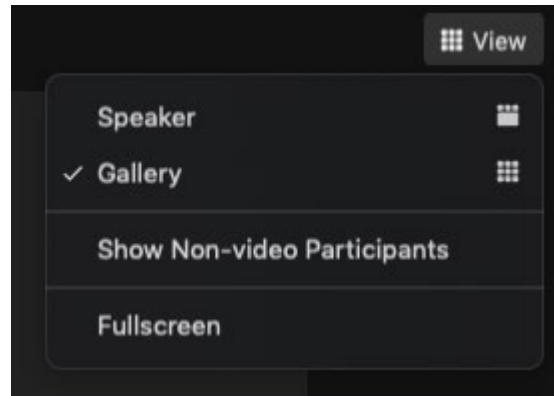
- If you have not **connected your audio**, click on the “Join Audio” at the bottom left of your screen.
- To **switch to phone**, click the arrow next to the microphone icon and select “Switch to Phone Audio”.
- If you have joined by browser, please click “Audio Settings”



*For technical support, please contact Colin Johnson*

# Zoom Features

Adjust view options



*For technical support, please contact Colin Johnson*

# **Welcome, Agenda Review, and Updates**

# Meeting Guidelines

- Honor the agenda
- Listen to understand and ask questions to clarify
- Balance speaking time
- Don't pile on
- Be present



# Agenda Review

Time (PT)	Topic
10:00 – 10:15 am	Welcome, Agenda Review, and Updates
10:15 – 10:30 am	Work Plan Review
10:30 – 10:50 am	Estuary Habitat Discussion Resources and Gaps
10:50 – 11:10 am	Tributary Habitat Discussion Resources and Gaps
11:10 – 11:20 am	Break
11:20 – 11:55 am	Presentation: Selection of Restoration Projects
11:55 – 12:50 pm	Develop Short Term Recommendations
12:50 pm – 1:00 pm	Confirm Next Steps, Upcoming Meeting Topics, and Summary

# Introductions

- Name
- Affiliation and expertise
- Hope to accomplish or bring into the discussion



# **Work Plan Review**

# Recommended Action Form

1. Work Group developing the action:
2. Summary of action:
  - a. Is this part of an existing program or new program?
3. Benefit: (link to matrices)
  - a. What benefit will the action provide?
  - b. What data support this?
4. Entities that would implement that action:
5. Timing:
  - a. How long will it take to implement that action?
  - b. How long until fish populations benefit from action?
6. Stock(s) benefited by the action and magnitude of benefit for each stock(s)
7. Estimated cost:
8. Uncertainties related to the action:
9. Regulatory processes or policies associated with the action:
10. Potential challenges:
11. Adaptive management (describe how this will be incorporated into to action):

# Habitat Work Plan

Meeting	Goals
<b>Kick off</b>	Introduction to CBC Estuary and Tributary Habitat Work Group <ul style="list-style-type: none"><li>• Come to shared understanding of the assignment from the I/RG and information available from the CBPTF</li><li>• Identify existing forums, gaps, and funding needs and sources</li><li>• Start developing work plan</li></ul> Assess gaps in existing forums, science, and funding
<b>Meeting 2:</b>	Finalize work plan <ul style="list-style-type: none"><li>• Clarify request from the I/RG</li><li>• Further identify priority habitat programs, locations, responsible entities and limiting factors</li><li>• Further understand challenges and opportunities to habitat restoration efforts</li></ul>
<b>Meeting 3:</b>	Develop short term recommendations <ul style="list-style-type: none"><li>• Identifying priority areas for restoration and protection related actions</li><li>• Identify implementers, partners, and collaborators in the work</li><li>• Identify challenges and potential solutions</li></ul>
<b>Meeting 4:</b>	Develop long term recommendations <ul style="list-style-type: none"><li>• Finalize short term recommendations to go the Science Integration Work Group and the I/RG</li><li>• Overview of successful long-standing programs</li></ul>

# **Estuary Habitat Discussion**

## **Recap of Resources and Gaps**

# Estuary Habitat Table Biological Criteria for Priority Actions

		Impact Level				
		Low	Medium	High	Very High	
Stock Status	Low	LC SpCH LC Coho MC Sock UC SpCH UC Sock SN SpCH SN Sock	LC Tule FCH LC WSthd Will SpCH Will WSthd UC Sum CH	UC Sum Sthd		<b>Impact Level</b> Low: less than 20% Medium: 20-30% High: 31-50% Very High: Greater than 50%  <b>Stock Status (based on CBP medium goal)</b> Low: less than 25% Medium: 25-50% High: 51-75% Very High: greater than 75%  <b>Prioritization Status</b> Red: Priority 1 Orange: Priority 2 Yellow: Priority 3 Blue: Priority 4 Green: Priority 5
	Medium	MC SpCH	LC Sum Sthd MC Sum Sthd SN Sum Sthd	LC Chum		
	High	MC Coho	SWW WSthd			
	Very High		LC Bright FCH MC FCH UC FCH SN FCH			

NA: SN Coho, UC Coho, LC Late BFCH

# Existing Estuary Habitat Programs

- Columbia Estuary Ecosystem Restoration Program (CEERP)
- United States Army Corps of Engineers – Anadromous Fish Evaluation Program
- United States Army Corps of Engineers – Studies Review Work Group - Expert Regional Technical Group (ERTG)
- Federal land use and regulatory programs
- Fish Barrier Removal Board – Washington
- State and local land use regulatory programs
- Washington Governors Salmon Recovery Office
- Return of the Redds - Oregon
- North Coast Watershed Association - Oregon
- The Lead Entity Programs managed by the four Salmon Recovery Regions - Washington
- Mitigation banks
- Lower Columbia Estuary Partnership Science Work Group

# **Tributary Habitat Discussion**

## **Recap of Resources and Gaps**

# Tributary Habitat Table Biological Criteria for Priority Actions

		Impact Level				
		Low	Medium	High	Very High	
Stock Status	Low	SN Sock MC Sock		UC SpCH UC Sum CH UC Sock UC Sum Sthd SN SpCH	LC SpCH LC Tule FCH LC Coho LC WSthd Will SpCH Will Wsthd	<b>Impact Level</b> Low: less than 20% Medium: 20-30% High: 31-50% Very High: Greater than 50%
	Medium			SN Sum Sthd	LC Chum LC Sum Sthd MC SpCH MC Sum Sthd	<b>Stock Status (based on CBP medium goal)</b> Low: less than 25% Medium: 25-50% High: 51-75% Very High: greater than 75%
	High				SWW WSthd	
	Very High	LC Bright FCH	MC FCH UC FCH SN FCH			

NA: LC Late BFCH, MC Coho, SN Coho, UC Coho



# Existing Tributary Habitat Programs

- Columbia River System Biological Opinion Tributary Habitat Program (including Tributary Habitat Steering Committee and Tributary Technical Team)
- NOAA Pacific Coast Salmon Recovery Fund
- Bonneville Power Administration Fish and Wildlife Program and funding
- Habitat Conservation Plans associated with Federal Energy Regulatory Commission (FERC) licensed dams
- Washington State Forest Practices Board – Timber, Fish and Wildlife Program
- Washington Governor’s Salmon Recovery Office
- Fish Barrier Removal Board (WDFW)
- Washington Salmon Recovery Funding Board (SRFB)
- Idaho Regional Planning and Implementation Efforts
- Clear Water Focus - Idaho
- Upper Salmon Basin Watershed Program and Tech Team - Idaho
- Upper Snake River Working Group - Idaho
- Washington Regional Planning and Implementation Efforts
- Washington Salmon Coalition
- Upper Columbia Salmon Recovery Board and Regional Technical Team
- Washington Snake River Salmon Recovery Board
- Lower Columbia Recovery Board
- Yakima Basin Integrated Plan
- Washington State Public Utility Districts - Tributary Committees as part of Habitat Conservation Plans
- Western Rivers Conservancy
- Soil and Water Conservation Districts
- Land trusts (e.g., Deschutes)
- Local non-profits



# Break

10 minutes



# Presentation: Selection of Restoration Projects

Today's Panel of Presenters:

- Mike Edmondson – Idaho
- Jason Karnezis – BPA
- Jim Brick – Oregon
- Brandon Rogers - Yakama Nation Fisheries
- Steve Manlow – Lower Columbia Fish Recovery Board

# Columbia Estuary Ecosystem Restoration Program (CEERP)

Goal: *To understand, conserve, and restore ecosystems in the LCRE.*

## Objectives:

1. Increase the opportunity for access by aquatic organisms to, and for export of materials from, shallow-water habitats
2. Increase the capacity and quality of estuarine and tidal-fluvial ecosystems
3. Improve ecosystem realized functions

## Strategy/Approaches

Use an ecosystem-based, landscape approach applying the best available ecological science for the CEERP.

