

# WENATCHEE WATERSHED COMMUNITY MEETINGS

*Learn about upcoming stream and forest restoration projects and water resource management in your area.*



## **NEED MORE INFORMATION?**

Please contact:

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Visit our website for meeting  
information

[www.co.chelan.wa.us/natural-resources](http://www.co.chelan.wa.us/natural-resources)



## **Community Meeting Schedule**

### **Chumstick Creek**

Wednesday, May 23rd, 6:30 pm to 8:30 pm  
Leavenworth Fire Hall (FD #6)

### **Mission Creek**

Wednesday, May 30th, 6:30 pm to 8:30 pm  
Cashmere Riverside Center

### **Upper Wenatchee River (including Lake Wenatchee, Little Wenatchee River, White River and Chiwawa River)**

Saturday, June 2nd, 10:00 am to noon  
Lake Wenatchee Recreation Club

### **Lower Wenatchee River (Leavenworth to Columbia River)**

Tuesday, June 12th, 6:30 pm to 8:30 pm  
Cashmere Riverside Center

### **Peshastin Creek**

Wednesday, June 13th, 6:30 pm to 8:30 pm  
Dryden Fire Station (FD #6)

### **Nason Creek**

Saturday, June 16th, 10:00 am to noon  
Lake Wenatchee Fire Hall (FD #9)

## **Topics discussed at Watershed Community**

### **Meetings will include:**

- Updates on completed and proposed stream restoration projects
- Updates on water resources and forest management projects

# UPPER WENATCHEE RIVER COMMUNITY MEETING

*Mainstem Wenatchee River      Chiwawa River      White River*  
*Little Wenatchee River      Lake Wenatchee*

- Welcome and Introductions
- Watershed planning efforts and status
- Project Updates

# Watershed Planning

## Wenatchee River Watershed

- Planning Process began in 1999 under RCW 90.82
- Plan Approved in 2006 by local stakeholder group
- All 4 Elements Included: Water Quantity, Instream Flows, Water Quality and Habitat

# Endangered Species Act (ESA)

- Upper Columbia spring Chinook – 1999 endangered
- Upper Columbia steelhead – 1997 endangered, re-classified as threatened
- Bull Trout - threatened

# Completed Projects

## White River

- Over 600 acres protected
- Log structures installed (128 logs or log structures) added stream structure
- 12 Fish Passage Barriers Removed in tributary streams (USFS)

## Upper Wenatchee River

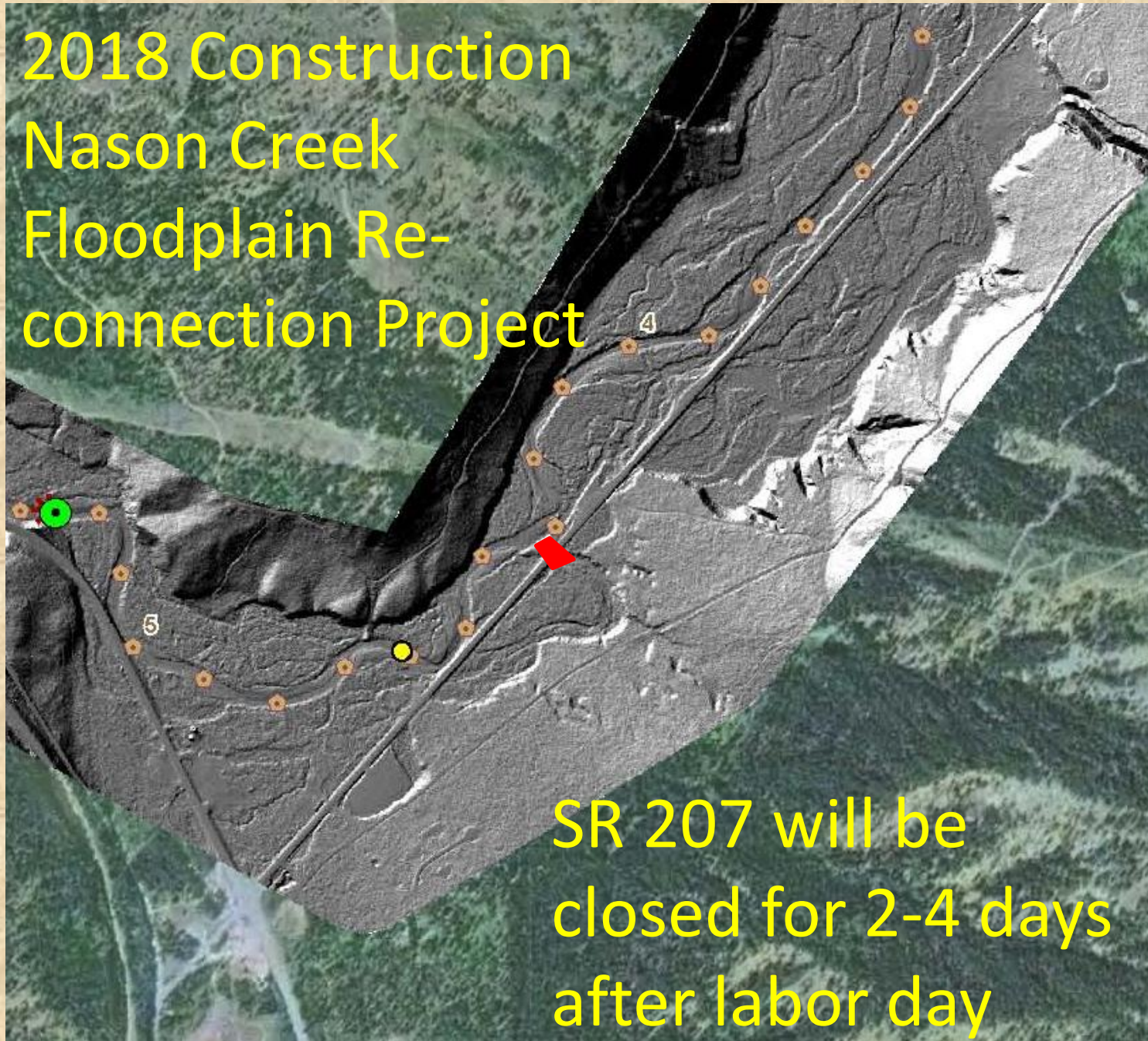
- 8 Fish Passage Barriers Removed in tributary streams.
- 7 large wood structures added in-stream complexity

# Completed Projects

## Chiwawa River

- 5 Fish Passage Barriers removed in tributary streams.
- 36 acres of native riparian planting
- 2.5 miles of road removed (USFS) reduced sediment

