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NO. 95029-6

SUPREME COURT OF THE STATE OF WASHINGTON

SPOKANE COUNTY, PIERCE COUNTY, DOUGLAS COUNTY,
LEWIS COUNTY, and KITSAP COUNTY,

Appellants,

v.

STATE OF WASHINGTON DEPARTMENT OF FISH AND
WILDLIFE,

Respondent.

**BRIEF OF AMICUS CURIAE
CONFEDERATED TRIBES AND BANDS
OF THE YAKAMA NATION**

YAKAMA NATION
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I. IDENTITY AND INTEREST OF AMICUS CURIAE

The identity and interest of Amicus Curiae are set forth in the accompanying Motion for Leave to File an Amicus Curiae Brief. In short, the Confederated Tribes and Bands of the Yakama Nation (“Yakama Nation”) appears as Amicus Curiae to assist the Court in understanding the issues in this appeal from the Yakama Nation’s perspective. As a federally recognized sovereign pursuant to the Treaty with the Yakamas of June 9, 1855, 12 Stat. 951 (June 9, 1855; ratified March 8, 1859; proclaimed April 18, 1859), and as a judicially recognized co-manager of the fisheries throughout much of Washington State, the Yakama Nation has a significant interest in the Washington Department of Fish and Wildlife’s (“WDFW”) regulation of the impacts of development both within and above the ordinary high water line (“OHWL”) on fisheries and fish habitat.

II. INTRODUCTION

There can be no question as to the significance of fish to the Yakama Nation and its Members. *See* Motion of the Confederated Tribes and Bands of the Yakama Nation for Leave to File Amicus Curiae Brief (March 26, 2018). The Yakama Nation speaks for those resources that cannot speak for themselves, and in doing so actively regulates its Treaty-

reserved fisheries to protect fish, restore fisheries and fish habitat, and ensure fish are honored in a manner reflecting their paramount importance to the Yakama People's mental, spiritual, and physical well-being. Consequently, the Yakama Nation has made considerable investments in the protection and restoration of fisheries throughout much of Washington State.

The Yakama Nation works closely with its fellow sovereigns, the United States and State of Washington, to develop and enhance tools used for fisheries protection. The Hydraulic Code, found at Chapter 77.55 of the Revised Code of Washington ("RCW"), is one such critical tool. *See* RCW 77.55.021(2)(c) (requiring applications to contain complete plans to protect fish life); RCW 77.55.021(7)(a) (stating "[p]rotection of fish life is the only ground upon which approval of a permit may be denied or conditioned"). Under the Hydraulic Code, WDFW reviews all hydraulic projects to limit damage to fish life and support healthy fisheries. If WDFW's authority under the Hydraulic Code and ability to review those projects is curtailed, the Yakama Nation's interests in such fisheries will be directly impacted.

The Yakama Nation appears as *Amicus Curiae* in support of WDFW to ensure that the protections mandated by the Washington State Legislature, and fought for by the Yakama Nation, are not stripped away

by Appellants’—Spokane County, Pierce County, Douglas County, Lewis County, and Kitsap County (“the Counties”)—tenuous challenge to WDFW’s statutory authority to regulate and oversee hydraulic projects impacting fish life and fish habitat. The Counties’ efforts to limit such regulatory authority undermine the legislative intent of the Hydraulic Code and diminish the protections therein. Not only would this frustrate the Hydraulic Code’s purpose; it would deprive the public of the opportunity to realize the benefits of the Yakama Nation’s, United States’, and State of Washington’s significant investments in the restoration of fish life and fish habitat throughout much of Washington State.

III. STATEMENT OF THE CASE

The Yakama Nation adopts and incorporates into this brief the Statement of the Case set forth by Respondent, WDFW. Corrected Response to Appellants’ Opening Brief, 2-6.

IV. ARGUMENT IN SUPPORT OF RESPONDENT

This matter is a straightforward case of statutory interpretation. WDFW has statutory authority to regulate activities that “use, divert, obstruct, or change the natural flow or bed of any of the salt or freshwaters of the state,” regardless of whether those activities are located above the OHWL. RCW 77.55.021(1); RCW 77.55.011(11). The Counties’

unreasonable interpretation ignores the plain language of the Hydraulic Code and the overall statutory scheme. Dissatisfied with the Washington State Legislature's policy choices, the Counties invite this Court to step into the shoes of the Washington State Legislature, modify policy, and render meaningless the legislative purpose of the Hydraulic Code—the protection of fish life and fish habitat. This Court should refuse the Counties' invitation, and instead uphold the plain language of the Hydraulic Code consistent with the Washington State Legislature's intent and ensure that the public will enjoy the benefits of the significant work that the Yakama Nation and its fellow sovereigns have invested in these fisheries.

A. Chapter 77.55 (the Hydraulic Code) is Unambiguous and Clearly Authorizes WDFW to Regulate Hydraulic Projects that Impact Fish Life and Fish Habitat, Including Projects Above the OHWL Line.

This matter is a straightforward case of statutory interpretation. To that end, the Yakama Nation incorporates by reference and adopts the arguments, analysis and conclusions set forth by Respondent, WDFW. *See* Corrected Response to Appellants' Opening Brief. The Yakama Nation will spare the Court a restatement of WDFW's detailed and well-supported arguments.

B. The Counties' Unreasonable Interpretation of Chapter 77.55, if Adopted, Would Frustrate the Purpose of the Hydraulic Code.

The Washington State Legislature passed the Hydraulic Code for the express purpose of protecting fish life. A hydraulic project's possible negative impact on fish life is the sole reason that WDFW may deny or condition a permit. RCW 77.55.021(7). Permit conditions are meant to ensure proper protection for fish life. RCW 77.55.231(1). These requirements show that the primary purpose of WDFW's authority to review hydraulic projects is to ensure that the project will not negatively impact fish life or necessary fish habitat.

Certain work above the OHWL will undoubtedly impact the flow and bed of state waterways in a manner that jeopardizes fish life. Without WDFW's permitting oversight, local governments and private entities will be able to conduct development projects that negatively impact fish habitat. Construction of dikes, levees, and roads can channelize waterways and restrict natural flooding processes that create fish habitat. Decl. of Philip Rigdon, at 3 (June 27, 2017). Ground disturbance and vegetation removal can degrade habitat through erosion, sediment delivery, decreased bank stability, loss of shade and loss of available wood recruitment. *Id.* Without WDFW's permitting oversight, local governments and private entities will be able to conduct development

projects above the OWHL, like those described above, which could negatively impact fish habitat.

The Hydraulic Code was passed in order to protect fish life, by regulating hydraulic projects that will “use, divert, obstruct, or change the natural flow or bed” of state waters. RCW 77.55.011(11). When interpreting a statute, the court should avoid “unlikely, absurd, or strained consequences.” *Thurston Co. v. City of Olympia*, 151 Wn.2d 171, 175, 86 P.3d 151 (2004). In challenging WDFW’s authority above the OHWL, the Counties ask this Court to frustrate and undermine the legislative purpose of the Hydraulic Code, ignore the plain language of the laws, and diminish the protections therein. To do so would result in absurd and strained consequences that negatively impact fish life and fish habitat in conflict with the Hydraulic Code’s express legislative intent.

C. The Public Interest Supports WDFW’s Statutory Authority to Implement the Hydraulic Code Above the OHWL.

The Yakama Nation, working in concert with the United States and State of Washington, is a co-manager of the fisheries throughout much of Washington State. *See United States v. Washington*, 384 F. Supp. 312, 382 (W.D. Wash. 1974), *aff’d*, 520 F.2d 676 (9th Cir. 1975). As a co-manager, the Yakama Nation has invested heavily in protecting fish and fish habitat throughout Washington State. WDFW’s exercise of its

statutory authority to implement the Hydraulic Code is consistent with protecting this collective investment.

Since 2008 the Yakama Nation protected or improved fish habitat at 1,812 locations throughout 108,575 acres in Eastern Washington. Decl. of Paul Ward, Ex. A, at 3-4 (March 22, 2018). The Yakama Nation Fisheries Resource Management Program has protected, improved, or restored 798 linear miles of riparian habitat and 66 miles of stream habitat. *Id.* In partnership with the Bonneville Power Administration, the Yakama Nation dedicated \$330 million ratepayer dollars towards restoration of Columbia River Basin fish and wildlife resources since 2008. Ward Decl., at 2. In fiscal year 2017 alone, the Yakama Nation spent \$32 million dollars on fisheries-related projects, with funding provided by the Yakama Nation, United States, and State of Washington. *Id.* The Hydraulic Code ensures that development projects do not undermine the aforementioned sovereigns' time, effort, and money expended in the public interest on these projects.

For example, in 2016 the Yakama Nation completed a years-long project to remove 8 miles of paved logging roads separating the Klickitat River's main channel from 20 acres of floodplain and riparian habitat. Ward Decl., Ex. A, at 23. For decades, the road served as a barrier to critical spawning, rearing, and migration habitat for summer and winter

steelhead, spring and fall chinook, and coho. *Id.* During the project, over 9,500 native plants were installed, 45 pieces of large woody material were placed in side-channels and backwaters, and 14 culverts were removed. *Id.* This work restored fish habitat complexity, created calm water refuges for juvenile salmon in high flow events, improved gravel recruitment for spawning riffles, and formed adult holding pools. *Id.* While this endeavor has been a huge success, the benefits of such work will be threatened if development within floodplains is allowed to proceed unchecked by the Hydraulic Code.

In the White Salmon River, the Yakama Nation is stabilizing river banks and clearing the in-water sedimentation that resulted from the recent breach and removal of the Condit Dam. Ward Decl., Ex. A, at 31-32. For nearly a century, the Condit Dam blocked up to 15 miles of spawning habitat for spring and fall chinook, and 33 miles of spawning habitat for steelhead above the dam. *Id.* When the dam was breached and the reservoir drained, the Yakama Nation and its partners graded the accumulated sediment and planted thousands of native plants to stabilize the banks and decrease future river sedimentation. *Id.* At the river mouth, we are eliminating the shallow water pools that stranded juvenile salmonids and lamprey by digging deep, cold water channels while using the removed sediment to create riparian islands. *Id.* These projects are

reopening the White Salmon River to fish spawning, rearing, and migration, and the public's interest in realizing the benefit of this work is supported by WDFW's regulation of hydraulic projects both within and above the White Salmon River's OHWL.

Along the Chewuch River, the Yakama Nation reactivated a 2,700 hundred foot historic side-channel with a perennial water source, thereby restoring off-channel habitat, reconnecting 1.55 acres of wetlands, and creating a cool water refuge for endangered spring chinook, threatened steelhead, and bull trout. Ward Decl., Ex. A, at 49. Habitat complexity and quantity were increased by installing 48 wood structures to provide cover, shade, and scour pools for juvenile fish. *Id.* This project provides vital support for the fisheries and fish habitat in the Upper Columbia Subbasin, and WDFW's implementation of the plain language of the Hydraulic Code will help ensure that future development does not frustrate the benefits of projects such as this.

As these projects demonstrate, the Yakama Nation, with the support of the United States and State of Washington, spent years investing time, effort, and money protecting and restoring our fisheries and fish habitat for the benefit of our future generations, and in support of the continued vitality of the Yakama Nation's culture and traditions. The Washington State Legislature's delegation of authority over hydraulic

projects to WDFW, and WDFW's implementation of such authority through the Hydraulic Code, helps prevent hydraulic projects from undermining these efforts and their resulting benefits.

V. CONCLUSION

To ensure that our future generations realize the benefit of our collective investments in fisheries and fish habitat throughout much of the State of Washington, the Yakama Nation respectfully requests that the Court uphold the plain language of Chapter 77.55 RCW and affirm the lower court's decision.

Respectfully submitted this 26th day of March, 2018.

CONFEDERATED TRIBES AND BANDS
OF THE YAKAMA NATION



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7 **IN THE SUPREME COURT**
8 **FOR THE STATE OF WASHINGTON**

9
10 SPOKANE COUNTY, PIERCE COUNTY,
DOUGLAS COUNTY, LEWIS COUNTY,
and KITSAP COUNTY,

11 Appellants,

12 v.

13 STATE OF WASHINGTON
14 DEPARTMENT OF FISH AND
15 WILDLIFE,

16 Respondent.

No. 95029-6

DECLARATION OF PAUL WARD IN
SUPPORT OF BRIEF OF *AMICUS CURIAE*
CONFEDERATED TRIBES AND BANDS
OF THE YAKAMA NATION

17
18 I, Paul Ward, state:

- 19 1. I am over eighteen years of age and I am competent to testify.
- 20 2. I currently hold the title of Program Manager of the Yakama Fisheries Resource
21 Management Program. I am responsible for supervising and coordinating the Yakama Nation's
22 fisheries and habitat protection and restoration work. I have been employed by the Confederated
23 Tribes and Bands of the Yakama Nation ("Yakama Nation") for the past twenty (20) years.
- 24 3. My knowledge of the information within this Declaration is based upon my work
25 as the Program Manager of the Yakama Nation Fisheries Resource Management Program.
- 26

DECLARATION OF PAUL WARD IN SUPPORT OF BRIEF OF
AMICUS CURIAE CONFEDERATED TRIBES AND BANDS OF
THE YAKAMA NATION - 1

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EXHIBIT A

Status and Trends Annual Report **2017**



Honor



Protect



Restore

COMPREHENSIVE REPORT



FROM OUR FISH AND WILDLIFE COMMITTEE



In 2008 the Yakama Nation entered into an agreement with the United States, termed the Columbia River Fish Accord, by which we greatly expanded the range and nature of our work to preserve, protect, and restore the fish and wildlife resources that we reserved in perpetuity for future generations in our Treaty of 1855. The health of the water, the fish, and the rivers they need is inseparable from our own health and way of life. While much has occurred over the last 100 years to harm and damage these natural resources, it is our duty to the Creator and to our people to take care of what remains and restore what has been lost.