1. Restore hydrologic connections between main stem and floodplain
2. Create and/or enhance shallow-water habitat
3. Re-establish native vegetation

# CEERP Priority Projects for fy23

## Wolf Bay

Breach a remnant railroad in 2 locations, installing two free-span bridges, allowing full hydrologic connection and fish passage to approximately 44 acres of estuarine wetland habitat directly off the mainstem of the Columbia River.

## Carr Slough

Breach an existing railroad berm and replace with either a large size culvert or bridge to create full fish access and hydrologic connectivity to 140 acres of floodplain wetland habitat.

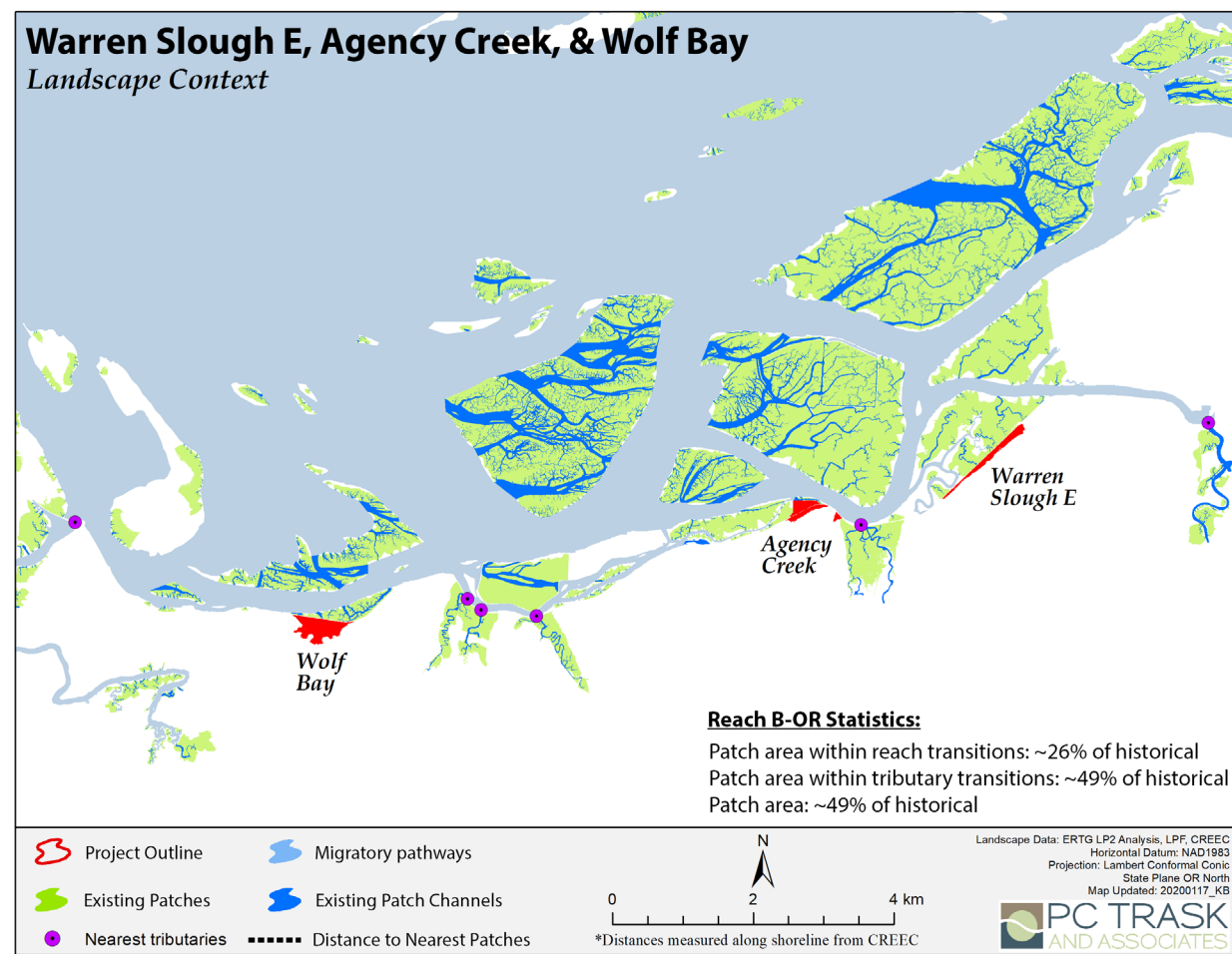
## Svensen Island

Removal of existing dike and tide-gate structures to re-establish tidal hydrology on 320 acre site. Channel enhancements will also be included to emulate natural tidal slough channel structure. Removal of exotic pasture grasses will allow natural colonization of estuarine plant communities from adjacent seed banks. Remnant dredge materials will also be removed on properties north end to reference estuarine plant colonization elevations.



# Wolf Bay Restoration

1. Two new railroad breaches, placing a set of side-by-side 30' bridges (60' cumulative opening) on the west end of the site, and placing an additional 40' bridge on the east end of the project area re-connecting to historic channel network
2. New connections reduce the velocity at the existing trestle bridge below the bi-directional fish passage threshold, removing a known velocity barrier and improving passage, providing three total openings to the site.
3. Restore natural tidal signatures by removing existing hydraulic constrictions.
4. Increase tidal exchange to improve ecosystem functions within the project's tidal wetlands.
5. Greater tidal exchange will reduce sedimentation and simplification of the site, contributing to improved edge complexity and opportunities for plant overhang, improving foraging opportunities.
6. Increase microdetritus and prey resources to the estuary.
7. Increase opportunities for estuary feeding and residency to improve growth and survival at ocean entry by improving the connection to 43 acres of intertidal and floodplain habitat.