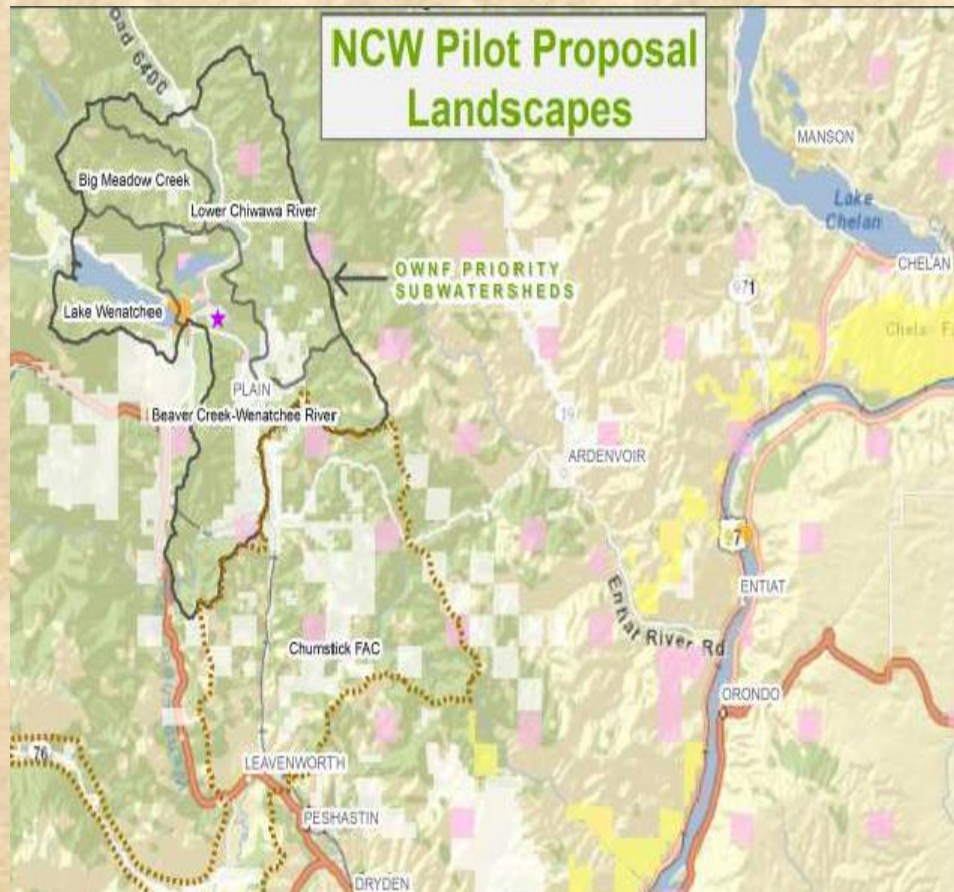
# 2018 Construction Nason Creek Floodplain Re- connection Project



SR 207 will be  
closed for 2-4 days  
after labor day

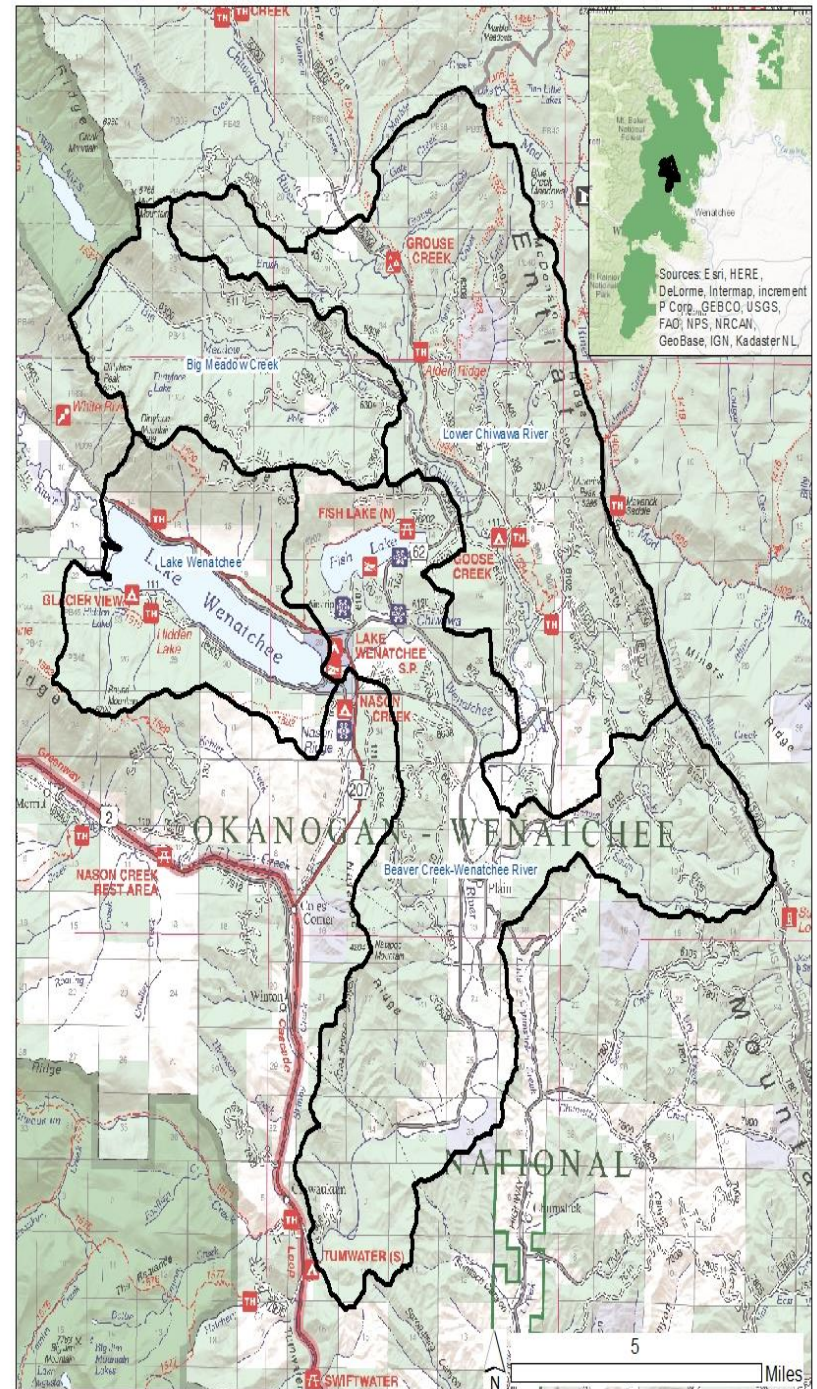
# Chelan Pilot Project

Big Meadow Creek; Lower Chiwawa River; Lake Wenatchee; Beaver Creek/Wenatchee River





# Project Area



# Through scientifically-sound restoration treatments, the Upper Wenatchee Pilot Project will:

**Goal 1:** Create a more resilient terrestrial and aquatic landscape in the Lower Chiwawa, Big Meadow, Lake Wenatchee, and Beaver Creek-Wenatchee River sub-watersheds to,

- Address conditions that have departed from the historic range of variability to reduce the risk of uncharacteristic wildfire and other disturbances to protect lives, communities, and ecological values
- Promote better outcomes for a broad spectrum of ecological, social, and community resources and values in a manner that recognizes and responds to the important role of natural fire and helps mitigate risk in the wildland urban interface while providing for sustainable user access
- Protect and restore watershed conditions that maintain uplands, late-successional habitat and large old trees, riparian and instream habitat, and water quality and quantity for the benefit of communities and native fish and wildlife
- Design and implement treatments to support the recovery of threatened, endangered, and sensitive species

**Goal 2:** Develop an effective model for collaboration among the USFS, other federal, state, and local agencies, local Tribes, the North Central Washington Forest Health Collaborative and member organizations, as well as a wide range of local landowners, community partners and stakeholders. This collaborative planning effort will increase the shared leadership of the forest and watershed restoration vision and will result in greater support for all management tools needed to implement terrestrial and aquatic treatment actions on this landscape.