An elder described this responsibility simply and eloquently as to “Make it the way it was.” This is the vision and goal of our efforts to restore the resources and the places where they live. It is a large and important undertaking, the work of generations, but we will persist and do our part as we are called upon and are able even if it takes the next 100 years. In partnership with others who share our need to protect and restore, we can achieve much.

This report summarizes our progress in restoring fishery resources since signing the 2008 Accord with Bonneville Power Administration, US Army Corps of Engineers, and the US Bureau of Reclamation. We have come a long way and made much progress, but much remains to be done. In this effort we must not fail, for we owe it to our grandchildren and to those yet unborn.

Gerald Lewis
Chairman, Fish and Wildlife Committee
Yakama Nation Tribal Council

OUR MISSION

To honor, protect and restore Nch'i-Wána [the Columbia River], its tributaries and its resources for the benefit of current and future generations of the Yakama people as reserved by them in the Treaty of 1855.*

* Yakama Nation Treaty of 1855 (12 stat. 951) with the United States of America

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Kelt reconditioning, Prosser Hatchery (YN)



Shane Lloyd, tribal fisher, Klickitat Gorge (Erika Schultz, Seattle Times)

EXECUTIVE SUMMARY

Accomplishments by the Yakama Nation during the 2008-2017 Accord

Between 2008 and 2018, the Yakama Nation implemented Accord-funded projects throughout the Tribe's reservation and Treaty territories to conserve and restore fish populations and their habitat. These efforts have improved the quality and quantity of stream habitats important to the survival and recovery of species that are vital to the Yakama Nation. During this period, the Tribe has seen an increase in the number of fish returning and harvested. Although some improvements have been made, many ecological risks remain that must be addressed before the Tribe's fish population and harvest goals can be achieved.

1,812 locations
where work was performed

48,693 people
educated and informed

20,000+ coho
record-setting return

258 miles
stream now available to fish
following removal of barriers



108,575 acres
habitat protected/improved

798 miles
riparian habitat protected/
improved

66 miles
stream habitat
improved/created

105,655 fish
average annual Tribal harvest
increase compared to 2000-2007

Source: Accord-funded metrics reported to cbfish.org (7/11/2017), plus Klickitat work with combined SRFB/BPA-funding (rco.wa.gov)

YAKAMA NATION FISHERIES PROGRAM

OVERVIEW

By combining scientific expertise and traditional knowledge, the Yakama Nation has developed projects and partnerships that have restored culturally and economically important fish runs in the Columbia River Basin.

Culturally important fish include:

- Chinook
- Sockeye
- Steelhead
- Coho
- Pacific lamprey
- White sturgeon



Coho reintroduction (YN)



Gravel-to-Gravel Management

A holistic guiding principle, gravel-to-gravel management protects and restores fish at all life stages, from an egg deposited in the gravel to the spawner who returns there. It considers all impacts a fish encounters during its lifespan, including habitat conditions, hydrologic challenges, and the influences of hatchery and harvest management. All of these must be taken into account to ensure sustainable populations.

Habitat Restoration

Restoring natural habitats is among the highest priorities for species restoration. Because habitat must be healthy, accessible, and abundant, the Yakama Nation is implementing a broad set of actions to restore streams and watersheds. Habitat restoration benefits all aquatic treaty-trust* fish species of the Yakama Nation, as well as wildlife and other natural resources.

Hatchery/Species Restoration

Human population growth and development have altered flows and habitats resulting in reduced fish productivity. As a result, releases of hatchery and translocated fish are required to: 1) support harvest, 2) re-establish extirpated populations, and 3) supplement naturally spawning populations. The Yakama Nation's vision for its fisheries utilizes a variety of approaches for maximum long-term restoration benefits.

Harvest Management

The Yakama Nation manages fisheries resources to ensure continued access by Yakama Nation members to fulfill their ceremonial, subsistence, and commercial needs. This treaty-reserved right includes the right to have fish present to harvest at all usual and accustomed places. Our ultimate goal is self-sustaining and abundant fisheries for all species.

* Yakama Nation Treaty of 1855 (12 stat. 951) with the United States of America



Photos above: Some of the Yakama Nation Fisheries staff, guests, and natural resource partners. (Not all staff members present)

YAKAMA NATION FISHERIES PROGRAM

STAR PROJECT

The STAR Project provides status and trends information to Tribal leadership, membership, and fisheries management to aid in the development of policy. The project summarizes: 1) trends in the status of priority fish species, 2) species restoration efforts, and 3) hydrosystem and habitat improvements.

RESOURCES BEING DEVELOPED

- High-level summaries and interactive online reports
- Interactive mappers
- Custom query reports
- Online dashboard
- Information management system

Home - Species Status and Trends - PopulationEstimates

Subbasin: **Kickitat** Species: **Steelhead** Run: **Summer/Winter** Area: **Lyle Falls** Origin: **Natural** Age: **Adults** StartYear: **2006** EndYear: **2016** [View Report](#)

Yakama Nation Fisheries Honor. Protect. Restore.

Population Estimates

Subbasin: Kickitat Species: Steelhead Run: Summer/Winter Area: Lyle Falls Origin: Natural Age: Adults Years: 2006-2016
Data as of: 9/28/2016 Date Printed: 10/19/2017

Background:
Yakama Nation Fisheries protects and restores the Columbia River Basin and the fish that it supports. Through more than 100 current projects, we restore habitat, ensure harvest, and supplement stocks with refined hatchery practices and by mitigating the effects of hydropower. Every day, we work to honor, protect and restore the Columbia River for the good of the Yakama people and everyone in our region.

Description:
Tracking the status and trends of priority species to the Yakama Nation is important, as they are indicators of the potential benefits of restoration actions. While there are many influences upon species that are beyond our control, we can evaluate trends in population health in order to direct resources to the areas of most need. We can also advocate for more to be done by all our partners throughout the region for those species that are struggling. Priority species also serve as an 'umbrella' indicator for the health of other species that get less attention, but that are important to the Yakama Nation and also benefit from the same restoration efforts.

Year	Counts
2006	1,600
2007	1,700
2008	1,700
2009	1,700
2010	1,300
2011	1,100
2012	2,500
2013	1,100
2014	1,300
2015	3,000
2016	3,300

Yakama Nation Fisheries Status and Trends Reporting

HOME ABOUT Q&A DASHBOARD STAR REPORTS

HOME / DASHBOARD / INTERACTIVE MAPS / HABITAT RESTORATION ACTIONS (BPA FUNDED, 2004-2017)

Habitat Restoration Actions (BPA Funded, 2004-2017)

Restoring the natural habitats needed by wild salmon, steelhead, and lamprey is among the highest priorities for species restoration. All species must be able to sustain themselves in their natural habitats thus these habitats must be healthy, accessible, and abundant. The map below is a representation of all BPA funded habitat restoration actions by type, 2004-present. Since 2009, significant restoration has been supported by Columbia River Fish Accord Agreement. The Yakama Nation is implementing a broad set of actions to restore ecosystem function.

Click on the icons below, representing habitat restoration actions by type, to learn more about what has been implemented so far. (Updated as of 7/11/2017). [2004-2017]

Legend

- ✓ Accord Funded YN Habitat Efforts (2008-2017)
- ✓ Accord Funded YN Outreach (2008-2017)
- ✓ BPA Funded Habitat Efforts (2004-2007)
- ✓ BPA Funded Outreach (2004-2007)
- ✓ Ecological Concerns by Assessment Unit
- ✓ Accord Funded YN Efforts Subbasin Summary
- ✓ YN Reservation
- ✓ Territories of the Yakama Nation

To learn more about the Yakama Nation Fisheries' Status and Trends Project and to download this report, please visit www.yakamafish-nsn.gov/restore/projects/star.

On May 2, 2008, the Yakama Nation signed the Columbia Basin Fish Accords Memorandum of Agreement providing stable funding for large-scale restoration actions and long-term planning efforts.

BENEFITS TO THE YAKAMA NATION

- Expansion of the Tribe's zone of influence
- Enhanced production and reintroduction
- 10 years of stable and secure funding
- Direct funding of Tribal priorities
- Maintained spill increases at Columbia River dams
- Increased focus on habitat restoration
- Greater tribal representation/collaboration in hydrosystem improvements
- Improved harvest opportunities

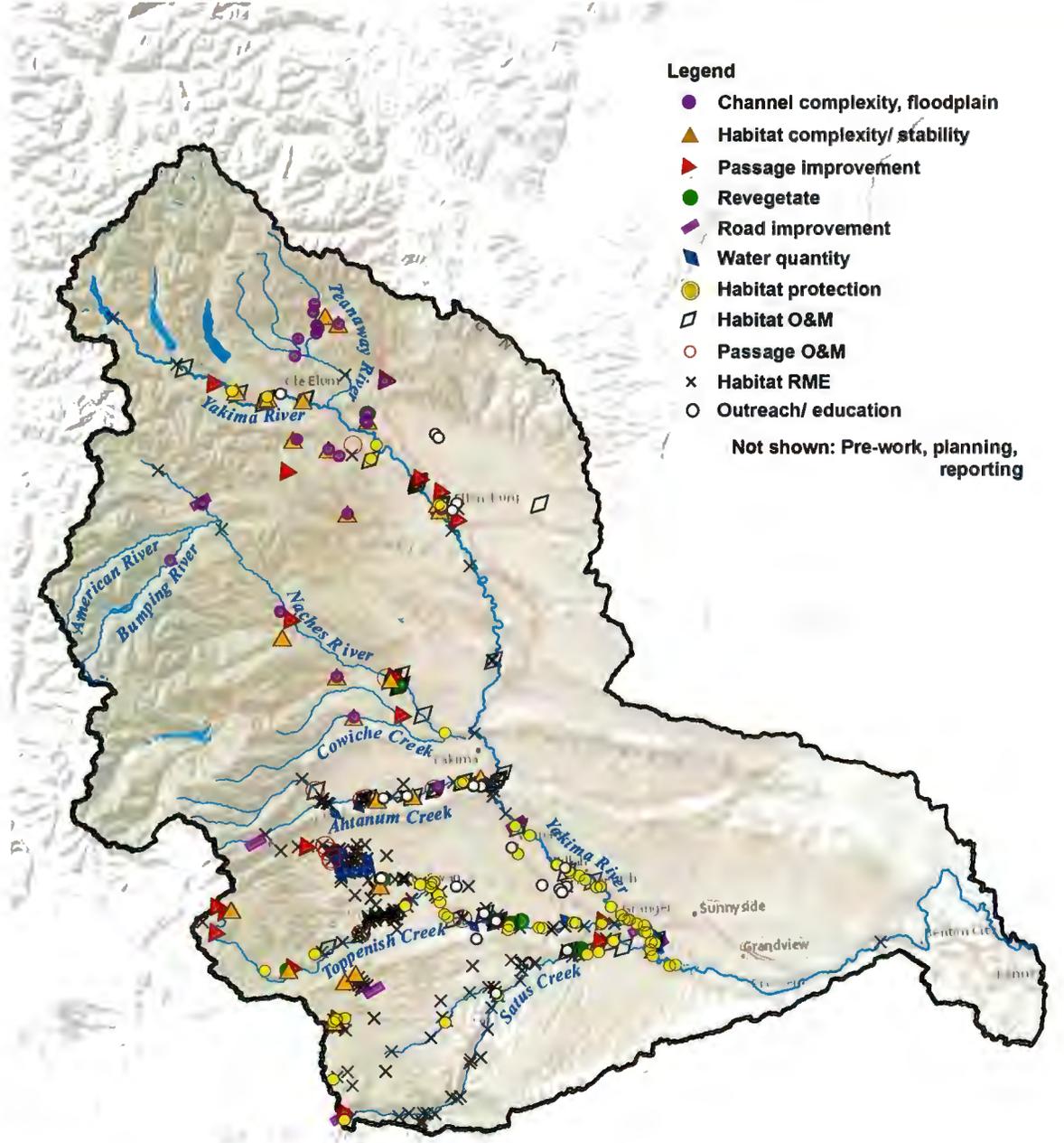


Yakama Nation Chiefs Frank Seelatsé and Jimmy Noah Saluskita at U.S. National Capitol, 1927 (U.S. Library of Congress)

**YAKIMA
SUBBASIN**

HABITAT

Accord-funded Habitat Actions Implemented from 2008 to 2017



Accord funded actions reported as of 07/11/2017 at cbfish.org
 Many sites overlapping, all may not be visible.

Sources: Esri, USGS, NOAA

ECOLOGICAL CONCERNS IN THE YAKIMA SUBBASIN

Ecological Concern	YN Addressing*
Predation**	○
Temperature	●
Decreased water quantity	●
Altered primary productivity**	○
Floodplain condition	●
Riparian vegetation	●
Man-made barriers	○
Large wood recruitment	●
Bed and channel form	○
Instream structural complexity	●
Side channel/wetland conditions	●
Altered flow timing	○
Reduced genetic adaptiveness**	○
Increased sediment quantity	●
Competition	○

Projects addressing: ● Numerous ● Many ○ Some ○ Not directly
(Rankings relative within this subbasin only)



Tarleton Creek Wood Replenishment (YN)

*Major ECs affecting listed salmonids, as identified in CRITFC PATS local expert evaluation (2015). ECs being addressed by Accord-funded projects as of 07/11/2017, as reported in cbfish.org. EC assignments from BPA, HWS reference, refined by STAR. Additional ECs possibly not listed.
**Predation and genetic adaptiveness being addressed by fisheries projects. Primary productivity indirectly addressed through vegetative restoration.