## **Landscape context**

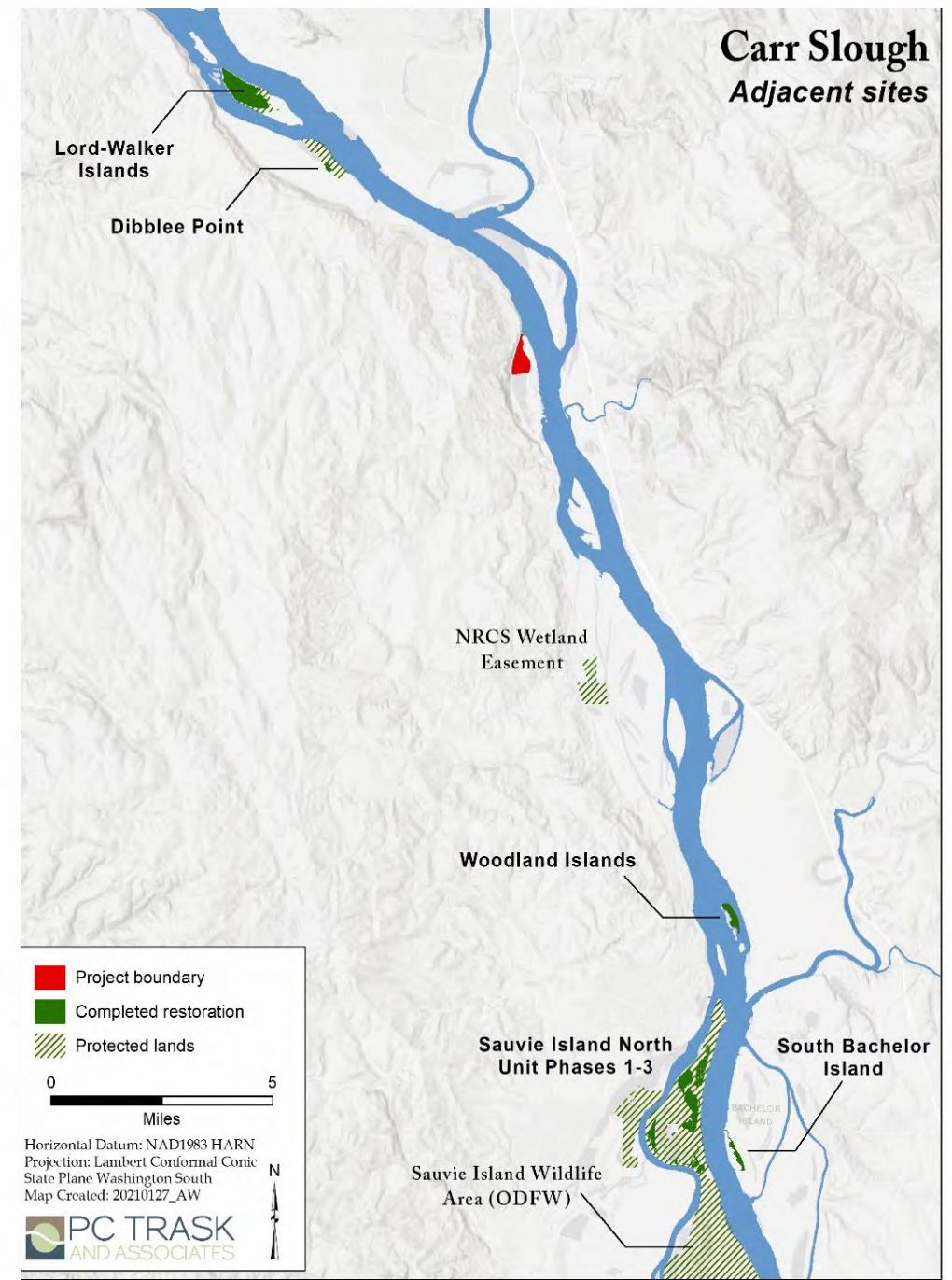
1. Fill a shoreline gap
2. High Quality Matrix along perimeter of project areas and improved edge complexity

# Carr Slough Restoration

1. Create second opening into the site
2. Create multiple flow paths at the confluence
3. Replace ditches/berm with a sinuous channel
4. Remove abandoned culvert
5. Lower marsh plain for diversified vegetation
6. Emergent and riparian re-plantings

## Project Benefits

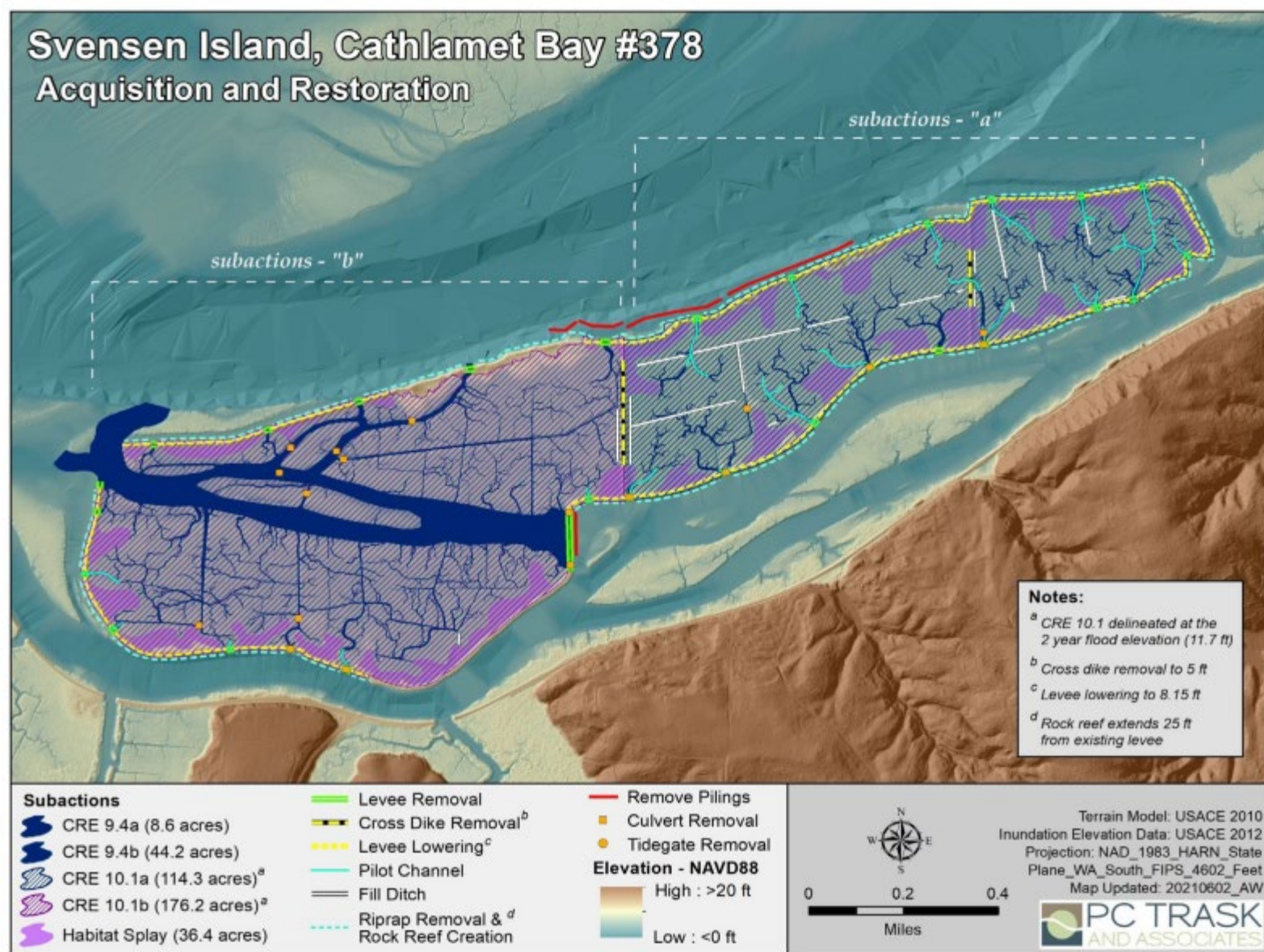
1. Good stepping-stone patch in a stretch of river that has never had a large-scale floodplain reconnection project
2. Adds a second opening through railroad levee to vastly improve fish passage into main site
3. Multiple new flow paths into embayment as well as interior wetlands
4. Greatly increased channel sinuosity and channel edge density
5. Removal of defunct culvert/tide gate and artificial berms
6. Enhanced food web connectivity and water quality
7. Improved wetland habitat capacity through marsh plain lowering and re-planting effort
8. Potential to expand the project through Graham Road in future years to another 100+ acres of additional habitat





# Svensen Island Restoration

1. Removal and lowering of existing exterior dike.
2. Remove cross-dike structure
3. Remove several tide gate structures
4. Remove multiple culverts
5. Excavate multiple pilot channels to emulate natural tidal slough channel structure.
6. Fill agricultural ditches
7. Removal of exotic pasture grasses will allow natural colonization of estuarine plant communities from adjacent seed banks.