**Goal 3:** Optimize the production of ecosystem services and forest products to fulfill the stewardship mandate of the U.S. Forest Service in a manner that reflects a broad spectrum of ecological, cultural, and socio-economic values.

## **Key project information:**

- The primary focus of the project is to restore forest health, reduce wildfire risk, improve wildlife habitat, and improve watershed function on a landscape scale.
- Restoration may include both terrestrial and aquatic work such as prescribed fire, thinning, stream improvements, road system work and more.
- This restoration project will take a holistic look at the current condition of the forest assessing social, terrestrial, aquatic, access, and other important values.

## **Key Project Contacts:**

Jeff Rivera, Wenatchee River District Ranger, (509) 548-2550

Paul Kelley, Environmental Coordinator, Wenatchee Ranger District, (509) 548-2583

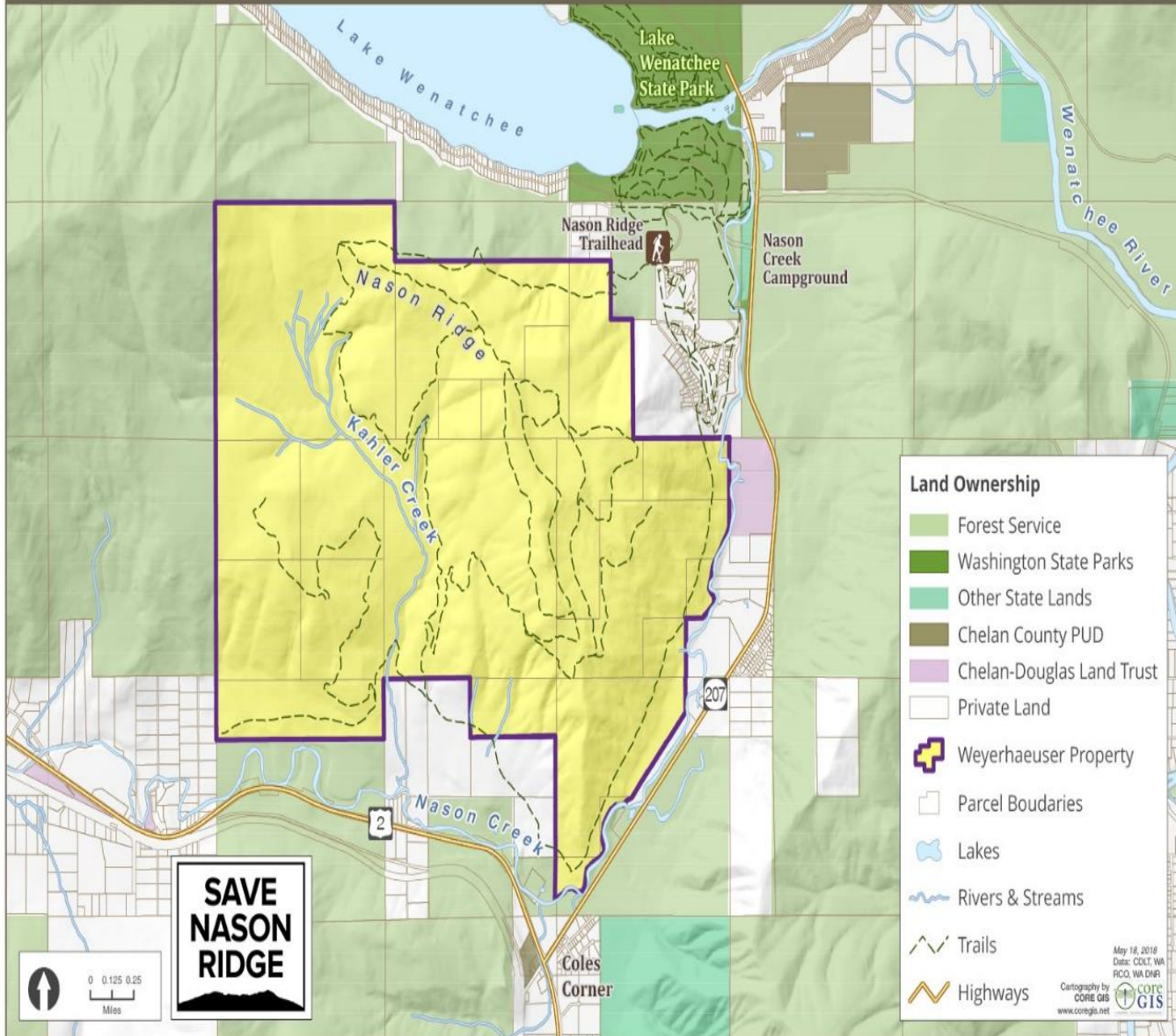
Deborah Kelly, Acting Public Affairs Officer, Okanogan-Wenatchee NF, (509) 664-9200

**Partners:** Include the North Central Washington Forest Health Collaborative, Chelan County, Lake Wenatchee Fire and Rescue, Yakama Nation, Washington DNR, Cascadia Conservation District, Vaagen Brothers Lumber, Conservation Northwest, Upper Columbia Salmon Recovery Board, American Forest Resource Council, The Nature Conservancy and many more.

**Timeline:** We anticipate initiating scoping for the NEPA process to begin later this summer, with the draft EA available for review next summer.

# Nason Ridge Purchase

SaveNasonRidge.org



— A Chelan-Douglas Land Trust and Western Rivers Conservancy project —

# Lake Wenatchee Monitoring Project

## spring Chinook survival

1. Evaluate potential affect of predation on juvenile spring Chinook.
2. Document juvenile survival rates through the Lake.
3. Document predator abundance and distribution, and evaluate predator gut contents.
4. Develop proposed management actions and support spring Chinook life cycle model.

Funding for Task 2 is still pending

# Lake Wenatchee Monitoring Project

- Data collection started in Summer 2017 and continues through 2018
- Sampling methods include: snorkel sampling, mark and re-capture to measure growth, collection of fin clips and scales (to measure age), and boat electroshocking and gill netting.
- Some of the data collection occurs at night so may see or hear boats on the lake
- Data analysis will happen in winter 2018 and ready to share results in 2019

# Potential Management Actions that may result from this project

- Reduce predator abundance (northern pike minnow)
- Increase habitat/cover to reduce predation risk.
- Wenatchee basin life cycle model will identify whether or not this is a bottleneck to recovery of White River and Little Wenatchee River spring Chinook populations.

# Fish Lake Algae Control Plan

- In 2014 a toxic algae bloom forced a closure of Fish Lake due to health concerns for people, pets and wildlife
- In 2016, Chelan County secured grant funds:
  - 1) Identify sources and amounts of phosphorus
  - 2) Identify the best methods to reduce phosphorus
  - 3) Develop an algae control plan





# Fish Lake Algae Control Plan – current status

- 2 summers of water and Biological sampling complete (2016 and 2017).
- Fish Lake community raised \$962 to support sampling!
- Last week WSU's Dr. Barry Moore completed first draft of Algae Control Plan.
- Stay tuned for unrolling of plan at Fish Lake Community Meeting in late June/early July.