STREAM FUNCTIONS RESTORED*

Since 2008, the Yakama Nation has completed a number of projects that have restored stream functions to sustain salmon and steelhead in the Yakima Subbasin.

Fish Passage

- 4 barriers removed
- 4 barriers improved
- 122 miles of habitat now accessible

Instream Habitat

- 230 structures installed
- 2,550 logs installed (10,000 in progress)
- 40 miles of stream improved
- 1 mile of dike removed/modified
- 8 exclusion structures installed
- 1.75 miles of stream channel created

Wetland Habitat

- 1,330 acres protected
- 4,000 acres improved

Riparian Habitat

- 66 miles protected (33 miles by fence)
- 640 miles improved

Upland Habitat

- 4 miles of road blocked/removed/improved
- 9,000+ acres treated/improved
- 74,500 acres protected

Water Quality

- 4,000 pounds of trash collected

Water Quantity

- 2 alternative sources identified

Outreach

- 22,700 people contacted

*BPA-funded metrics reported to cbfish.org 1/1/2008- 07/11/2017

Yakama Reservation Watershed Project—Toppenish Creek Restoration River Mile 37



Fish Present: Steelhead and coho

Problem: Lack of off-channel habitat, spawning gravels, and cover. Past actions resulted in increased temperature, turbidity, channel incision/instability, and loss of floodplain connections and wetlands.

Restoration Actions:

- Installed engineered log jams and debris-catching structures
- Increased instream complexity
- Sloped unstable banks and replanted with native vegetation
- Reconnected .25 miles of side channel

Benefits

- Channel bed buildup
- Floodplain connection
- Riparian development
- 4 barriers removed
- Groundwater storage improved
- Trap and sort spawning substrates and wood
- Instream velocity slowed to reduce scour

South Fork Cowlitz Creek Floodplain Restoration*

Fish Present: Steelhead, Chinook, and coho

Problem: Past actions resulted in an incised channel disconnected from its floodplain, bank erosion, and lack of instream habitat and off-channel habitat.

Restoration Actions:

- 1,400 logs and root wads installed in more than 2 miles of stream channel (trees from Oak Creek thinning) and planted native vegetation

Benefits

- Floodplain inundated during high flows recharges groundwater and improves summer flows
- Reduced flood risk downstream
- Encourage regrowth of native riparian vegetation that provides shade and sustains complexity

* non-BPA funded project (SFB and BLM cost-share)



Taneum Creek Wood Replenishment



Taneum Creek after wood loading, recent riparian re-growth, and stream complexity.

Fish Present: Steelhead

Problem: Past actions resulted in depleted instream complexity, floodplain disconnection, and bank erosion. Water storage capacity has been reduced leading to flashy flows, downstream flooding, and reduced low flows.

Restoration Actions:

- 800 trees with root wads placed along 7 miles of stream (trees obtained by thinning nearby forests) to improve habitat complexity

Benefits:

- Flows slowed
- Erosion reduced
- Sediments and debris allowed to collect and build streambed
- Flows sustained longer as water is provided a chance to soak into the ground
- 3 miles of side channels have naturally developed
- Thinning forest reduce catastrophic fire risk

Teanaway Community Forest Aquatic Restoration*

Fish Present: Steelhead

Problem: Past activities depleted habitat complexity, disconnected streams from their floodplains leading to reduced water storage and instream habitats, as well as warmer stream temperatures.

Restoration Actions:

- 13,700 logs and 1,300 rootwads placed along 9 miles of Indian, Middle, Dickey, Jungle, Rye, Lick, Carlson and First creeks to restore stream habitats and watershed function.

Benefits:

- Improved water supply by restoring groundwater/floodplain connectivity and storage
- Improved instream and side channel complexity
- Retention of substrates, building up degraded channels
- Improved bank stability
- Reduced water temperatures through potential pool development, increased cover and shading



* Funded by American Rivers, BPA, NOAA and USFWS

**YAKIMA
SUBBASIN**

PRODUCTION

Accord-funded Production Actions Implemented from 2008 to 2017



Accord funded actions as of 7/11/2017 as reported at cbfish.org.
Many sites overlapping, all may not be visible.

Sources: Esri, USGS, NOAA

YAKAMA NATION HATCHERIES IN THE YAKIMA SUBBASIN



Prosser Tribal Hatchery

Fish: Fall and summer Chinook, Pacific lamprey, steelhead (kelt reconditioning), and coho

Goals: Increased harvest, natural spawning, abundance, and distribution

Levi George Cle Elum Supplementation and Research Facility

Fish: Spring Chinook

Goals: Enhance returns and provide fishing opportunities

Research: Production and rearing techniques



Marion Drain Hatchery

Fish: Summer Chinook and white sturgeon

Goals: Self-sustaining, locally adapted summer Chinook above Prosser. Enhance white sturgeon through wild-origin juvenile stocking (see page 17).



In addition to the projects listed above, the Yakama Nation is reintroducing sockeye to Lake Cle Elum and is developing a coho hatchery. See page 16 for more information.

(Emily Washines, YN)

**YAKIMA
SUBBASIN-
PRODUCTION**

PROJECT SPOTLIGHT



(Emily Washines, YN)

Sampling a Cle Elum spring Chinook.

CESRF Integrated Hatchery Program Research

Background: Since 1997, the Yakama Nation has been conducting research at the hatchery to address critical uncertainties and improve hatchery practices.

Goals: Increase natural production while maintaining population fitness and limiting potential genetic or ecological impacts.

Results:

- Increased spawner abundance, spatial distribution, and harvest
- Maintained natural-origin returns
- Managed gene flow in hatchery population

Steelhead Kelt Reconditioning

Background: Reconditioned kelts have the potential to increase productivity of natural populations and represent an important life history for steelhead. Since 1999, the Yakama Nation has been developing strategies to recondition kelts for repeat spawning potential. Natural fish that have spawned are captured, held, and fed in an artificial environment. After release, fish are tracked to determine reproductive potential.

Goals: Increase productivity of natural populations and maintain life history.

Results:

- 4,042 reconditioned kelts have been released in the Yakima Subbasin
- Reconditioned kelts are reproducing in the wild and are similarly successful as natural kelts
- Population is trending upwards relative to other Columbia Basin steelhead populations



(YN)

Steelhead kelt at Prosser Hatchery.

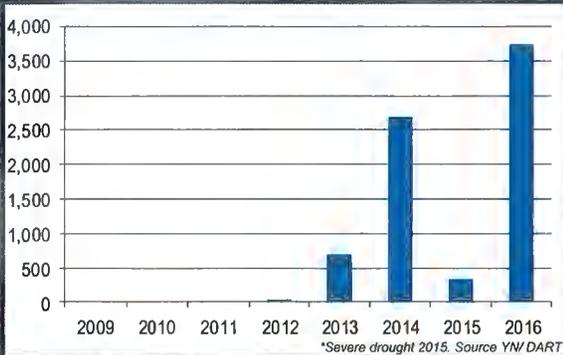
REINTRODUCTION PROJECTS

Cle Elum Sockeye*

Cle Elum Dam was built in 1993 and lacked fish passage causing sockeye to be extirpated as they could not reach their spawning grounds. In 2009 sockeye were reintroduced into Lake Cle Elum.

- 2013: First sockeye returns to spawn
- 2016: 3,742 sockeye passed Prosser

Yakima Sockeye Adults Prosser Dam Counts

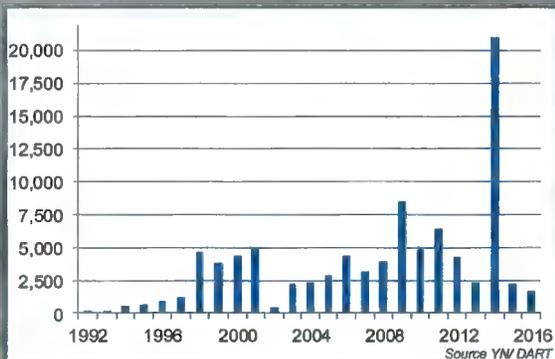


Yakima Basin Coho

Because coho were extirpated from the Yakima Basin in the early 1980s, a reintroduction program was initiated in 1985 at the Prosser Hatchery, and now a new hatchery is being built near Ellensburg.

- 2016: 461,000 smolts produced
- 2018: Construction starts on hatchery that can produce 700,000 smolts

Adult Coho Counts at Prosser Dam



Processing broodstock at Prosser.
(Emily Washines, YN)

Sockeye reintroduction funded by NOAA's PCSRF and U.S. BOR and Grant County PUD

**YAKIMA
SUBBASIN-
PRODUCTION**

PROJECT SPOTLIGHT



WHITE STURGEON MANAGEMENT PROJECT

Background: Since the 1990s, the Yakama Nation has been researching how to culture white sturgeon by rearing small numbers in Tribal hatchery facilities. In 2017, 12 adults were collected from the Columbia River for spawning.

Goals: Healthy populations that provide harvest opportunities in the mid-Columbia and Lower Snake rivers. Enhanced natural spawning and fisheries.

Results:

- Spawning/rearing sturgeon since 2007
- Since 2010, wild-origin juveniles have been released into Priest Rapids, Wanapum, and Rocky Reach reservoirs, as well as Zone 6



Sturgeon project staff spawning a white sturgeon.

Note: Sturgeon production/reintroduction projects receive some funding from non-Accord sources (e.g., NOAA's PCSRF program, the U.S. BOR, and Grant, Chelan and Douglas County PUDs)

Background photo: Juvenile sturgeon release (YN)



PACIFIC LAMPREY PROJECT

Background: Of significant cultural and ecologic value, Pacific lamprey have declined throughout their range. Since 2009, the Yakama Nation has been restoring lamprey throughout the reservation and Tribal territories.

Activities include:

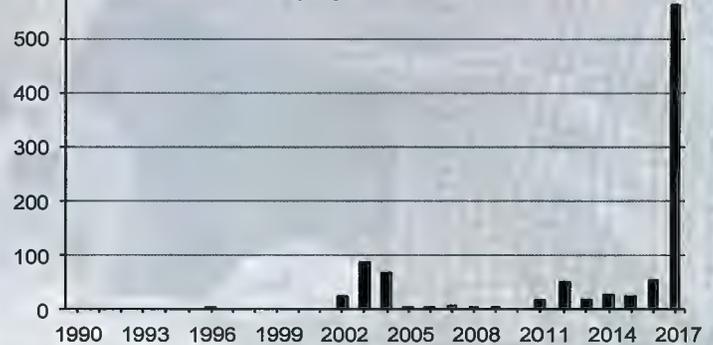
- Adult lamprey reintroduction/supplementation in Yakima, Wenatchee, Methow subbasins, and mainstem Upper Columbia
- Documentation of distribution, migration, and restoration results
- Addressing larval and juvenile lamprey entrainment and stranding, salvaging ~40,000 fish per year
- Adult passage improvement and effectiveness monitoring
- Development of artificial production techniques
- Outreach, education, cultural documentation, and partnership building



2017 Highlights:

- Documented increased distribution and abundance in all translocation subbasins
- Transported 1,238 adults from Lower Columbia Dams (average ~1,000/yr)
- Discovered western brook lamprey in the Upper Columbia
- Placed two adult lamprey passage structures at Prosser Dam
- **561 adults counted at Prosser Dam in 2017, more than 10 times previous counts**

Adult Pacific Lamprey Counts at Prosser Dam



Source: YN (ykfp.org/dacs/index.htm)

Note: Translocation and surveys Accord-funded. Other work supported by Bureau of Reclamation and Public Utility Districts.