# Priority Projects: Oregon Dept. Of Fish and Wildlife

-- Conservation and Recovery Plans

# Sps, viability, gap, LF, HIP, Climate, Connect

Atlas, Netmap...

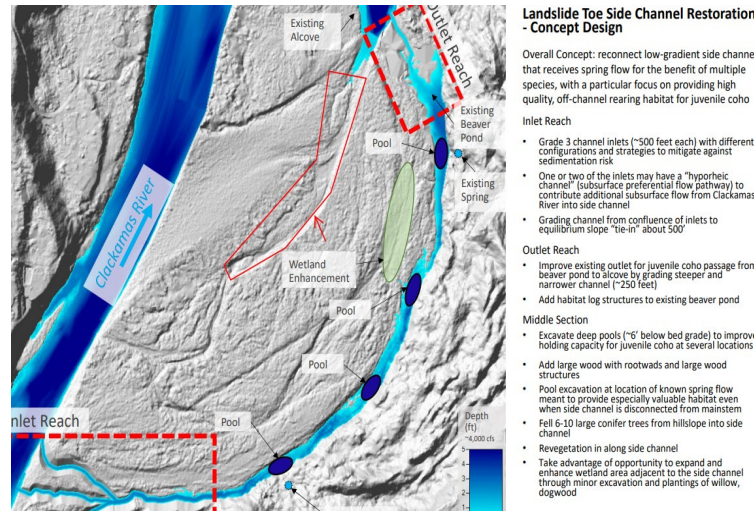
-- Federal Infrastructure Funds

Statewide priorities, goal posts

-- Other projects used to inform rest. priorities

SAP, research, RME

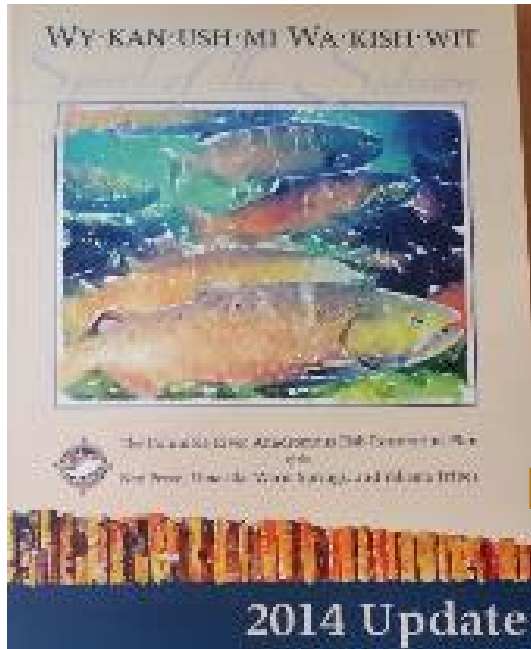
1. Landslide Toe, Clackamas River mainstem
2. Wallowa Fish Passage and Flow
3. Columbia River Steelhead Overshoot



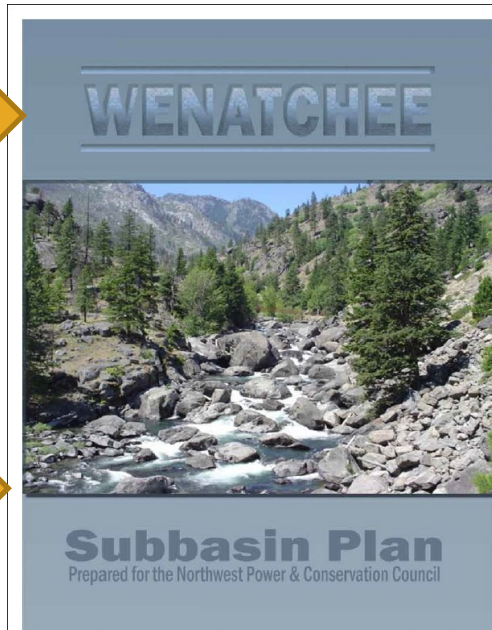
# Project Selection/Prioritization Process



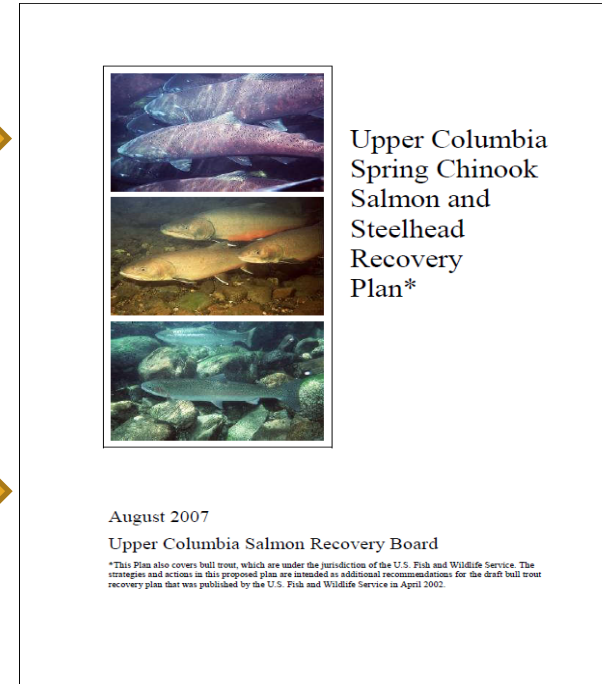
Wy Kan Ush Mi Wa Kish Wit  
(Spirit of the Salmon)



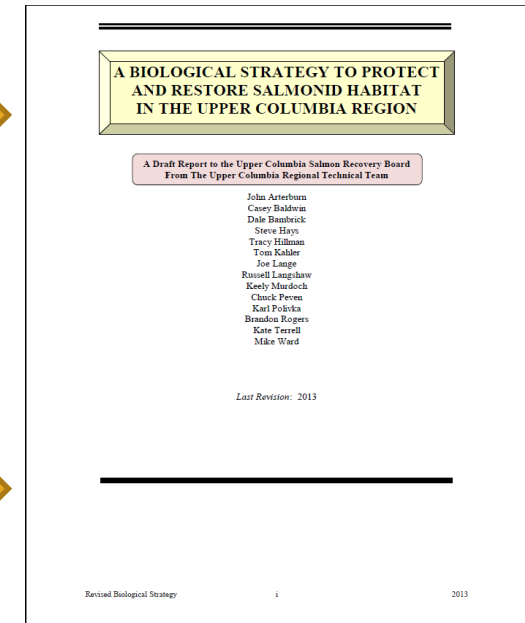
Subbasin Plans



Recovery Plan



UCRTT Biological Strategy

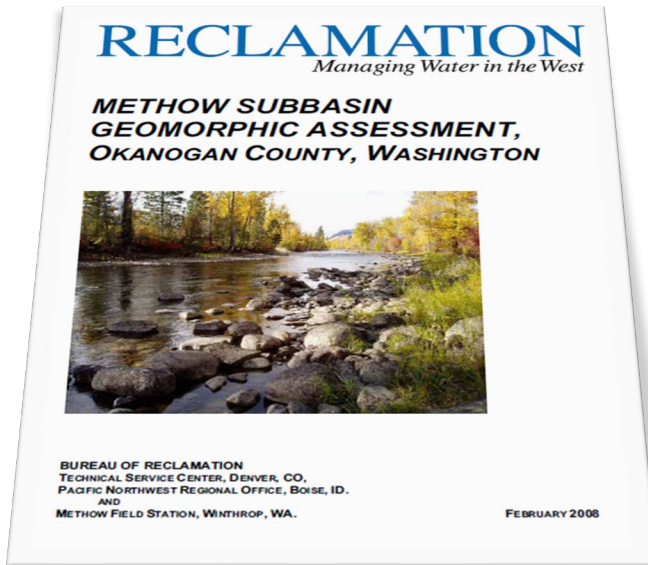


These plans were compiled by representatives from Yakama, federal, state and local agencies including NOAA, USFS, USFWS, YN and WDFW.