CASCADIA  
CONSERVATION DISTRICT

*Your local natural resource partner since 1948.*

# Cascadia Conservation District

The Cascadia Conservation District is a non-regulatory, grant-funded organization dedicated to encouraging the wise stewardship and conservation of all natural resources in Chelan County.

Our board and staff members work cooperatively with local landowners and communities to provide technical and financial assistance for soil, water, forest, fish, and wildlife conservation efforts. We currently serve all of Chelan County.

Learn more at [www.cascadiacd.org](http://www.cascadiacd.org) or by calling (509) 436-1601.

# Riparian Restoration

- Stream restoration plantings on Chumstick Creek, Little Chumstick, and Eagle Creek.
- Volunteer Planting Projects
- Volunteer Tire-Clean Up- over 200 tires removed from Little Chumstick by ~20 neighbors and volunteers.



After

During

After



# Forest Health and Wildfire Preparedness

- ~80 ac of Fuels Reduction Treatment with private landowners
- Spring and Fall “Free Roving Chipper” Program
- Working on forest restoration projects that span private and public land by connecting landowners, Firewise Communities, and Forest Health Collaboratives (CWSC, NCWFHC)
- New Firewise Community (Ski Hill) and several working towards recognition
- New Grant opportunity for forestry work in Camp 12 Rd area on private and public land



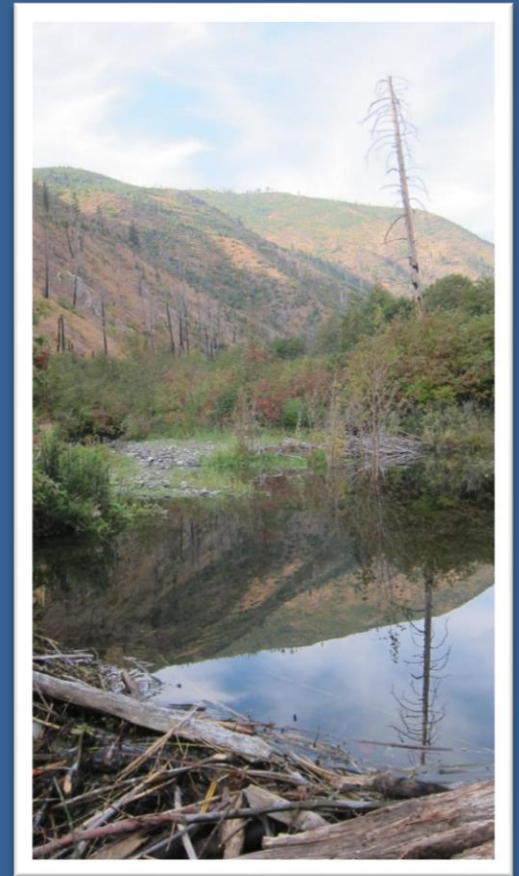
Before

After

# Wenatchee Beaver Project

Goal: Re-establish beavers in Wenatchee Basin tributaries for habitat enhancement, flow augmentation and storage, and amelioration of climate-related impacts

- Loss of beaver among most profound causes of habitat alteration in headwater systems
- Beavers - Create complex stream habitat, recruit wood mitigate floods, reduce incision and promote floodplain interaction & enhance biodiversity
- Project will relocate 'nuisance' beavers through public and private land partnership for 10-15 pairs or family groups & conduct monitoring
- Assist landowners with management techniques for human-beaver compatibility.





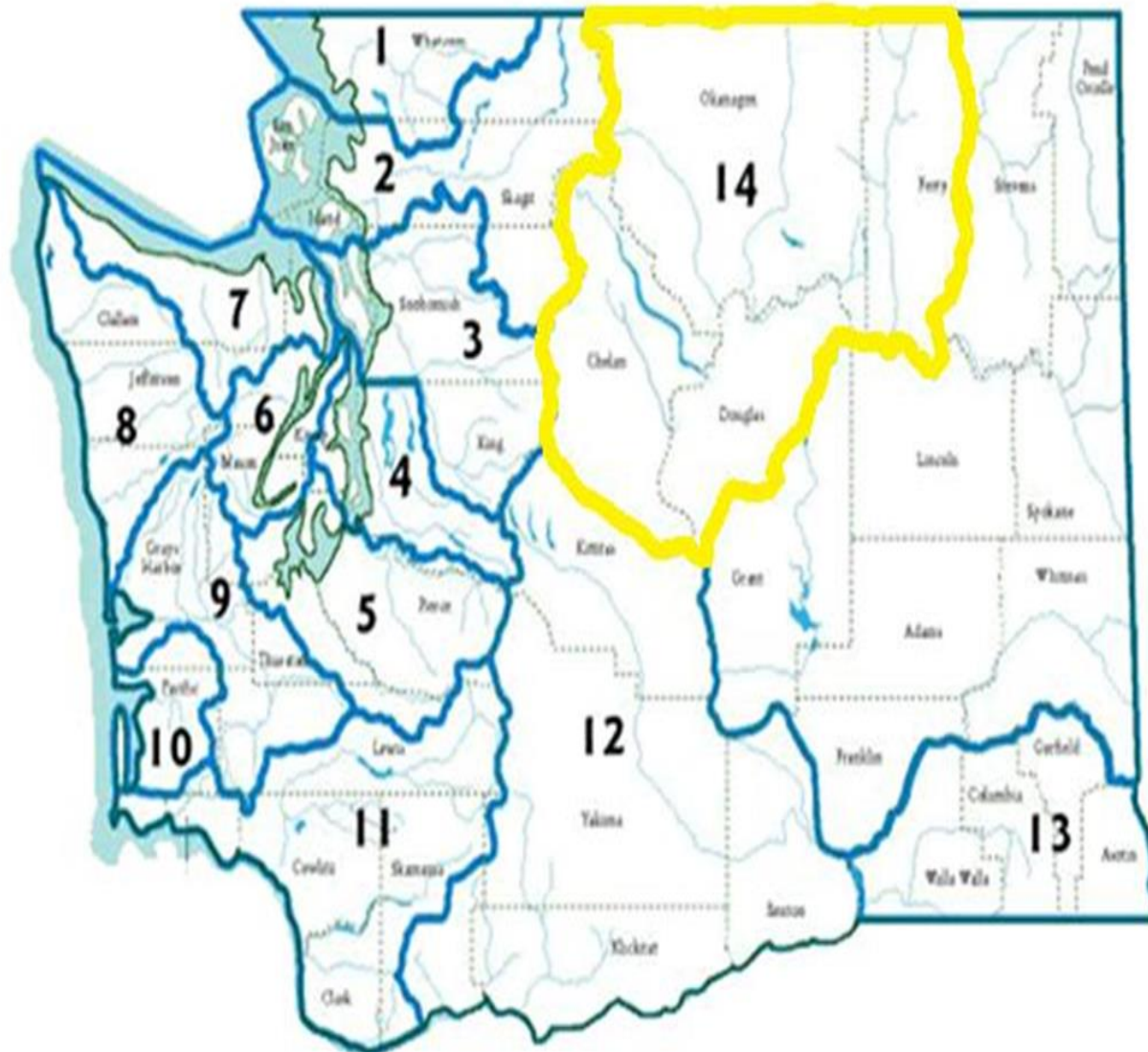
# Cascade Columbia Fisheries Enhancement Group

Restoring native fish habitat through enhancement education and community engagement



Community Forum  
May 23, 2018

## Regional Fisheries Enhancement Group Boundaries



Active  
Prospective  
Completed  
 Updated 11/3/16

Driscoll Island Refuge

Driscoll Island Planting

FFFPP - Hinesline

FFFPP - Federson

FFFPP - Ames

Weir & Concrete Removal

Burns Garrity

Methow Chewach Groundwater Study

FFFPP - Peterson

Wolf Creek Diversion

Silver Phase 2

Geestman Riparian & Car Removal

Silver Phase 1

Chiwawa Nutrient Enh.