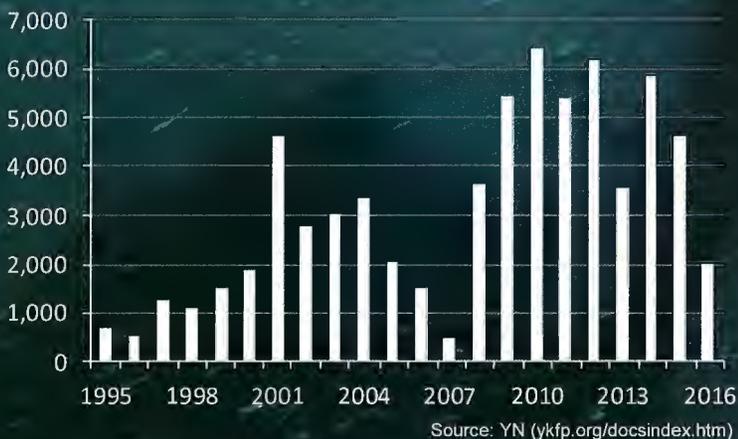
Photo: Translocation by Mr. David Child, U.S. Consulting LLC

YAKIMA SUBBASIN

SPECIES STATUS

By the 1970s and 1980s, all of the Yakima River salmonid stocks were either extirpated or severely depressed. Summer-run Chinook were extirpated from the Yakima Basin by 1970, while coho were declining until they were gone by the early 1980s. By the 1980s and 1990s, adult spring Chinook and steelhead returns were less than 3,500 and 1,000, respectively. To restore these culturally and economically important species, the Yakama Nation is applying a combination of habitat restoration and hatchery supplementation/reintroduction efforts to restore the ecosystem with sustainable and harvestable populations of salmonids and other at-risk species.*

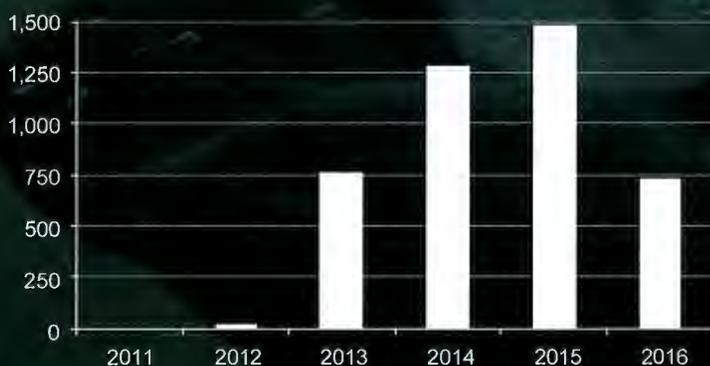
Natural Adult Summer Steelhead Counts at Prosser Dam



Steelhead

- **Returns:** Returns increased by 2,444 fish per year (annual average) 2008-2016 versus 1999-2007
- **Redd counts:** Increased somewhat through the Accord period
- **Wild smolt-to-adult index 2002-2013:** 4.67% (average, McNary-McNary)

Adult Summer Chinook Counts at Prosser Dam



Summer Chinook

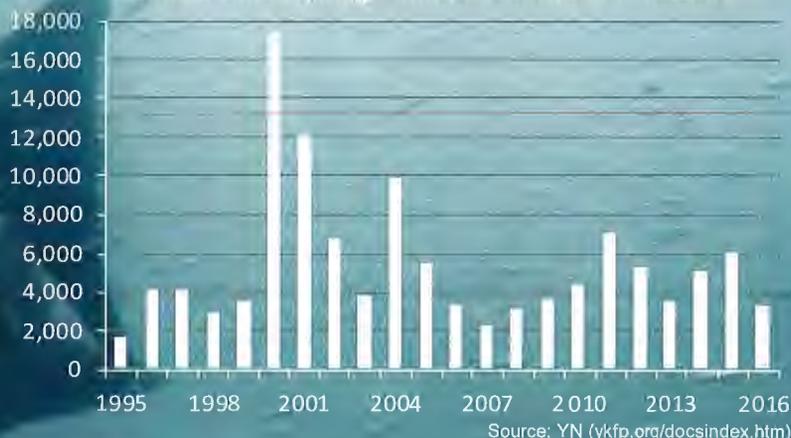
- Extirpated from the Yakima Subbasin by 1970
- Reintroduced with Yakama Nation juvenile releases starting in 2009
- **Goal:** Self-sustaining locally-adapted population contributing to the fishery

Source: Sampson, M., et al. 2017. Yakima-Klickitat Fisheries Project Monitoring and Evaluation - Yakima Subbasin. BPA Project # 1995-063-25 (available at cbfish.org)

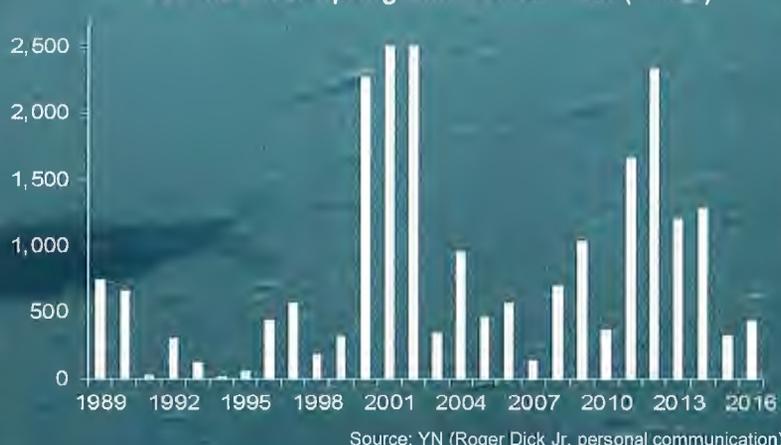
Spring Chinook

- **Returns:** Although not as high during the Accord period as in the early 2000s, annual increases have been observed
- **Redd counts:** Lower during the Accord period than in the early 2000s; however, spatial distribution increased in underutilized habitat; Wild smolt-to-adult Index 2015 is 2.37% (average, McNary-McNary)
- **Harvest:** On average, significantly increased starting in 2000 compared to the 1990s.

Adult Natural Spring Chinook Counts at Prosser Dam



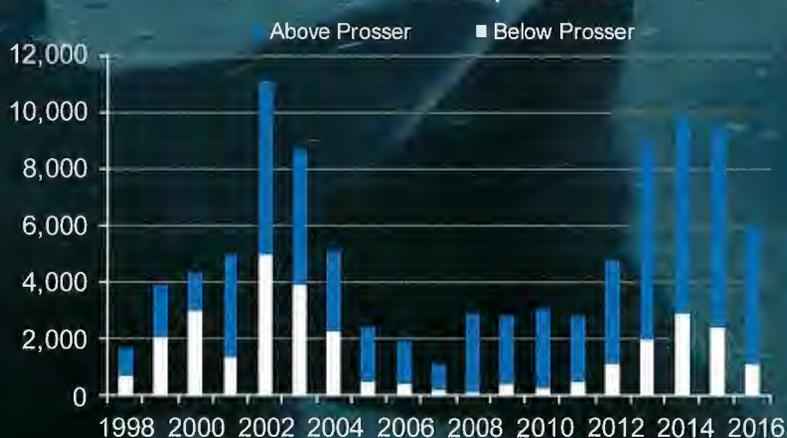
Yakima River Spring Chinook Harvest (Tribal)



Fall Chinook

- **Escapement:** Greater in 2002, 2014, and 2015 than any previously recorded year (above Prosser Dam)
- **Spatial distribution:** Increasing for spawners throughout the Yakima Subbasin
- **Harvest:** Contributing substantially to Zone 6 Treaty fisheries as well as the ocean and lower Columbia River fisheries

Adult Fall Chinook Escapement Estimate



Source: Sampson, M., et al. 2017. Yakima-Klickitat Fisheries Project Monitoring and Evaluation - Yakima Subbasin. BPA Project # 1995-063-25 (available at cbfish.org)

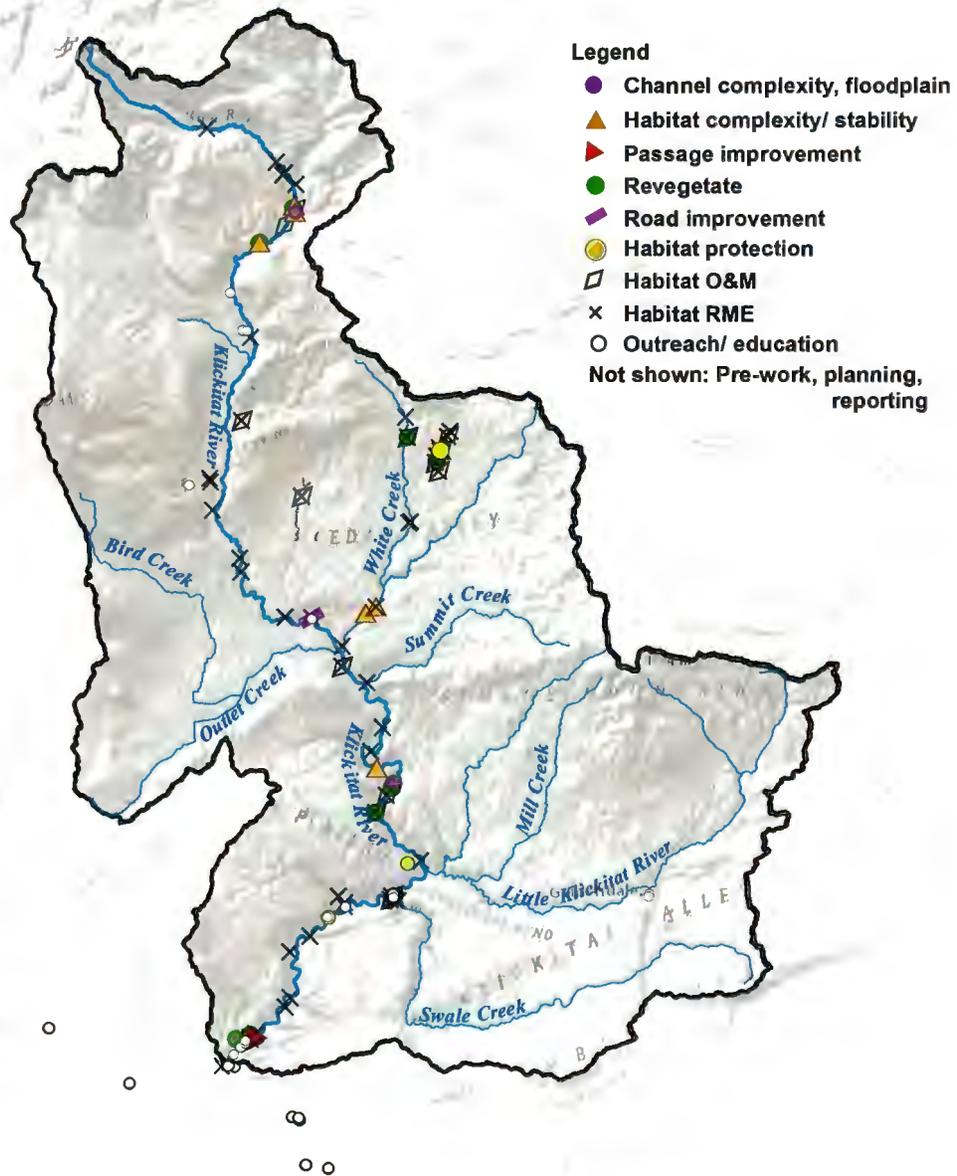
*See page 16 for Yakima Subbasin sockeye and coho information.

(Photo Credit: Tony Grover, Flickr)

**KLICKITAT
SUBBASIN**

HABITAT

Accord-funded Habitat Actions Implemented from 2008 to 2017



Accord funded actions reported as of 7/11/2017 at cbfish.org
 Many sites overlapping, all may not be visible.

Sources: Esri, USGS, NOAA

ECOLOGICAL CONCERNS IN THE KLICKITAT SUBBASIN

Ecological Concern	YN Addressing*
Instream structural complexity	○
Bed and channel form	●
Floodplain condition	○
Riparian vegetation	●
Large wood recruitment	●
Decreased water quantity	○
Altered flow timing	○
Altered primary productivity**	○
Competition	○
Side channel/ wetland conditions	●
Temperature	●
Man-made barriers	○
Increased sediment quantity	●
Turbidity	○
Projects addressing: ●Numerous ○Many ○Some ○Not directly (Rankings relative within this subbasin only)	



Klickitat River restoration (Photo: Columbia Land Trust)

*Major ECs affecting listed salmonids, as identified in CRITFC PATS local expert evaluation (2015). ECs being addressed by Accord-funded projects as of 07/11/2017, as reported in cbfish.org. EC assignments from BPA, HWS reference, refined by STAR. Additional ECs possibly not listed.
 **Primary productivity indirectly addressed through vegetative restoration.

STREAM FUNCTIONS RESTORED

Since 2008, the Yakama Nation has completed a number of projects that have restored stream functions to sustain salmon and steelhead in the Klickitat Subbasin.

Fish Passage

- 8 fish passage barriers removed
- 132 miles of habitat now accessible

Instream Habitat

- 120 structures installed as well as 40 individual logs
- 58 pools created
- 11 miles of stream treated for channel reconfiguration and connectivity
- 2 exclusion devices installed to protect habitat

Riparian Habitat

- 2 miles protected by fencing
- 63 miles improved by vegetative treatments

Upland Habitat

- 0.75 miles of road blocked/removed/improved
- 53 acres treated/improved

Outreach

- 8,500 people contacted

*BPA-funded metrics reported to cbfish.org 1/1/2008- 07/11/2017.
 Note: Numbers include work conducted since 2008 with work with combined SRFB/BPA-funding (rco.wa.gov).

Haul Road Restoration (2014-2016 Update, Phases 4-6)

Fish Present: Summer and winter steelhead, spring and fall Chinook, and coho

Problem: Critical spawning/rearing/migration habitat in which a legacy road confines the river into a straight channel and impedes access to side channels, recruitment of sediments/gravel/wood, and establishment of riparian vegetation.