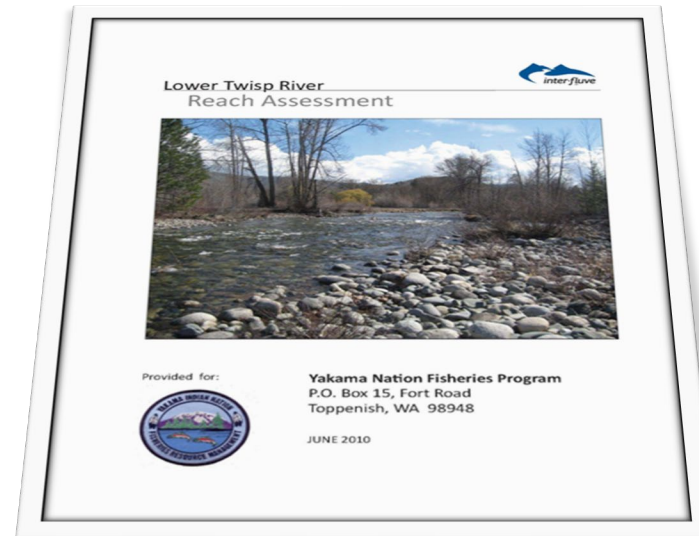
# Project Selection/Prioritization Process



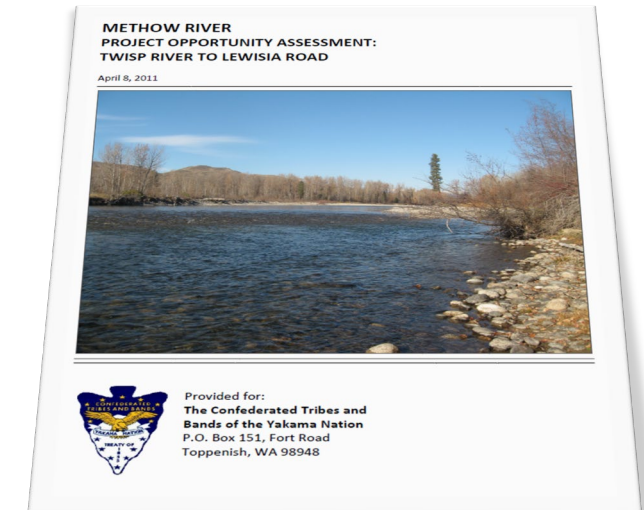
Subbasin  
Tributary  
Assessment



Specific River  
Reach  
Assessment



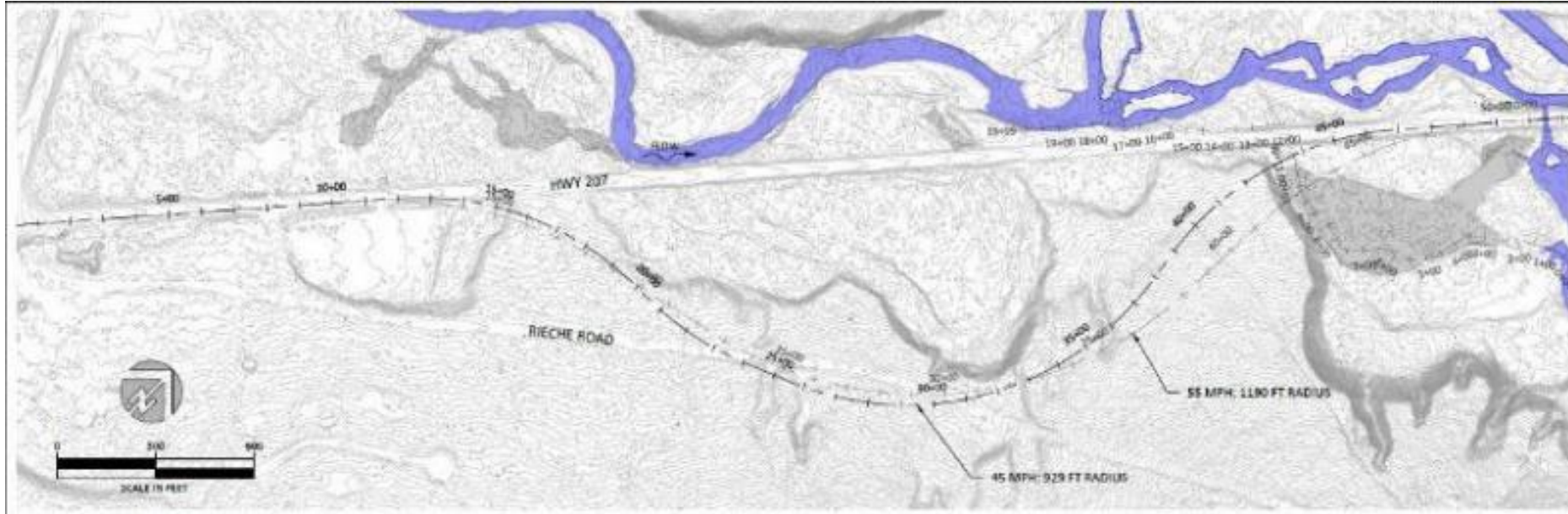
Project Level  
Concept  
Development



All of these stages are completed by certified professionals (licensed geologists, hydrologists, fluvial geomorphologists, fish biologists, etc...) and incorporate comments and suggestions made by peers and members involved in the Subbasin Watershed Action Teams



# Nason Creek SR 207 Realignment



HONOR. PROTECT. RESTORE.



# 10 Year Restoration Plan

We have 10-year restoration plans for most watersheds in the Columbia River Basin based on addressing specific limiting factors by species and life stage

Examples:

- 15 actions in the Entiat River - \$5,050,000
- 72 actions in the Methow River - \$41,520,000
- 44 actions in the Wenatchee River - \$50,300,000
- Plan is coordinated with strategic restoration partners, most notably the US Forest Service



# Habitat Restoration Funding Sources

- BPA Columbia River Fish and Wildlife Program
- NOAA Pacific Coast Salmon Recovery Fund administered through states and tribes
- USFWS Fish and Aquatic Resource Conservation
- BOR Columbia/Snake River Salmon Recovery Program
- NRCS programs for riparian conservation
- USFS Landscape Restoration Programs
- State programs (DOE, DNR, RCO.)
- Public Utility District mitigation funding
- EPA Columbia River toxics initiative
- USACOE Columbia River Fish Mitigation, Aquatic Ecosystem Restoration, Environmental Stewardship and individual projects