Judd Planting

Twisp to Carlton RA

WPPP

TT Planting & Sign

25 Mile Creek

Foster Creek

White R. LWD Atonement

White R. Assess

White R. Culvert Removal

Stormy Creek Barriers

Clear Creek Planting

Entiat - Area C

FFFPP - Thomson

Icicle River Kiosk

FFFPP - Monigold

Tumwater Dam

FFFPP - Darlington

Salmon Cycle Landscape

Wenatchee Bas in FPA

Peshastin Confluence Design





**Who we are?**



# What do we do?

- Fish barrier removal
- Planting projects
- Habitat enhancement
- Studies and assessments
- Education & Outreach



# The 4 “H’s” of decline

Harves



Habita



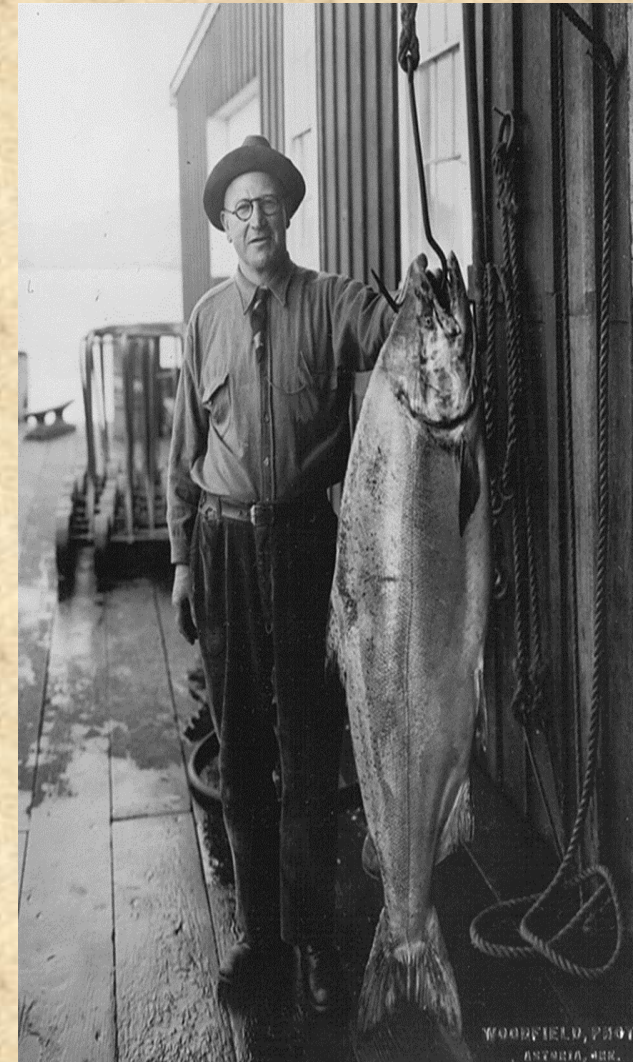
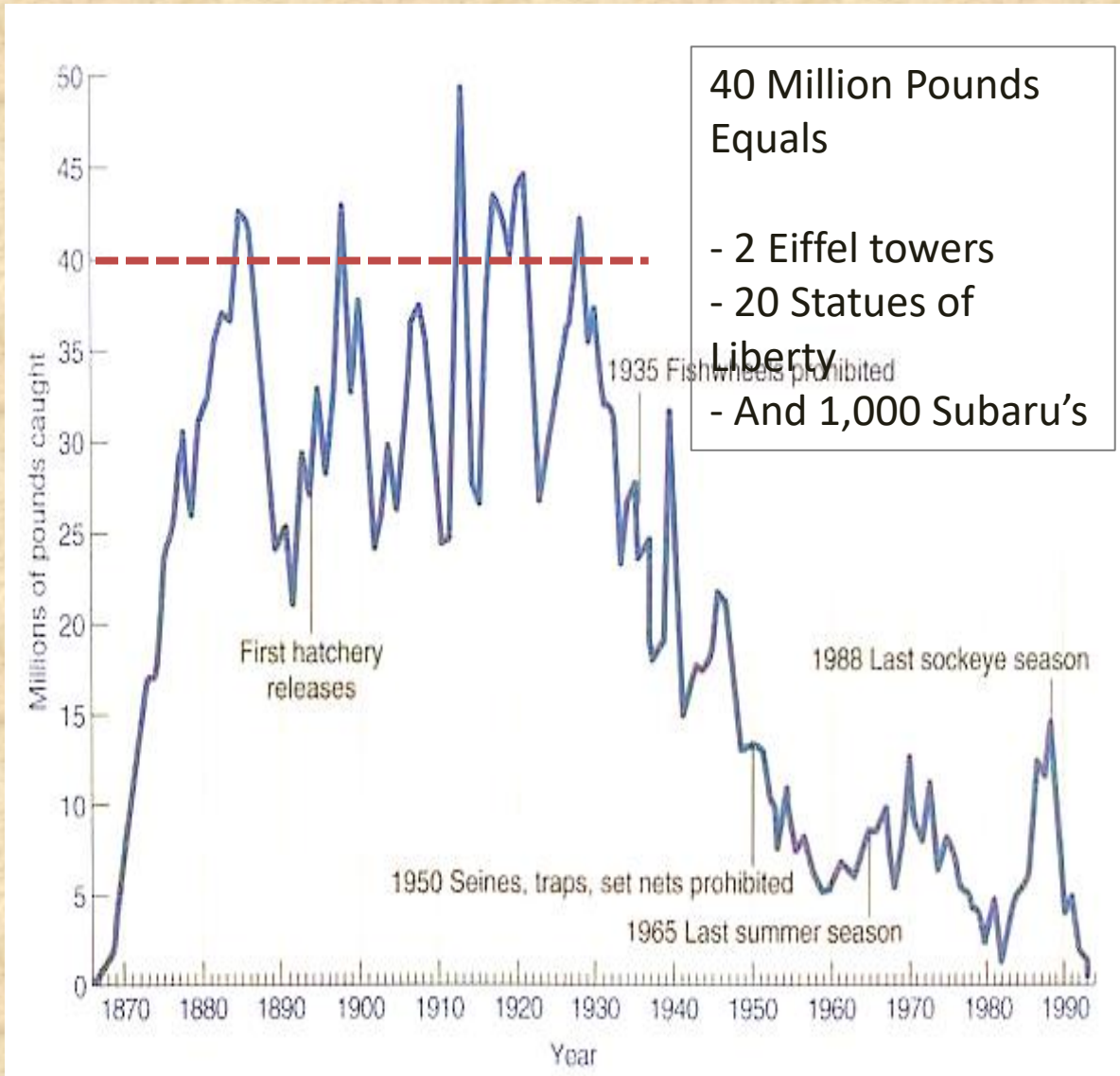
Hatcheries



Hydro



# Columbia River Salmon Harvest 1865-1990



# Endangered Species Act

- A recent national water quality survey of the nation's wadeable streams showed that 42% of the nation's stream length is in poor biological condition and 25% is in fair biological condition ([U.S. EPA, 2006](#)).
- Nearly 40% of fish in North American freshwater streams, rivers, and lakes are found to be vulnerable, threatened, or endangered; nearly twice as many as were included on the imperiled list from a similar survey conducted in 1989 ([Jelks et al., 2008](#)).