Restoration Actions:

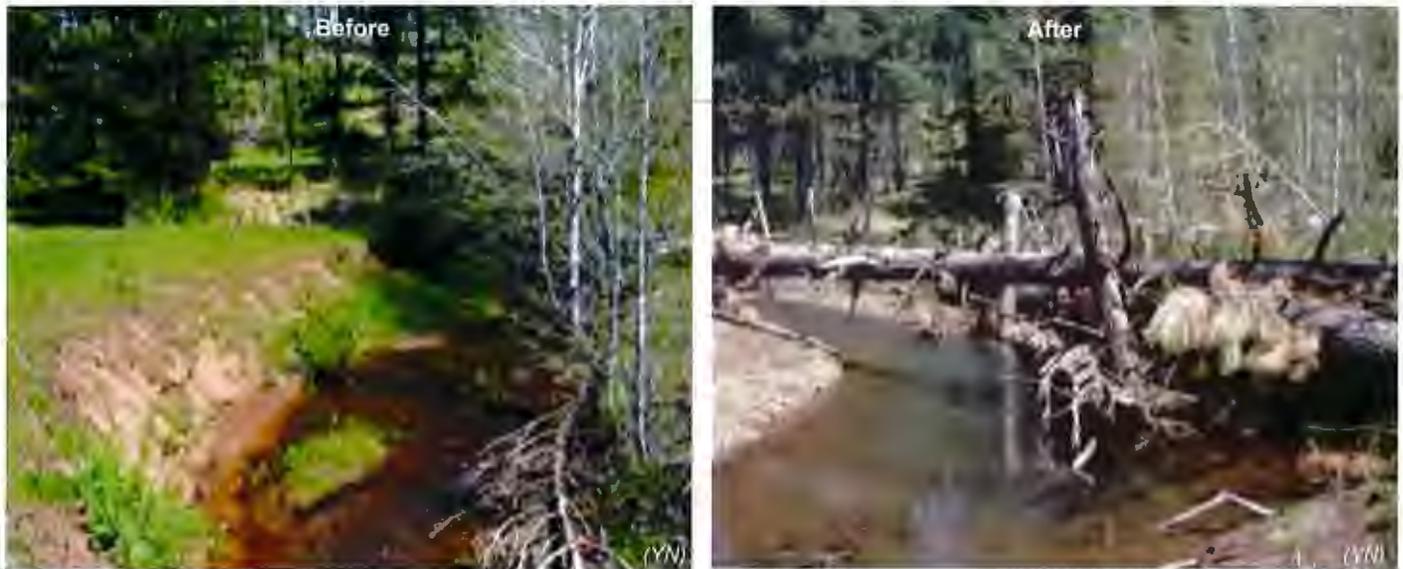
- 8 miles of road are being removed so the river can access the floodplain
- 9,500 native plants installed
- 45 pieces of large wood placed in side channels and backwaters
- 14 culverts removed
- 20 acres of riparian/floodplain now accessible

Benefits

- Restored stream processes
- Reduced habitat fragmentation
- Restored habitat complexity and floodplain/side channel connection
- Increased habitat quantity and diversity
- Sustained wood inputs



Tepee Creek Meadows Restoration (Phase 2)



Fish Present: Steelhead

Problem: Representing some of the most important rearing habitat for steelhead in the subbasin, land-uses have downcut the creek by 3 to 5 feet resulting in a disconnection with the floodplain. Fish become stranded in the creek as it becomes dewatered from September through October.

Restoration Actions:

- Constructed riffles to build-up streambed
- Installed wood (harvested on-site) to prevent lateral erosion, enhance pool habitat, and slow flows
- Meadow revegetated with shrubs, grasses, and forbes
- 0.7 miles of stream reconnected with its floodplain
- 0.4 miles of historic channel reactivated

Benefits

- Improved in-channel habitat for spawning and rearing
- Meadow restored to promote traditional medicinal and food plants
- Late-season flows extended by raising water table and floodplain storage

KLICKITAT SUBBASIN

PRODUCTION

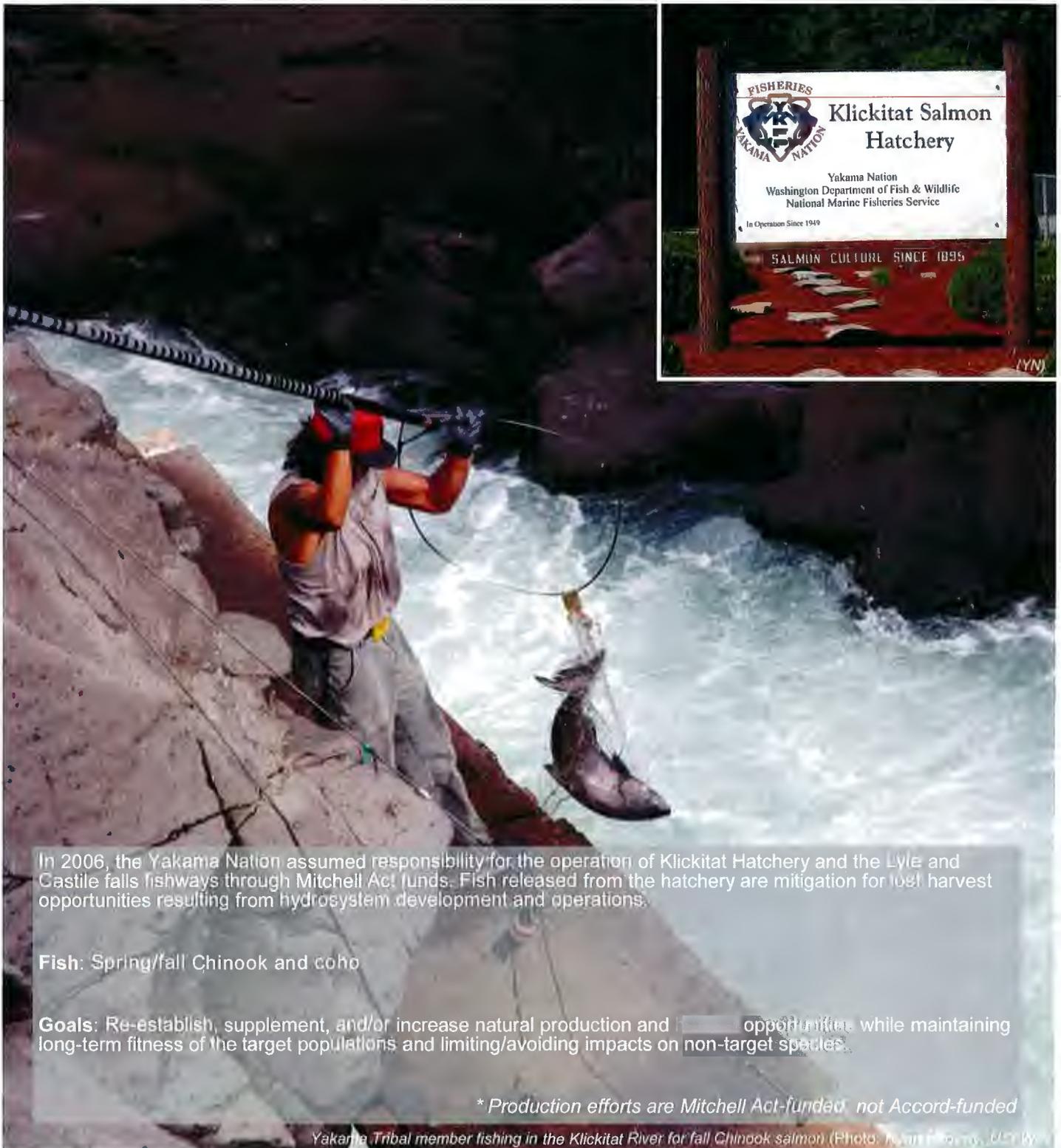
Accord-funded Production Actions Implemented from 2008 to 2017



Accord funded actions reported as of 7/11/2017 at cbfish.org
Many sites overlapping, all may not be visible.

Sources: Esri, USGS, NOAA

YAKAMA NATION PRODUCTION IN THE KLICKITAT SUBBASIN



In 2006, the Yakama Nation assumed responsibility for the operation of Klickitat Hatchery and the Lyle and Castile falls fishways through Mitchell Act funds. Fish released from the hatchery are mitigation for lost harvest opportunities resulting from hydrosystem development and operations.

Fish: Spring/fall Chinook and coho

Goals: Re-establish, supplement, and/or increase natural production and harvest opportunities while maintaining long-term fitness of the target populations and limiting/avoiding impacts on non-target species.

** Production efforts are Mitchell Act-funded, not Accord-funded*

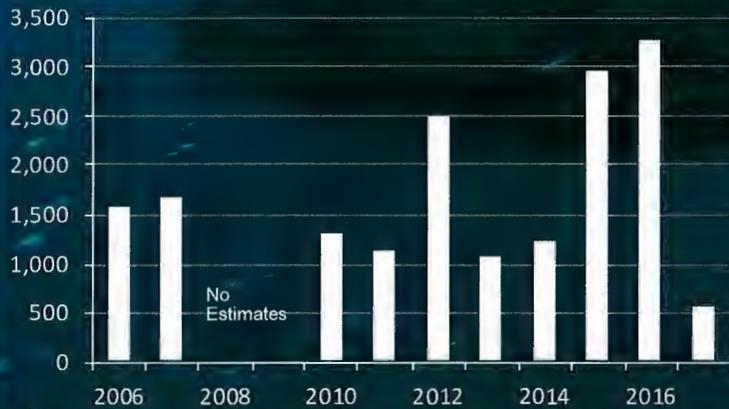
Yakama Tribal member fishing in the Klickitat River for fall Chinook salmon (Photo: Ryan F. Brown, DCFW)

KLICKITAT SUBBASIN

SPECIES STATUS

In the 1950s, an average of 2,523 spring Chinook (adults and jacks) returned annually to the Klickitat Subbasin; however, from 1977 to 2003 returns decreased to an average of 1,900 adult fish annually (includes hatchery-origin fish). The Klickitat Subbasin supports native winter and summer steelhead and historically provided a significant steelhead fishery. From 1987 to 2003, the average escapement of steelhead (winter and summer) was fewer than 300 fish (wild and hatchery). To restore these species, the Yakama Nation is restoring habitat and conducting research and monitoring of steelhead populations to evaluate the need for hatchery supplementation/reintroduction. Coho and fall Chinook are produced to mitigate for lost harvest opportunities, while limiting/avoiding impacts on non-target species.

Wild Summer/Winter Steelhead Population Estimate

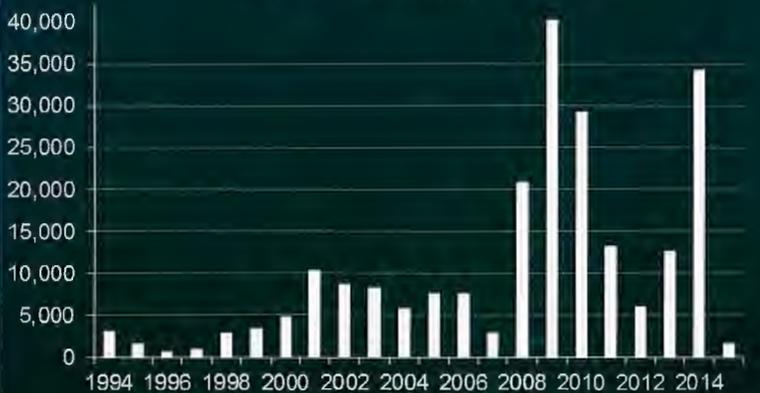


Mark-recapture population estimates. Source: Zendt, J. et al. 2016. Klickitat Subbasin Monitoring and Evaluation BPA Project # 1995-063-35. (available at cbfish.org)

Steelhead

- Spatially diverse population spawning throughout the lower and middle sections of the Klickitat Subbasin
- Majority of adult Skamania Hatchery fish returning from Klickitat River smolt releases do not appear to spawn in the wild
- Research into species status and needs, as well as priority habitat restoration for Rock Creek steelhead, is currently underway
- 94,500 smolts released in 2015 by WDFW (Non-Accord funded)

Coho Total Harvest (Sport and Tribal)



Source: YN. 2015 data preliminary. (Source YN, personal communication)

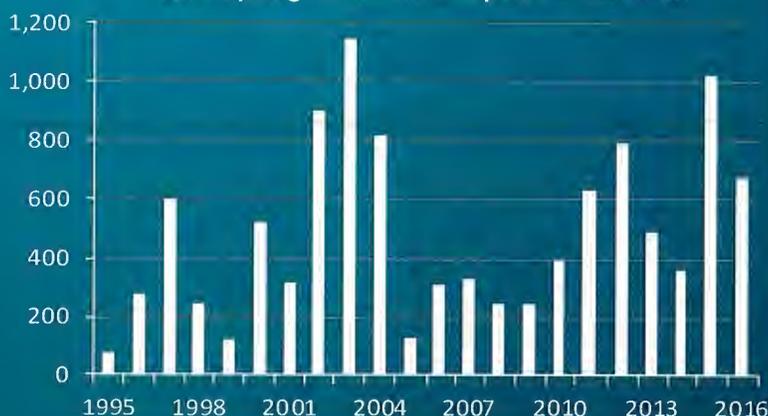
Coho

- Yakama Nation releases 1 million coho/year (combined with WDFW, 9.5 million released since 2008)
- On average, 12,779 more coho harvested annually 2008-2015 versus 2000-2007

Spring Chinook

- Most spawning occurs in the upper middle Klickitat River
- Recolonization slow above Castile Falls
- 5.1 million smolts (570,248/year average) released since 2008

Wild Spring Chinook Escapement Estimate

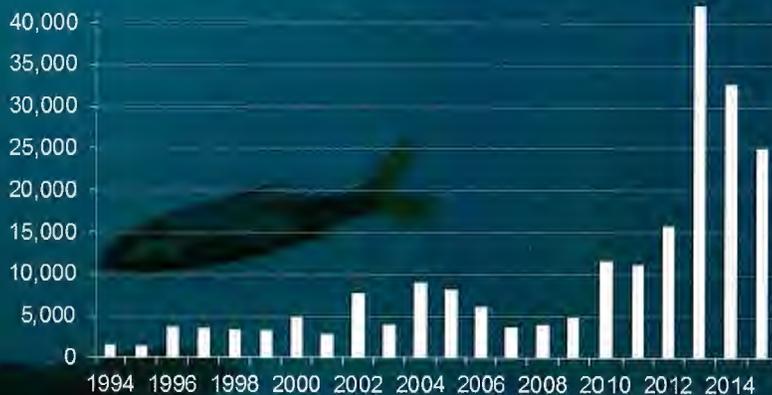


Based on red surveys, at times limited by conditions. Source: Zendt, J. et al. 2016. Klickitat Subbasin Monitoring and Evaluation BPA Project # 1995-063-35. (available at cbfish.org)