# Lower Columbia Fish Recovery Board Regional Habitat Program Overview

Steve Manlow, Executive Director

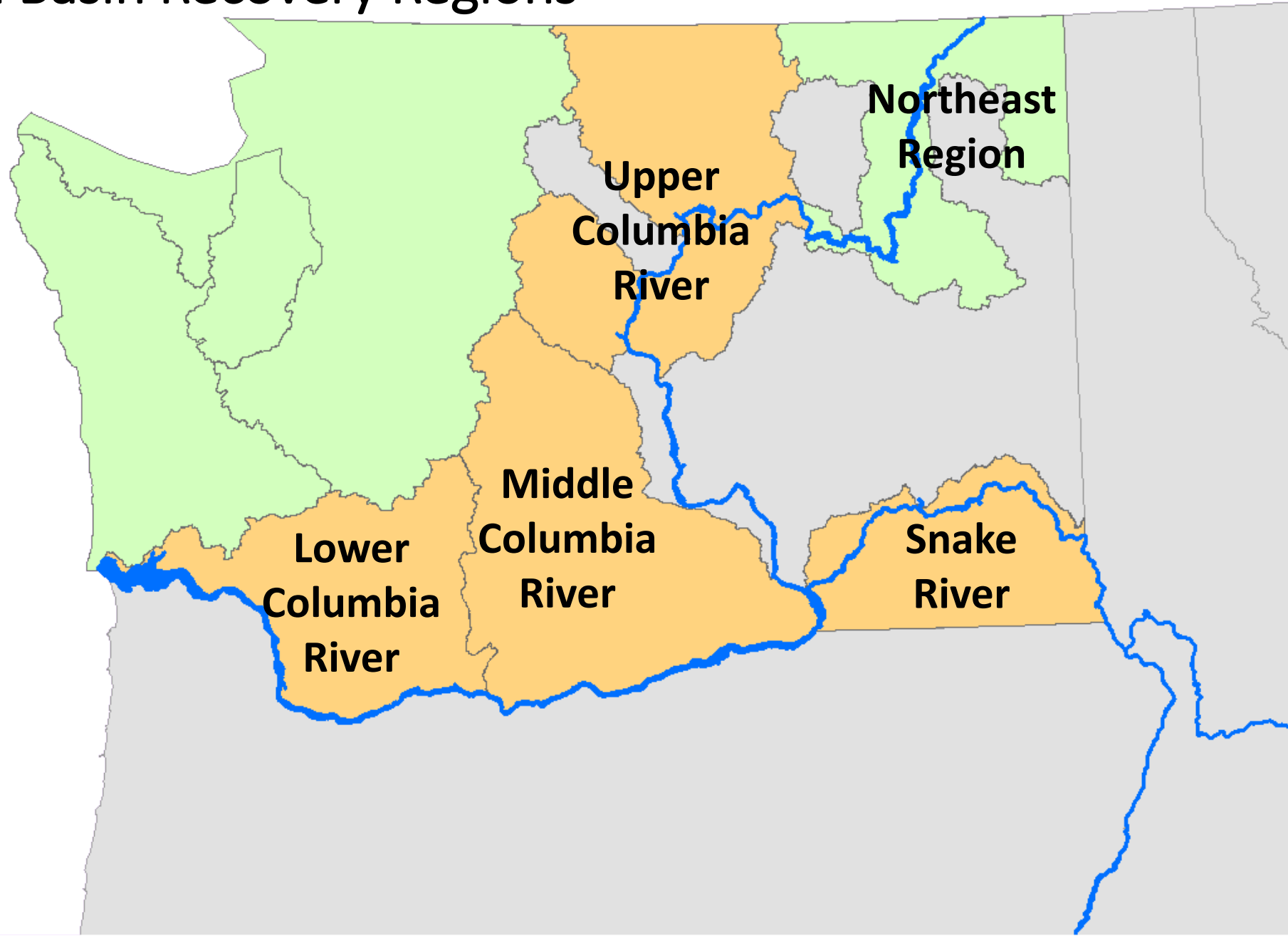


Columbia Basin Collaborative

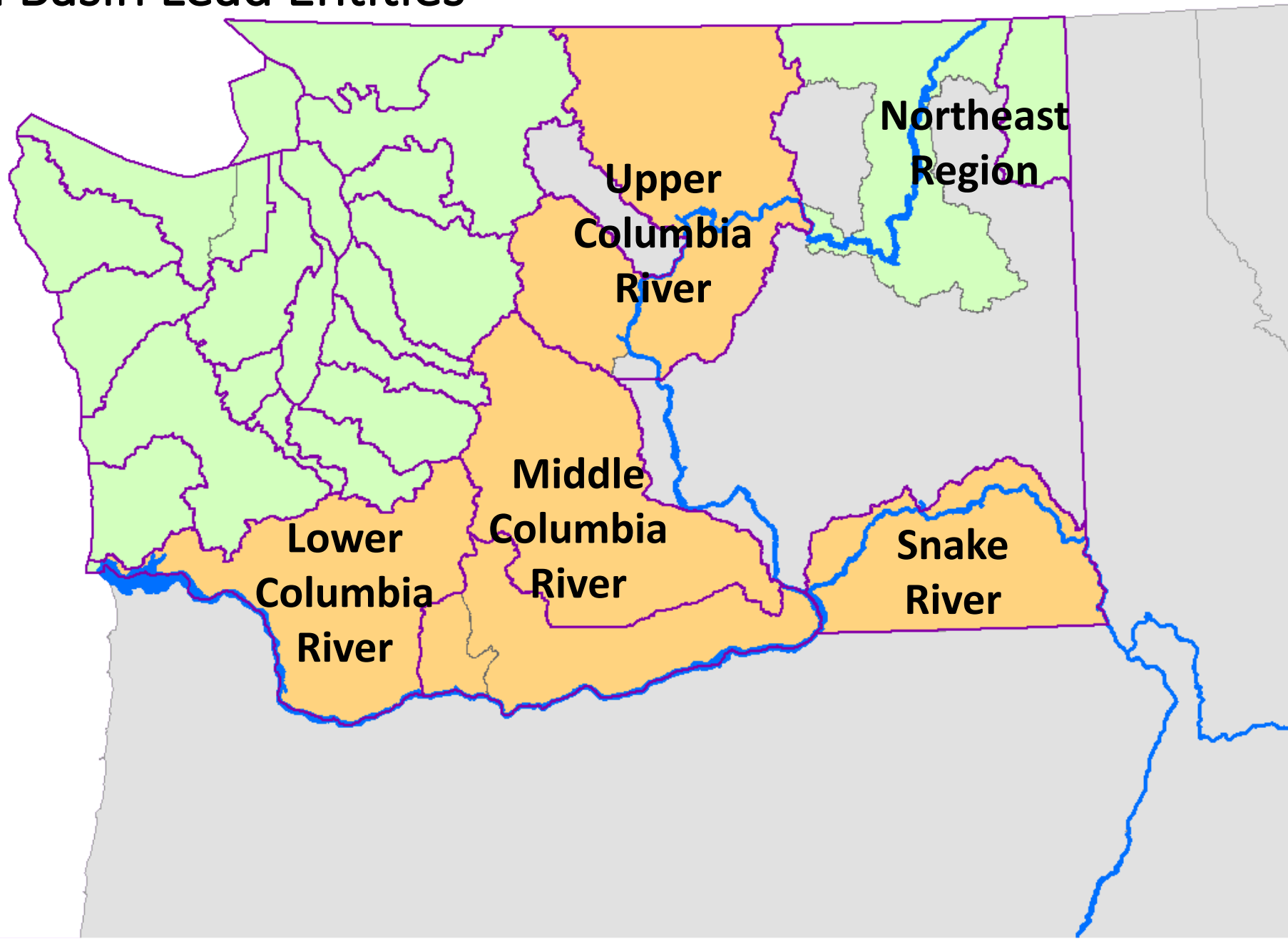
November 9, 2022




# Columbia Basin Recovery Regions

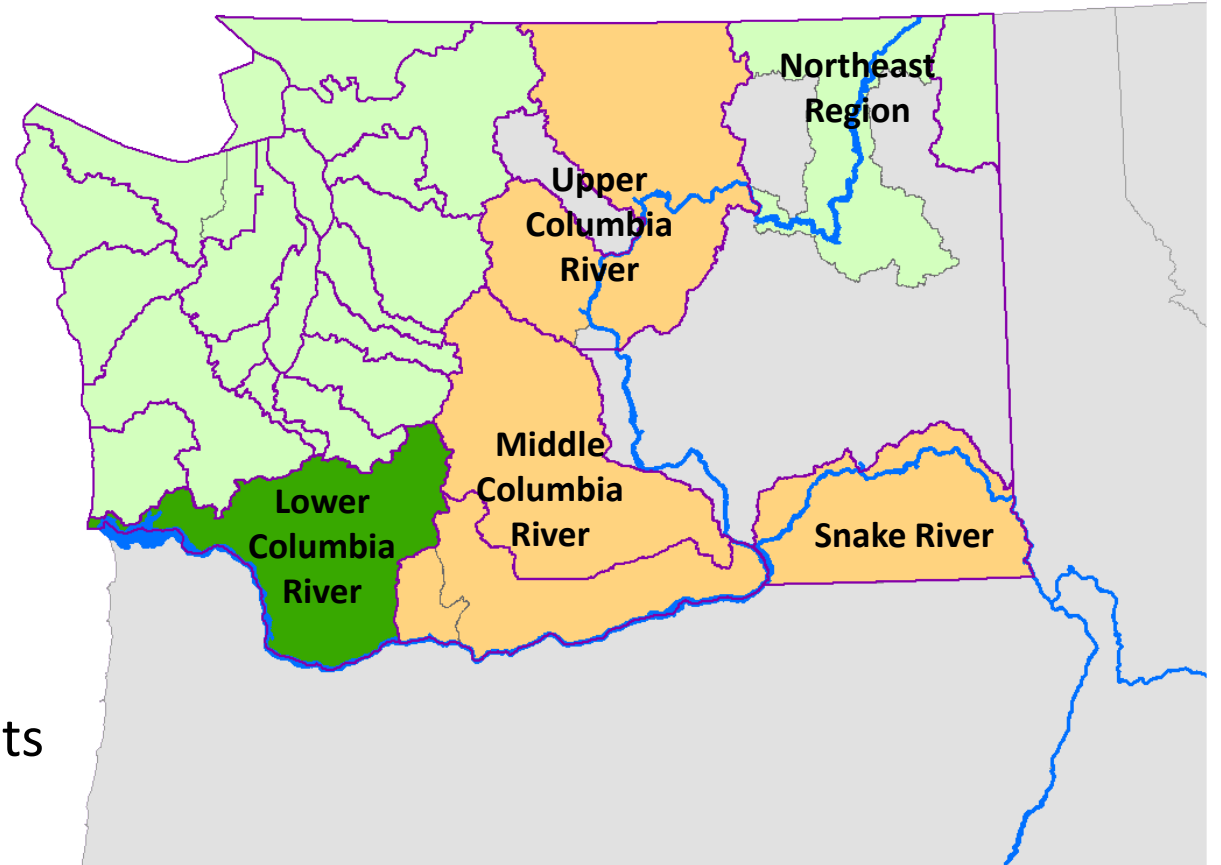


# Columbia Basin Lead Entities

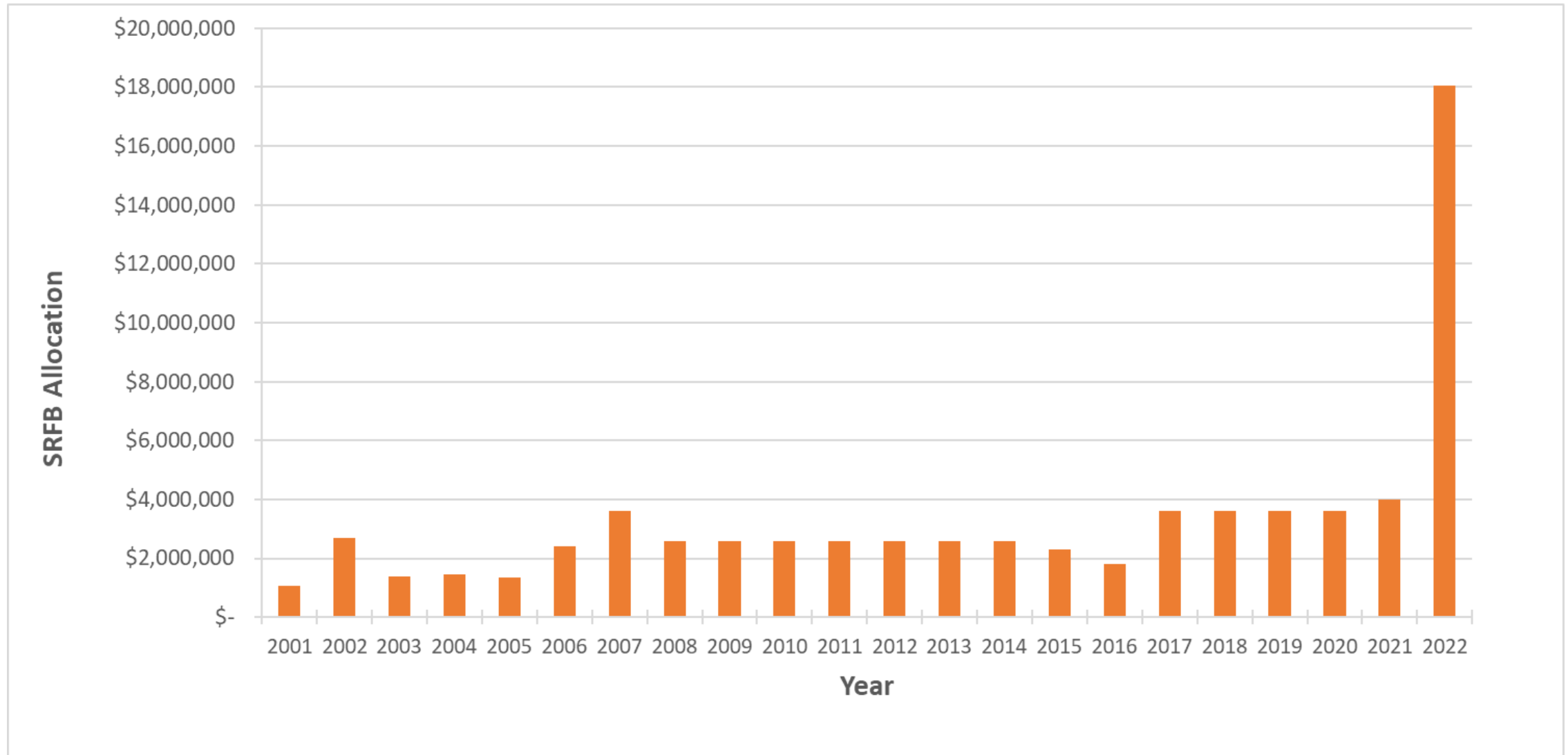