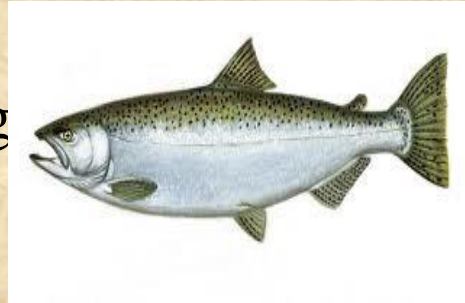
# Endangered Species Act

- 1991, The Snake River sockeye is the first salmon in the Pacific Northwest to be listed as endangered.
- By 1999, wild salmon had disappeared from about 40 percent of their historic breeding ranges in Oregon, Washington, Idaho, and California.
- In Washington, the numbers have dwindled so much that salmon and bull trout were listed as threatened or endangered in nearly three-fourths of the state.

# Endangered Species Act

- Upper Columbia Chinook (Spring

**ENDANGERED**



- Upper Columbia Steelhead

**THREATENED**



- Upper Columbia Bull Trout

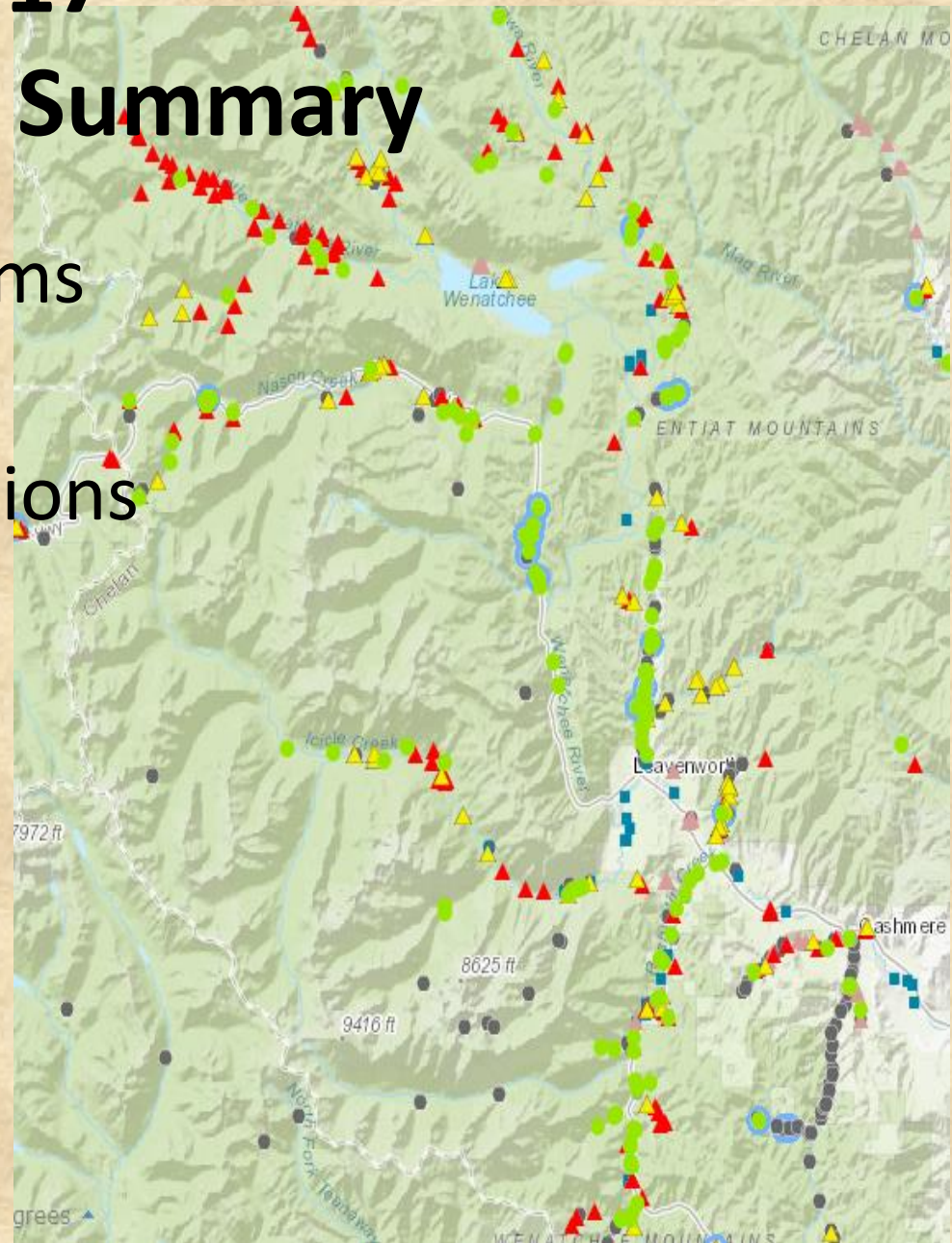
**THREATENED**



# 2016-2017

## Data Collection Summary

- 53 Dams
  - 63 Diversions
- 605 Sites Surveyed:**
- 423 Culverts
  - 132 Non-Culvert Crossings
- ~90% of culverts are some level of Barrier













# White River & Nason Creek Hatchery Stewardship Requirements – Status Update

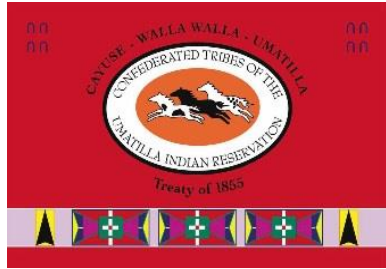
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Operate Responsibly by Attaining Environmental, Cultural Resource and Regulatory Compliance



Powering our way of life.

# Three-Pronged Approach to Reaching No-Net Impact



Grant County  
**PUBLIC UTILITY DISTRICT**



7% Hatchery Production



91% Combined Adult & Juvenile Survival  
or  
93% Juvenile Survival



2% Tributary Projects

# Anadromous Fish Production

Hatchery Mitigation Numbers Recalculated every 10 yrs.