Fall Chinook

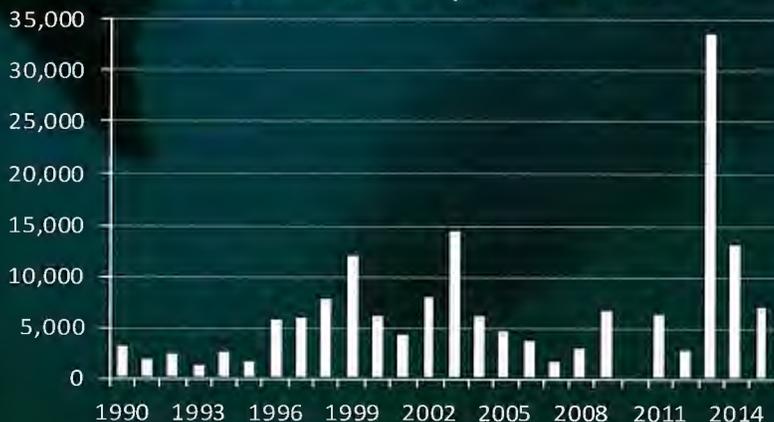
- Population sustained by hatchery production with most spawning occurring from the Klickitat Hatchery downstream to Twin Bridges
- Returns in recent years have been strong
- 30.8 million smolts (3.4 million/year average) released since 2008
- On average, 12,655 more fall Chinook harvested annually 2008-2015 versus 2000-2007

Klickitat Fall Chinook Harvest (Sport and Tribal)



Source: YN. 2015 data preliminary. (Source YN, personal communication)

Fall Chinook Escapement Estimate



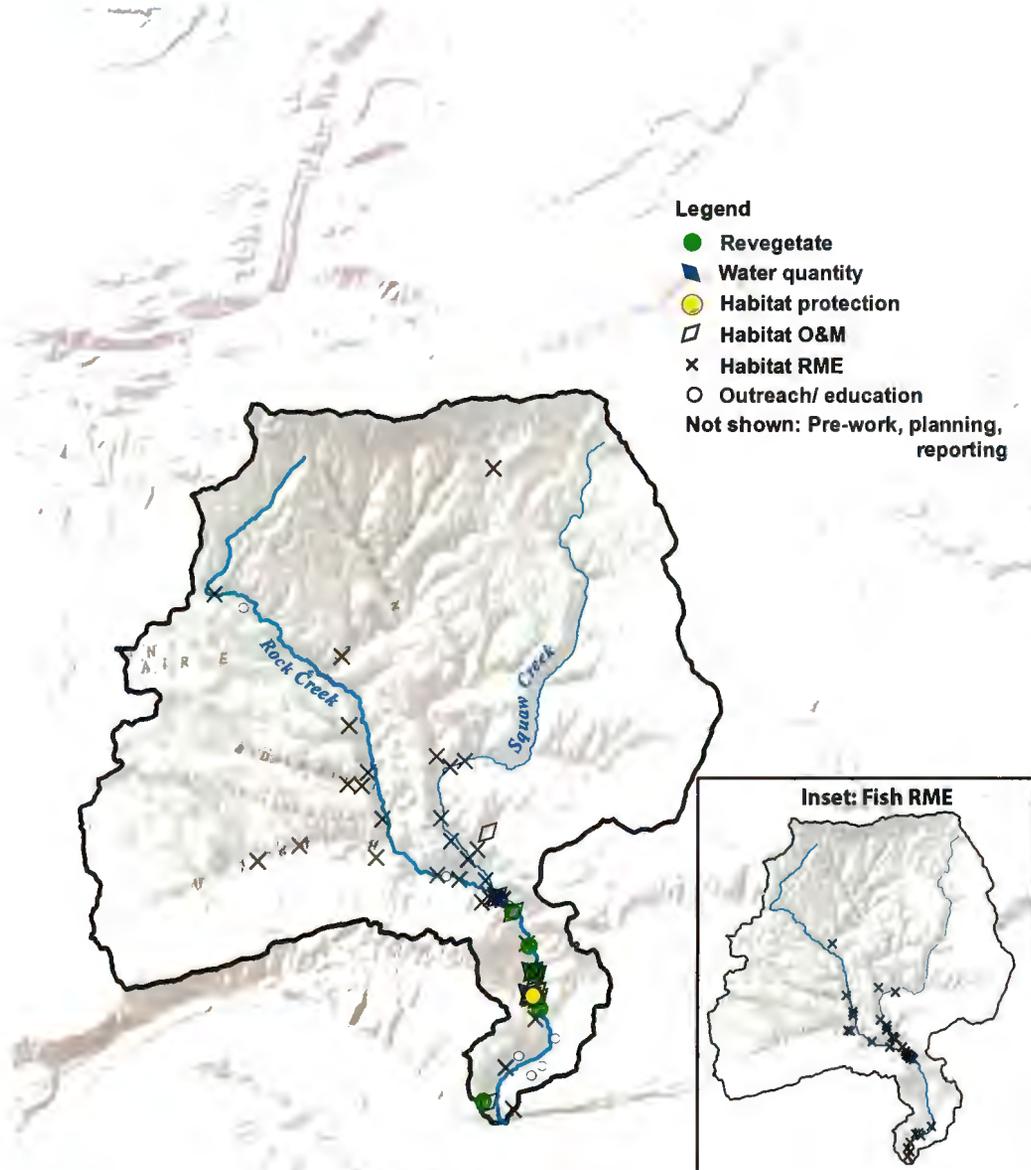
Expanded counts based on spawners plus carcasses, although visibility poor. Source: YN (Joe Zendt, personal communication)

(Photo Credit: Tony Grover, Flickr)

ROCK CREEK SUBBASIN

HABITAT

Accord-funded Habitat Actions Implemented from 2008 to 2017



Accord funded actions reported as of 7/11/2017 at cbfish.org
Many sites overlapping, all may not be visible.

Sources: Esri, USGS, NOAA

ECOLOGICAL CONCERNS IN THE ROCK CREEK SUBBASIN

Ecological Concern	YN Addressing*
Decreased water quantity	○
Altered flow timing	○
Instream structural complexity**	○
Bed and channel form	○
Riparian vegetation	●
Floodplain condition	○
Side channel/wetland conditions	○
Temperature	●
Competition	○
Altered prey species composition, diversity	○
Altered primary productivity	○
Oxygen	○
Turbidity	○
Increased sediment quantity	●
Toxic contaminants**	○
Projects addressing:	● Numerous ○ Many ○ Some ○ Not directly

(Rankings relative within this subbasin only)



*Major ECs affecting listed salmonids, as identified in CRITFC PATS local expert evaluation (2015). ECs being addressed by Accord-funded projects as of 07/11/2017, as reported in cbfish.org. EC assignments from BPA, HWS reference, refined by STAR. Additional ECs possibly not listed.
 **Instream complexity indirectly addressed through LWD recruitment. Toxics indirectly addressed through outreach.

STREAM FUNCTIONS RESTORED

Since 2008, the Yakama Nation has completed a number of projects that have restored stream functions to sustain salmon and steelhead in the Rock Creek Subbasin

Wetland Habitat

- 0.3 acres improved

Riparian Habitat

- 15 miles treated/improved
- 65 acres improved

Upland Habitat

- 24 acres of vegetation maintained
- 14 acres treated/improved

Outreach

- 540 people contacted

*BPA-funded metrics reported to cbfish.org 1/1/2008- 07/11/2017

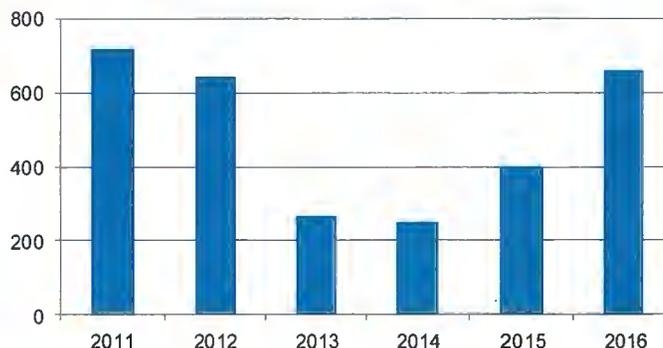
Steelhead Status Update

Historically, steelhead runs occurred in Rock Creek; however, by the 1990s the population had become depressed.

- Recent estimates indicate the population's 12-year average is \geq the Minimum Viability Abundance Threshold

Continuing surveys of population distribution, abundance, movement, relatedness with other populations, and habitat conditions will inform the implementation of the most effective restoration strategies.

Rock Creek Steelhead Abundance Estimate*



*Poor visibility can lead to underestimates. Based on raw redd count x 2.5. Source: YN

WHITE SALMON SUBBASIN

PROJECT SPOTLIGHT

Condit Dam Removal and Recovery*

Background

- Located 3.3 river miles upstream of the Columbia River confluence
- Built in 1913 — barrier to migratory fishes
- Important ancestral area — Yakama Nation advocated removal for two decades
- Breached October 2011 — removal completed September 2012
- Among the largest dams removed in the U.S.

Fish Recolonization

- 5-15 miles of spawning habitat accessed for spring and fall Chinook, 33 miles for steelhead
- Fish recolonizing naturally
- Salmon and steelhead accessed habitat the spring following breaching
- Steelhead and spring/tule/bright fall Chinook observed spawning in the accessed habitat
- Juvenile anadromous salmonids observed in accessed area
- Pacific lamprey documented in the accessed area
- Tribal harvest currently closed to allow for recolonization



Condit Dam Removal (Photo: Andy Maser)

Habitat Restoration of the Former Reservoir



Restoring habitat in the former reservoir location.

Problem: A large amount of sediment accumulated in the reservoir during the 99 years of impoundment.

Objective: Ecological restoration, community involvement, and re-establish culturally important species.

Actions:

- Grade accumulated sediment
- Plant native vegetation

Results:

- Landscape stabilized through grading
- Planted more than 7400 native plants (34 species) with over 500 volunteers assisting
- The Yakama Nation and Mid-Columbia Fisheries Enhancement Group planted 3 acres with native vegetation (PacifiCorp revegetated the remaining 57 acres)

Restoration of the River Mouth - Scheduled Start Date Winter 2017/18

Problem: Sedimentation filled the boat basin following the removal of Condit Dam restricting access to the Underwood In-Lieu site.

Objective: Reduce shallow water habitat and restore access to the Underwood In-Lieu Site.

Actions:

- Sediment that filled the boat basin will be removed in the winter of 2017/18 and used to develop riparian islands

Anticipated Results:

- Gain access to boat basin
- Reduction of shallow warm-water habitat at the mouth of the White Salmon River, greatly reducing stranding of juvenile salmonids and lamprey during Bonneville pool fluctuations.



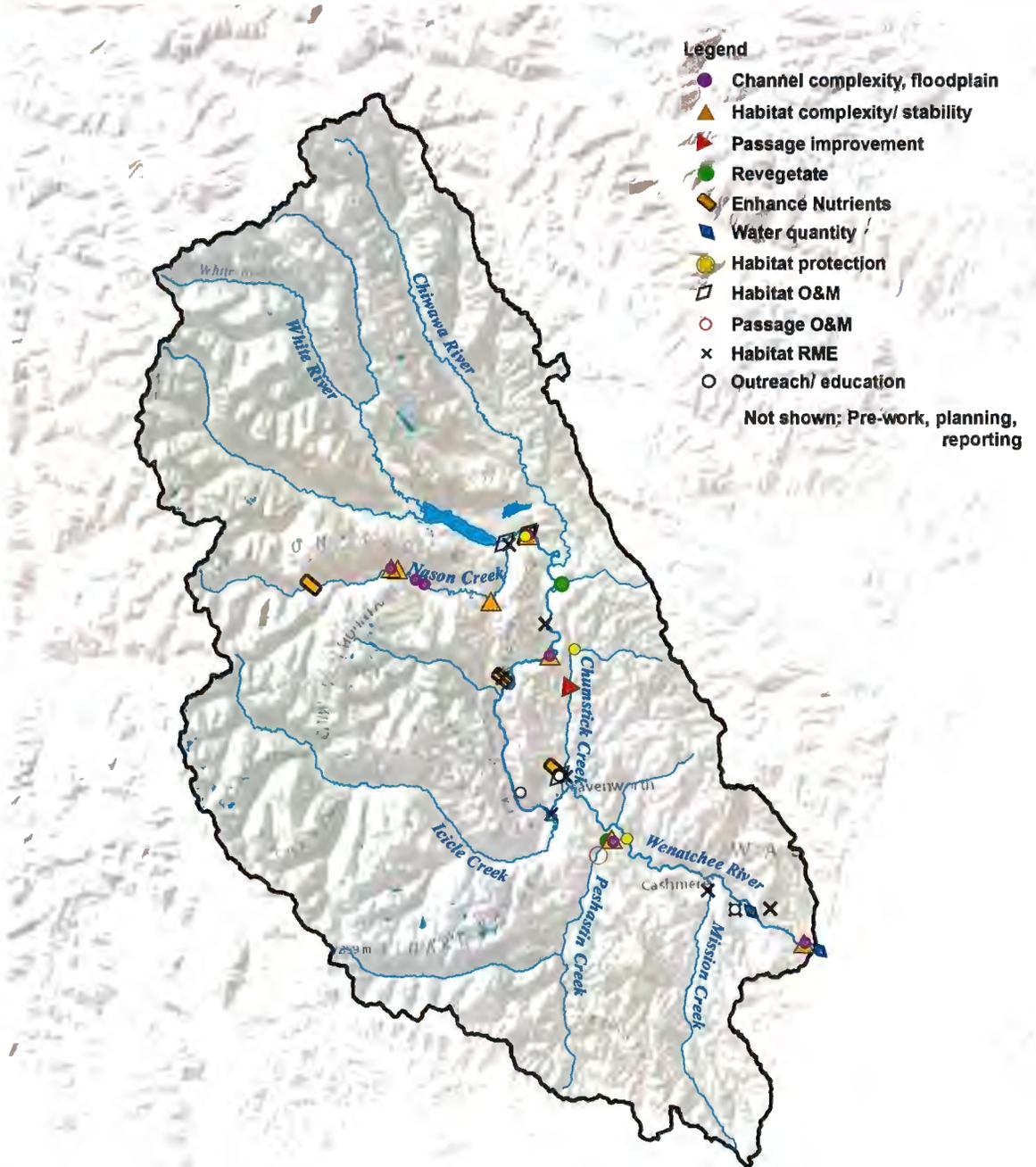
(Photo: PacifiCorp)

White Salmon River mouth in February 2012.