# Salmon Recovery Funding Board (SRFB) Project- Review Process

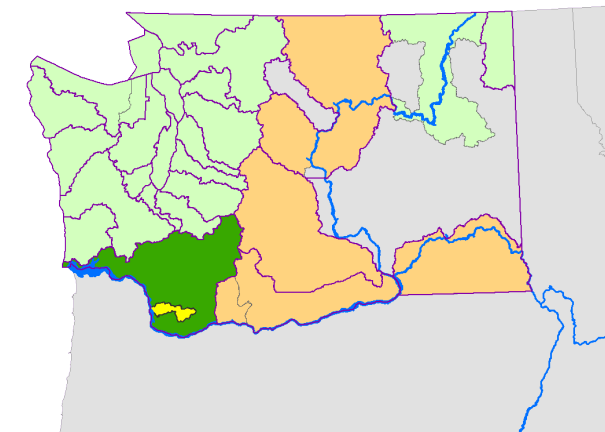
- 
- Habitat strategy based on recovery plan and watershed priorities
  - Project development and design
  - Planned Project Forecast Lists
  - Annual Solicitation
  - Lead Entity Technical Committee review
  - State Review Panel review
  - Citizens Committee review
  - Salmon Recovery Funding Board awards grants
  - Contracting
  - Permitting and Construction