- ❖ Production Numbers Can Increase or Decrease
  - Monitoring & Evaluation Data
  - Adult Escapement Data
  - Juvenile Survival Data
- ❖ Next Recalculation 2023

Operation & Maintenance/Monitoring & Evaluation

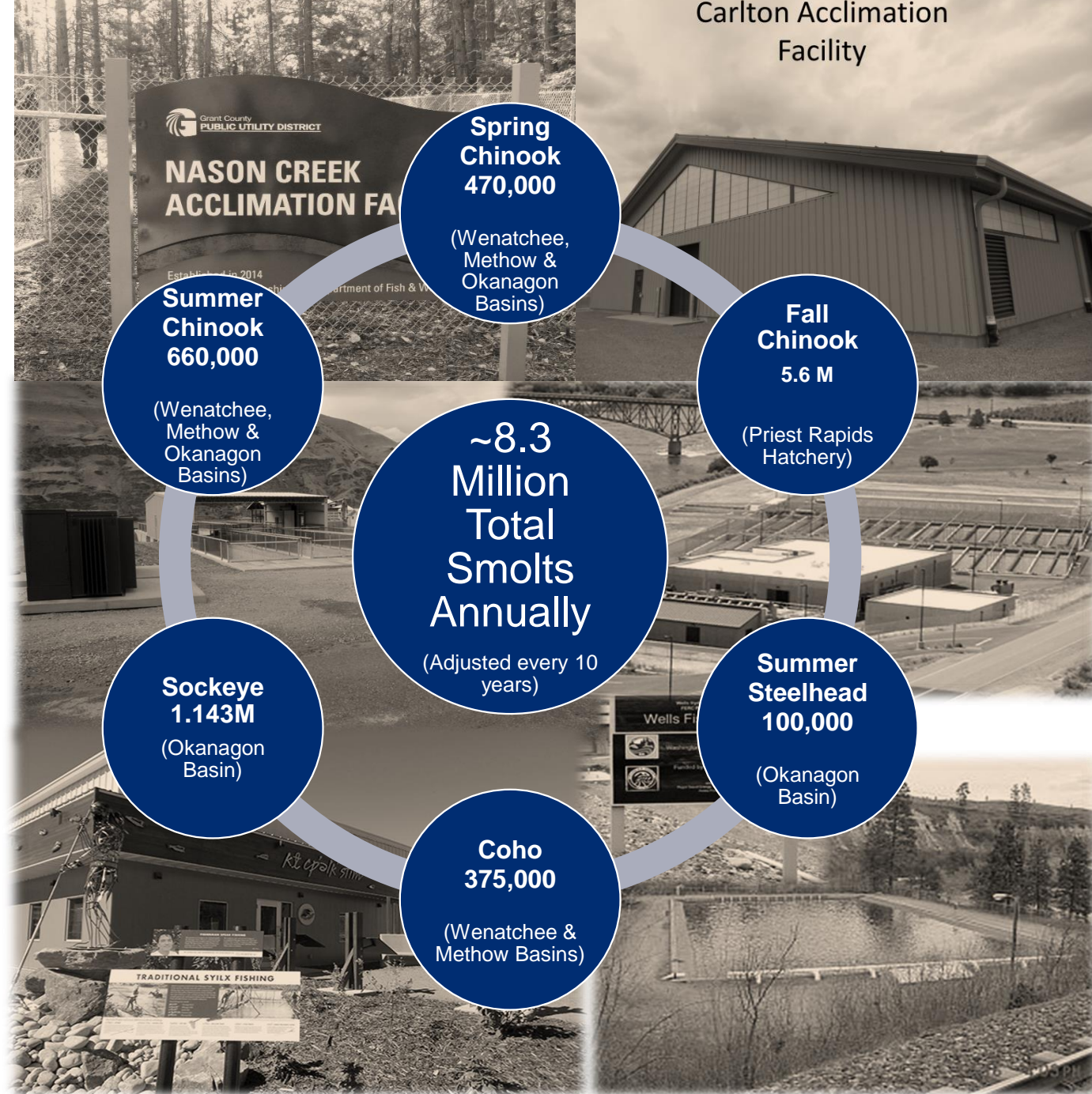
- ❖ Required Annually
- ❖ \$9-10 million Annually

Nason & White River Programs

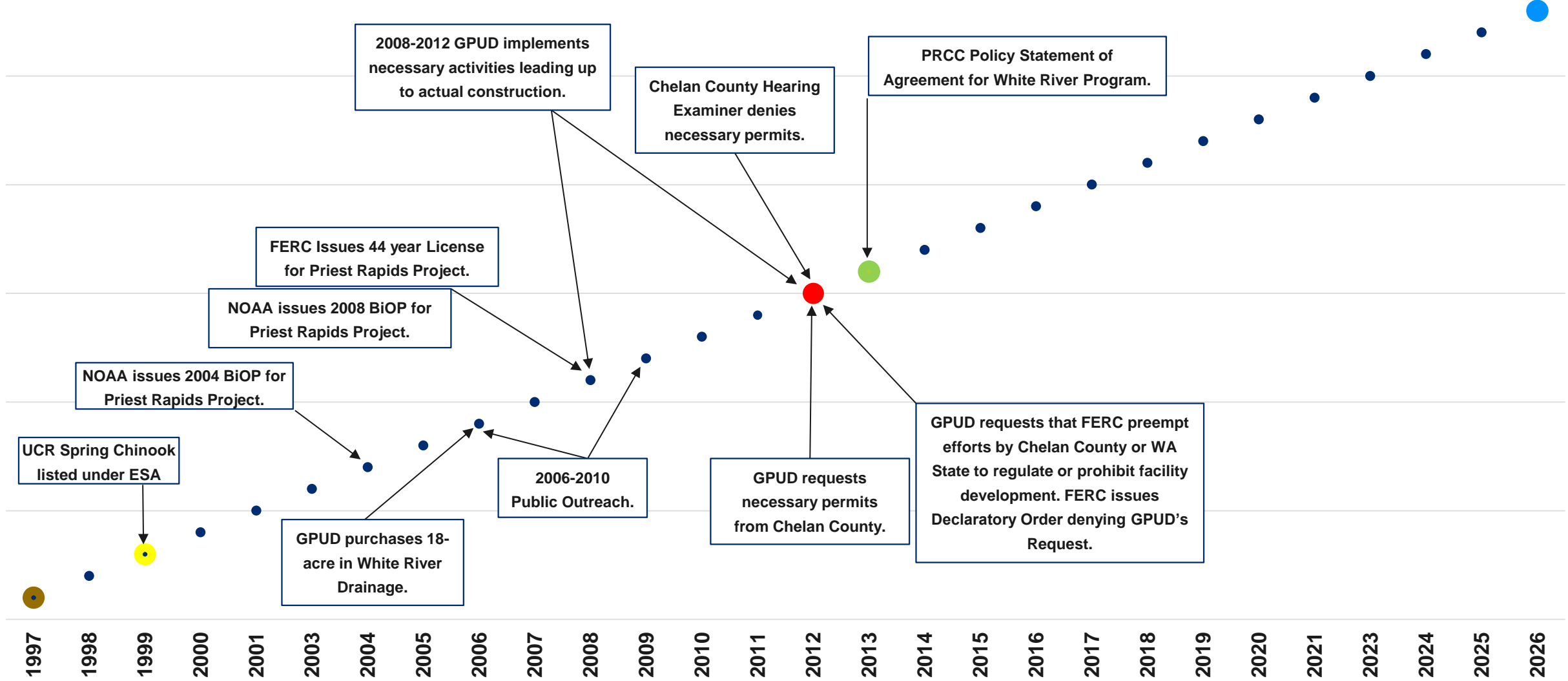
- ❖ Current Production ~230,000
  - Acclimated and released from Nason Creek