**WENATCHEE
SUBBASIN**

HABITAT

Accord-funded Habitat Actions Implemented from 2008 to 2017



Accord funded actions reported as of 7/11/2017 at cbfish.org
Many sites overlapping, all may not be visible.
Sources: Esri, USGS, NOAA

ECOLOGICAL CONCERNS IN THE WENATCHEE SUBBASIN

Ecological Concern	YN Addressing*
Altered primary productivity	①
Instream structural complexity	●
Side channel/wetland conditions	●
Man-made barriers	④
Bed and channel form	●
Decreased water quantity	①
Riparian vegetation	①
Floodplain condition	④
Increased sediment quantity	①
Temperature	●
Mechanical injury	○
Projects addressing: ●Numerous ①Many ④Some ○Not directly (Rankings relative within this subbasin only)	



Chumstick North bridge replacement/fish access project (YN)

*Major ECs affecting listed salmonids, as identified in CRITFC PATS local expert evaluation (2015). ECs being addressed by Accord-funded projects as of 07/11/2017, as reported in cbfish.org. EC assignments from BPA, HWS reference, refined by STAR. Additional ECs possibly not listed.

STREAM FUNCTIONS RESTORED

Since 2008, the Yakama Nation has completed a number of projects that have restored stream functions to sustain salmon and steelhead in the Wenatchee Subbasin.

Fish Passage

- 0.5 miles of habitat now accessible

Wetland Habitat

- 2.8 acres improved

Outreach

- 3,700 people contacted

Water Quantity

- 28 miles of stream with improved water management
- 70 cfs of flow kept instream

Riparian Habitat

- 5.2 miles improved

Water Quality

- 7,200 pounds of nutrients added to 70 miles of stream

Instream Habitat

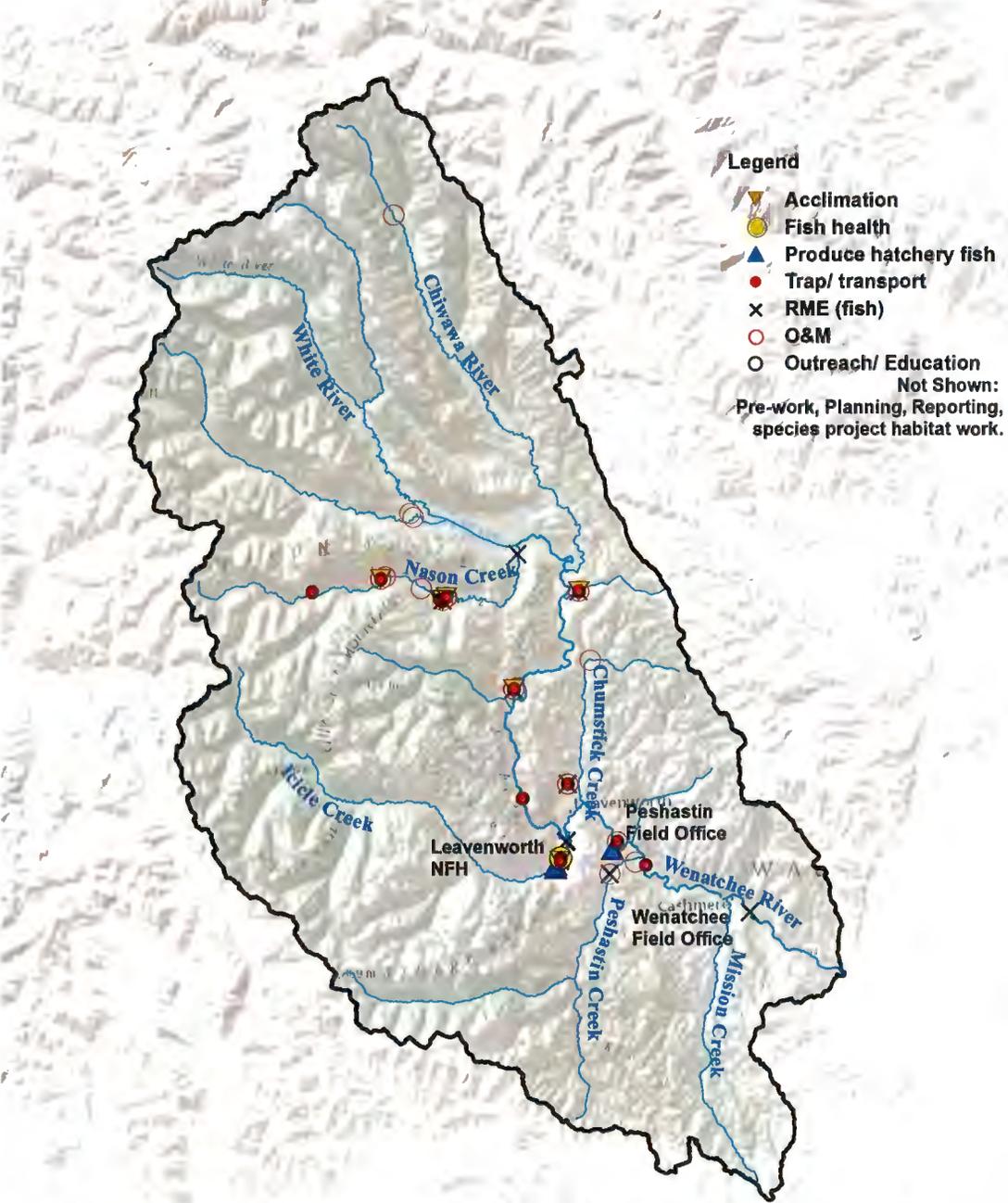
- 84 structures installed
- 23 pools created
- 3.4 miles of stream improved
- 0.25 miles of stream channel created

Metrics reported to cbfish.org as of 07/11/2017

**WENATCHEE
SUBBASIN**

PRODUCTION

Accord-funded Production Actions Implemented from 2008 to 2017



Accord funded actions reported as of 7/11/2017 at cbfish.org
Many sites overlapping, all may not be visible.

Sources: Esri, USGS, NOAA

YAKAMA NATION PRODUCTION IN THE WENATCHEE SUBBASIN



REINTRODUCTION OF COHO

Coho were extirpated from the middle reach of the Columbia River in the early-1990s. The reintroduction of coho in the middle and upper Columbia River Basin has been dependent on releases of hatchery-origin coho. The Yakama Nation's reintroduction program initially depended on broodfish from the lower Columbia River; however, the program now only uses in-basin, locally adapted broodstock. To help restore steelhead production, the Yakama Nation has participated in research on the fidelity of smolts to areas where they can return as adults and rebuild naturally spawning populations.

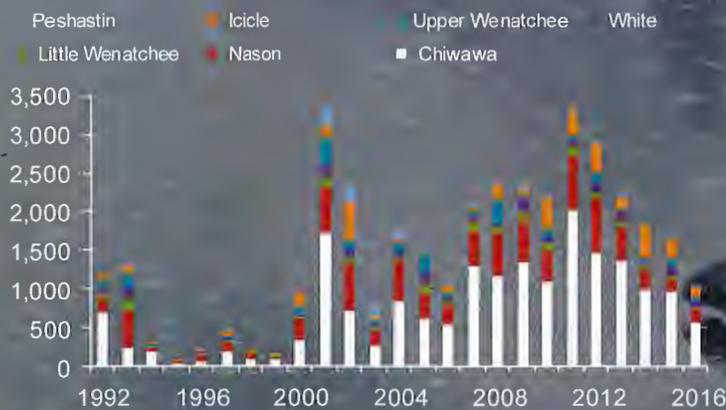
WENATCHEE SUBBASIN

SPECIES STATUS

During the pre-treaty era, salmonids were abundant in the Wenatchee Subbasin; however, exploitation and habitat degradation depleted the runs. Spring Chinook redd counts have fluctuated since the 1950s. From 1958 to 2002, the spring Chinook redd count average and escapement estimate were 560 and 1,200, respectively. Decadal counts for summer steelhead have fluctuated since the 1930s, with a significant increase observed in the early-2000s.* Decadal averages of summer Chinook returns from the 1930s through 2002 indicate an increasing trend. Coho, extirpated in the early-1900s, have recently been reintroduced by the Yakama Nation. Natural reproduction is now occurring in the subbasin.

* Icicle Creek steelhead originally hatchery-origin and are not ESA-listed

Spring Chinook Escapement Estimate, Natural and Hatchery

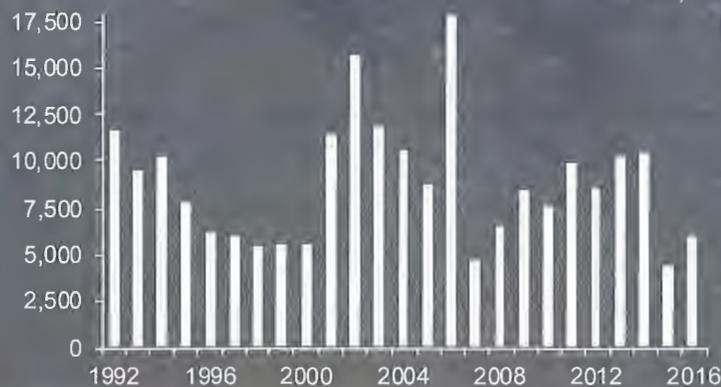


Based on expanded redd counts. Source: Hillman, T., et al. 2017. Monitoring and evaluation of the Chelan and Grant County PUDs hatchery programs: 2016 Annual PUD Report. (www.gcpud.org)

Spring Chinook

- Average 655 more spawners per year, 2008-2016 versus 1999-2007
- Hatchery releases are CPUD/USFWS/WDFW mitigation and supplementation efforts
- Yakama Nation will be assisting with experimental acclimation to improve homing to areas of better habitat quality

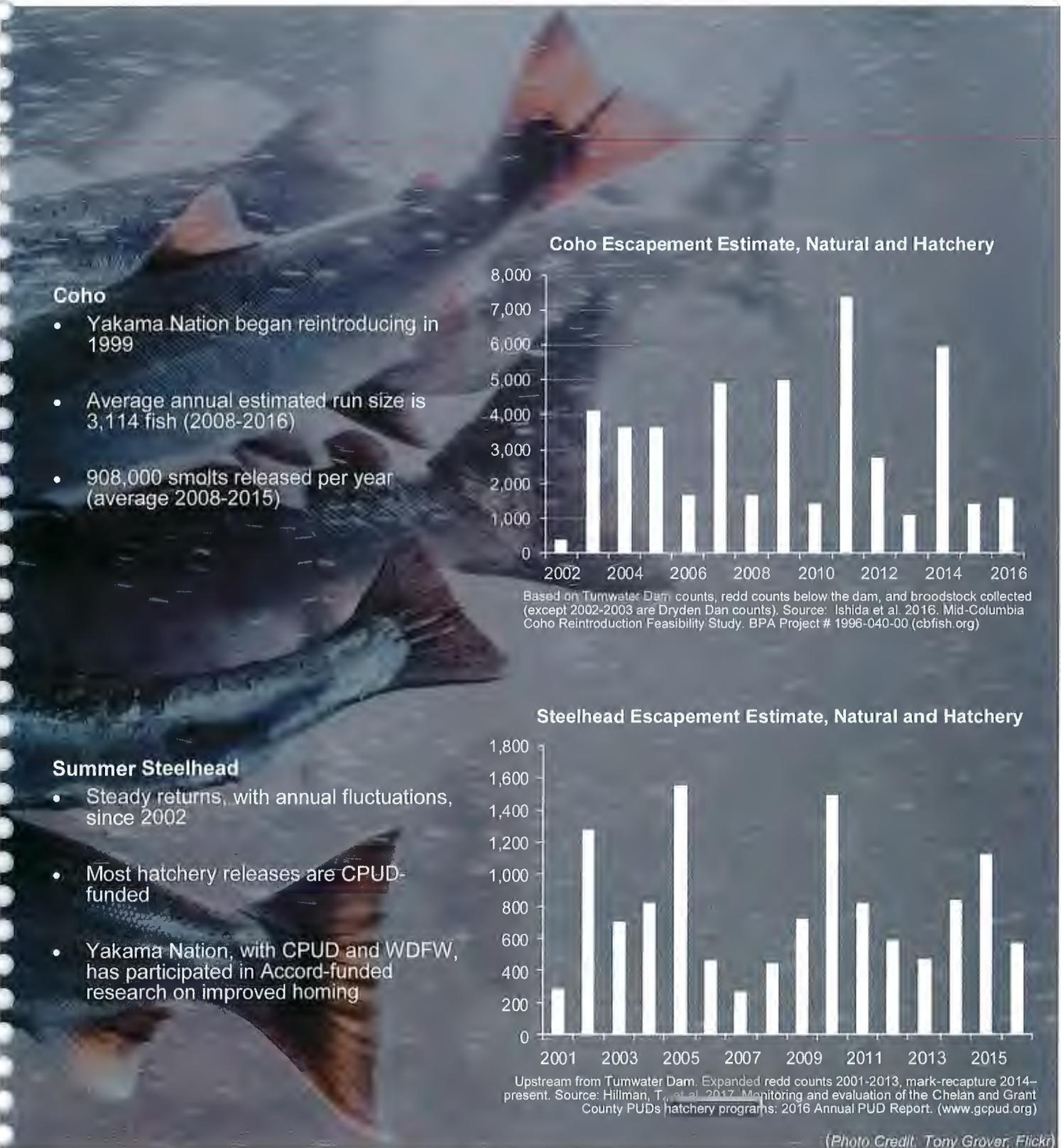
Summer Chinook Escapement Estimate, Natural and Hatchery