# Salmon Recovery Funding Board (SRFB) Funding in the Lower Columbia Region



# Ridgefield Pits Floodplain Restoration



Lower Columbia Estuary Partnership



# Ridgefield Pits Floodplain Restoration

## Fish

**ESA-listed chum, fall Chinook, coho and  
winter and summer steelhead**

**Lamprey and cutthroat trout**

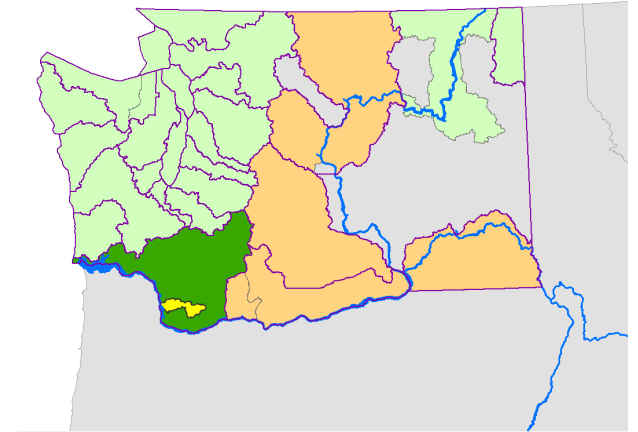
## Proposed Restoration

**300 acres of floodplain habitat**

**2 miles of stream habitat**

**1,700 pieces of large woody debris**

**Improve 5 miles of downstream river  
habitat**



# Ridgefield Pits Floodplain Restoration

## Community Engagement and Time Frame

**1996 – river avulsed into gravel mining pits**

**2009 - identified in watershed strategy**

**2017 - 2021 – stakeholder supported design developed**

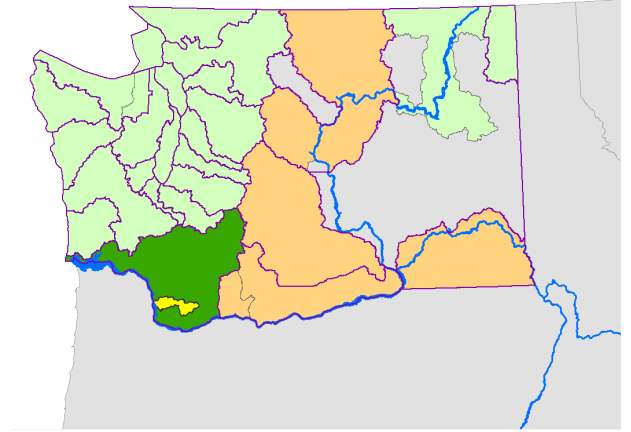
**2021 – proposed restoration phase of project**

**2023 – construction start goal**

**Land ownership: mix of state, county, conservation, and private lands**

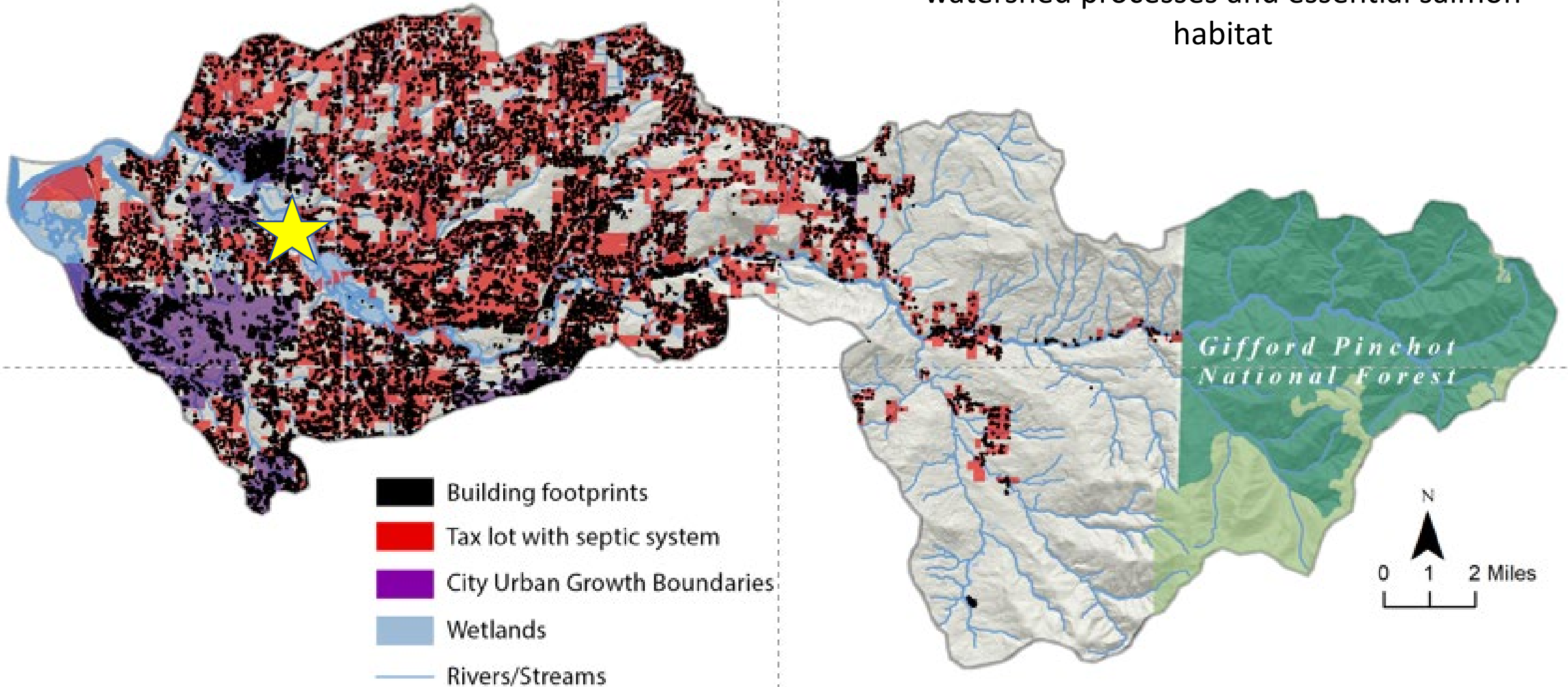
## Funding Sources

EPA, SRFB, Ecology, WA DNR



# Highest Priority Recovery Gap - Protecting the Habitat Baseline

Working with land managers to protect  
watershed processes and essential salmon  
habitat





A large salmon is shown swimming in a river, viewed from an underwater perspective. The fish is positioned in the center-left of the frame, moving towards the right. Its body is dark with lighter spots, and its fins are visible. The riverbed is composed of numerous smooth, rounded rocks of various sizes and colors, ranging from brown to tan. The water is clear, and the background shows the riverbank and some greenery.

2021 Annual Report

Lower Columbia Fish Recovery Board

**Thank you!**

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[Hydropower](#)

[Freshwater Habitat](#)

[Hatcheries and Harvest](#)

[Predation](#)

[Estuarine and Ocean Habitats](#)

[Community Engagement](#)

[Looking Forward](#)

# Develop Short Term Recommendations

- Are there any actions taken right now to help restore habitat for high-impacted stocks?
- Are those actions (programs and projects) in place and successful? What changes are needed to improve chance of success and diminish challenges?
- Are there any projects that are “shovel-ready”? Which projects are going to be highly beneficial?

# **Next Steps, Upcoming Meeting Topics, and Summary**

# Next Steps



Photo credit: ODFW



# Upcoming Meeting Topics

- Salmon recovery metrics and mapping tools
- Understanding CEERP
- Landowner incentives (ex: Washington Salmon Coalition)



Photo credit: ODFW



Thank you ~



Photo credit: Roger Tabor