Programs Adaptively Managed

- ❖ Monitoring & Evaluation Data

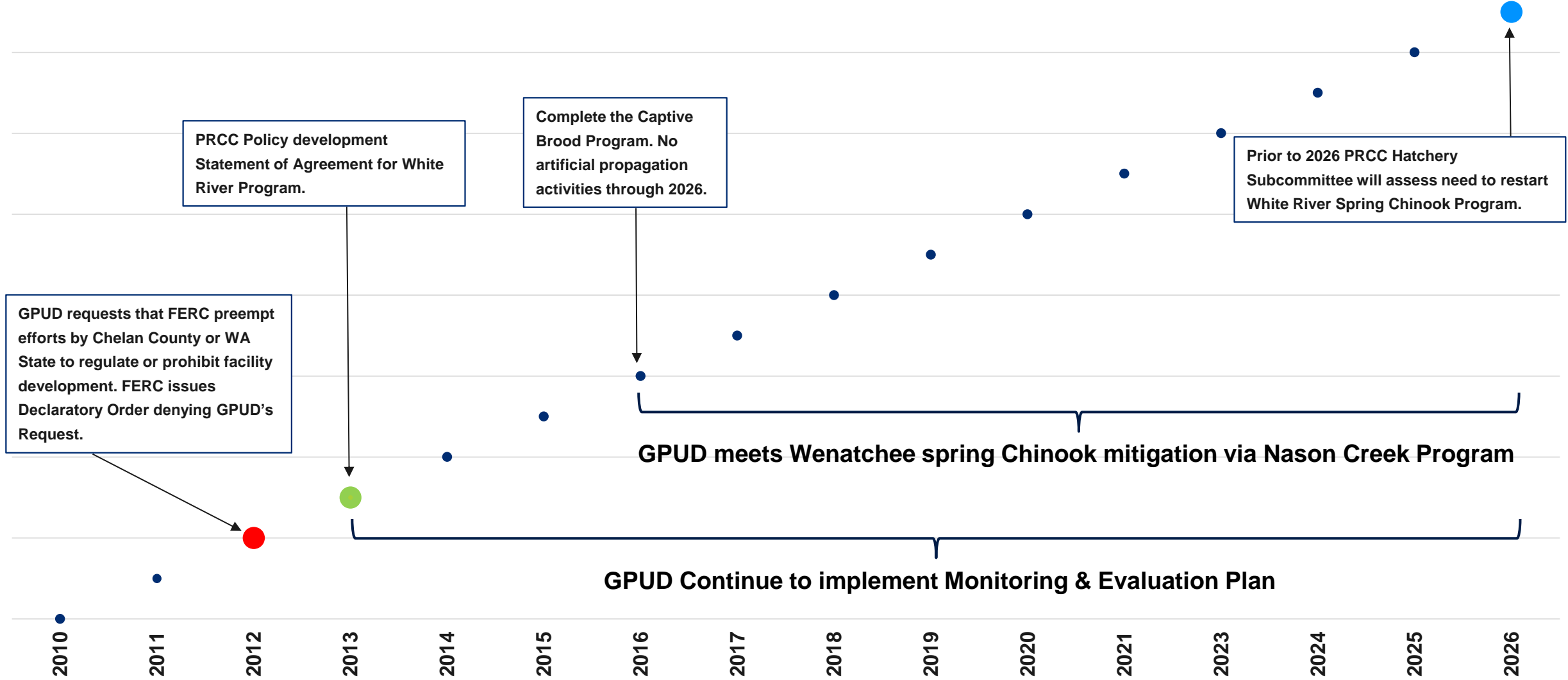


# White River Timeline





# White River Timeline



# White River Monitoring and Evaluation

- The intent of the plan is to evaluate the captive brood program and the effects on the natural population
- Methods are consistent with PUD M&E plan
  - Redd surveys
  - Carcass surveys
  - Stray monitoring
  - Juvenile productivity (2 screw traps)
  - Juvenile survival
  - Genetic monitoring
  - PIT tag array



# M&E Reporting

- **Data reports (yearly)**
- **Statistical reports (every 5 years)**
- **Program review (every 10 years, next review is in 2020)**
- **Peer-reviewed journal publications**



# Data from adult and juvenile surveys

**Table 1. Estimated egg-to-emigrant survival and emigrants per redd for White River spring Chinook**

Brood Year	No. of Redds <sup>a</sup>	Fecundity <sup>b</sup>	No. of Eggs	No. of Emigrants			Egg-to Emigrant	Emigrants per Redd
				Age-0 <sup>c</sup>	Age-1	Total ± 95% CI		
2005	86	4,327	372,122	DNOT <sup>d</sup>	4,856	—	—	—
2006	31	4,324	134,044	652	2,004	2,656 ± 1,597	2.0%	86
2007	20	4,441	88,820	2,309	3,395	5,704 ± 2,201	6.4%	285
2008	31	4,592	142,352	5,560	5,193	10,753 ± 3,783	7.6%	347
2009	54	4,573	246,942	2,428	2,939	5,367 ± 2,497	2.2%	99
2010	33	4,314	142,362	1,859	4,103	5,962 ± 3,448	4.2%	181
2011	20	4,385	87,700	3,128	1,659	4,787 ± 2,022	5.5%	239
2012	86	4,223	363,178	3,816	3,995	7,811 ± 3,847	2.2%	91
2013	54	4,716	254,664	2,461	3,023	5,484 ± 2,836	2.2%	102
2014	26	4,045	105,170	1,950	386	2,336 ± 807	2.2%	90
2015	70	4,847	339,290	2,430	2,942	5,372 ± 2,723	1.6%	77
2016	44	4,467	196,548	4,851	—	—	—	—
<b>Avg</b>	<b>43</b>	<b>4,446</b>	<b>190,452</b>	<b>2,659</b>	<b>2,964</b>	<b>5,623</b>	<b>3.6%</b>	<b>160</b>

<sup>a</sup> Number of complete redds in White River (Hillman et al. 2017)

<sup>b</sup> Mean annual fecundity of spring Chinook broodstock at Chiwawa River Hatchery

# White River Statement of Agreement

- **GPUD will complete the White River Captive Brood Program with the last release in 2015 and the last monitoring of captive brood fish in the natural environment in 2019.**
- **GPUD will continue to implement the Monitoring and Evaluation (M&E) plan for the White River for years 2020-2026.**
- **GPUD will build the Nason Creek Acclimation Facility to accommodate up to 275,000 smolts;**
- **GPUD Wenatchee spring Chinook mitigation requirements will be met via a combined total of 223,670 spring Chinook.**
- **GPUD will meet its Wenatchee spring Chinook mitigation post 2016 (2017-2026) via the Nason Creek Program.**
- **By 2026, the PRCC HSC will assess the need to restart a White River spring Chinook hatchery supplementation program by assembling all relevant technical information and overseeing an independent scientific review. The independent scientific review will consist of a panel of subject matter experts selected by the PRCC HSC who will address specific critical questions developed by the PRCC HSC.**

# Nason Creek Acclimation Facility

- Construction of the Nason Creek Acclimation Facility began in the spring of 2013 and was completed in the spring of 2014.
- First fish released from facility was in 2015 (43,479).
- Release in 2017 was 243,127 juvenile salmon.
- Activities occurring annually for this program
  - ✓ Broodstock Collection;
  - ✓ Spawning;
  - ✓ Tagging;
  - ✓ Release;
  - ✓ Smolt Abundance;
  - ✓ Carcass Recoveries;
  - ✓ Redd Surveys; and
  - ✓ Run Composition/Genetic Evaluations





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