Based on expanded redd counts. Source: Hillman, T., et al. 2017. Monitoring and evaluation of the Chelan and Grant County PUDs hatchery programs: 2016 Annual PUD Report. (www.gcpud.org)

Summer Chinook

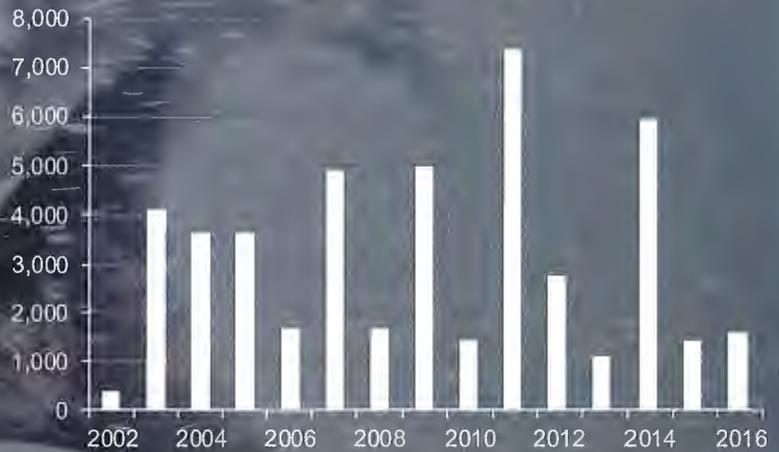
- Purpose of CPUD hatchery releases is for increased harvest opportunity
- Hatchery returns segregated from natural tributary spawning populations



Coho

- Yakama Nation began reintroducing in 1999
- Average annual estimated run size is 3,114 fish (2008-2016)
- 908,000 smolts released per year (average 2008-2015)

Coho Escapement Estimate, Natural and Hatchery

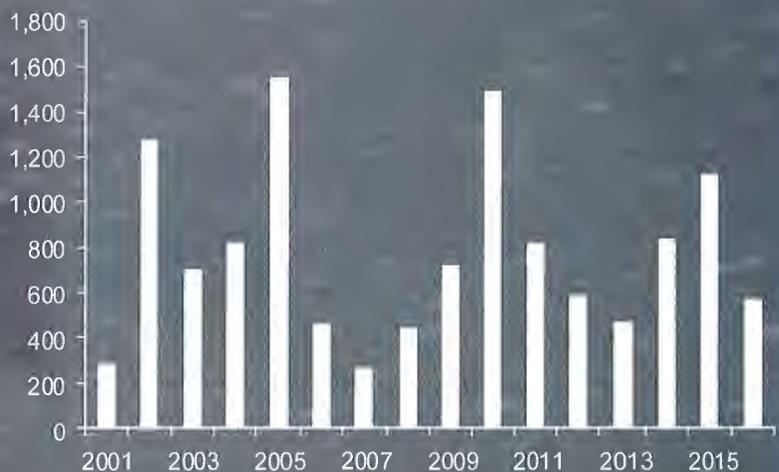


Based on Tumwater Dam counts, redd counts below the dam, and broodstock collected (except 2002-2003 are Dryden Dam counts). Source: Ishida et al. 2016, Mid-Columbia Coho Reintroduction Feasibility Study. BPA Project # 1996-040-00 (cbfish.org)

Summer Steelhead

- Steady returns, with annual fluctuations, since 2002
- Most hatchery releases are CPUD-funded
- Yakama Nation, with CPUD and WDFW, has participated in Accord-funded research on improved homing

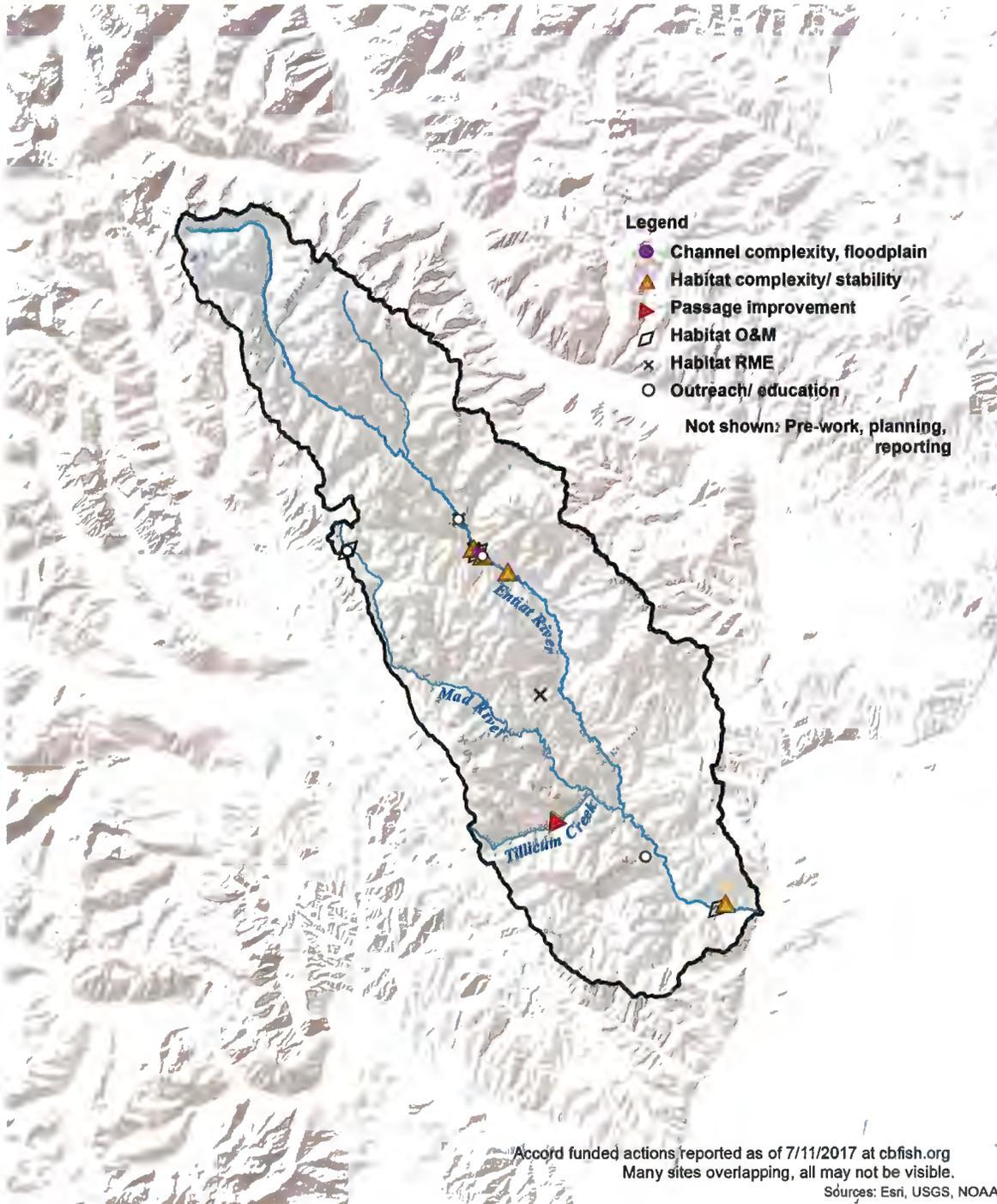
Steelhead Escapement Estimate, Natural and Hatchery



Upstream from Tumwater Dam. Expanded redd counts 2001-2013, mark-recapture 2014-present. Source: Hillman, T., et al. 2017. Monitoring and evaluation of the Chelan and Grant County PUDs hatchery programs: 2016 Annual PUD Report. (www.gcpud.org)

(Photo Credit: Tony Grover, Flickr)

Accord-funded Habitat Actions Implemented from 2008 to 2017



Accord funded actions reported as of 7/11/2017 at cbfish.org
Many sites overlapping, all may not be visible.
Sources: Esri, USGS, NOAA

ECOLOGICAL CONCERNS IN THE ENTIAT SUBBASIN

Ecological Concern	YN Addressing*
Floodplain condition	<input type="radio"/>
Instream structural complexity	<input checked="" type="radio"/>
Riparian vegetation	<input type="radio"/>
Increased sediment quantity	<input checked="" type="radio"/>
Bed and channel form	<input checked="" type="radio"/>
Decreased water quantity	<input type="radio"/>
Altered primary productivity**	<input type="radio"/>
Man-made barriers	<input type="radio"/>
Mechanical injury	<input type="radio"/>
Side channel/wetland conditions	<input type="radio"/>
Increased water quantity**	<input type="radio"/>

Projects addressing: Numerous Many Some Not directly
(Rankings relative to this subbasin only)



Keystone Canyon large wood material project (YN)

*Major ECs affecting listed salmonids, as identified in CRITFC PATS local expert evaluation (2015). ECs being addressed by Accord-funded projects as of 07/11/2017, as reported in cbfish.org. EC assignments from BPA, HWS reference, refined by STAR. Additional ECs possibly not listed.
**Altered flow timing shown here, a related issue. Altered primary productivity indirectly addressed through vegetative restoration.

STREAM FUNCTIONS RESTORED

Since 2008, the Yakama Nation has completed a number of projects that have restored stream functions to sustain salmon and steelhead in the Entiat Subbasin.

Fish Passage

- 1 fish passage barrier removed
- 1 mile of habitat now accessible

Outreach

- 16,500 people contacted

Upland Habitat

- 1.5 acres treated/improved

Riparian Habitat

- 3.25 miles improved

Instream Habitat

- 28 log/ rootwad structures installed
- 300 boulder structures installed
- 3.25 miles of stream improved

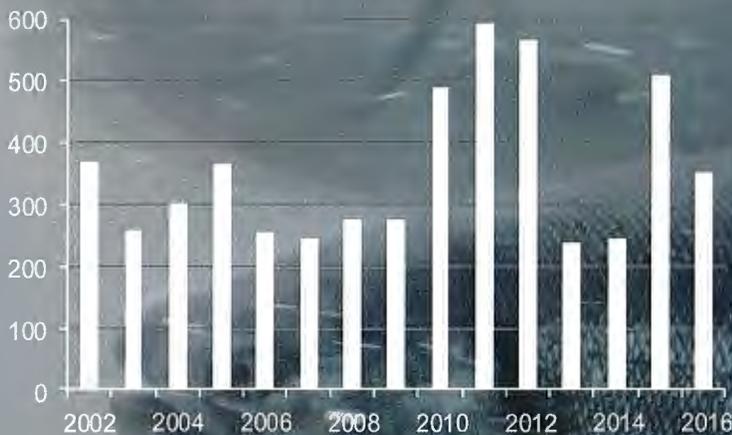
*BPA-funded metrics reported to cbfish.org 1/1/2008-07/11/2017

ENTIAT SUBBASIN

SPECIES STATUS

Salmon and steelhead were abundant in the Entiat Subbasin during the pre-development period; however, resource exploitation depleted runs and in some cases led to their extirpation. Between 1992 and 2002, the long-term averages for redd counts and escapement were 110 and 215, respectively, for spring Chinook in the Entiat Subbasin. For summer/fall Chinook, an average of 75 redds were observed annually between 1994 and 2002.

Spring Chinook Escapement Estimate, Natural and Hatchery



Based on redd expansion. Source: Fraser, G. And C. Hamstreet 2017. Chinook Salmon spawning ground surveys on the Entiat River, 2016. (www.fws.gov)

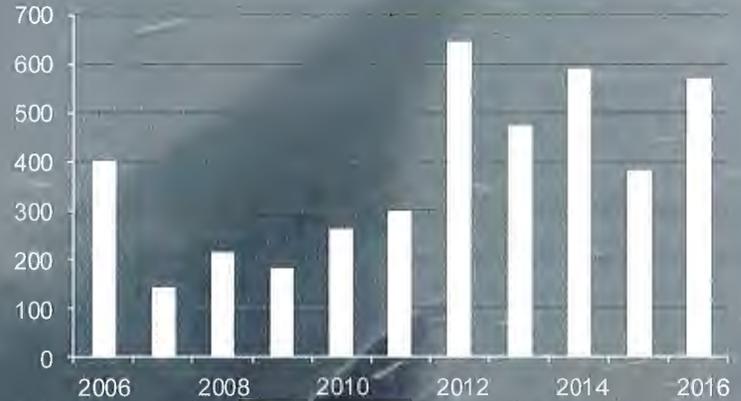
Spring Chinook

- Average spawning escapement during the Accord period was 95 more fish annually than for the years between 2002 and 2007
- No juvenile hatchery supplementation since 2008

Summer Chinook

- Not considered native to the Entiat
- With no releases since 1976, releases were reinitiated in 2011
- Raised at Entiat National Fish Hatchery, the purpose of CPUD/USFWS/WDFW hatchery releases are for increased harvest opportunity
- Hatchery returns are segregated from natural tributary spawning populations

Summer Chinook Escapement Estimate, Natural and Hatchery

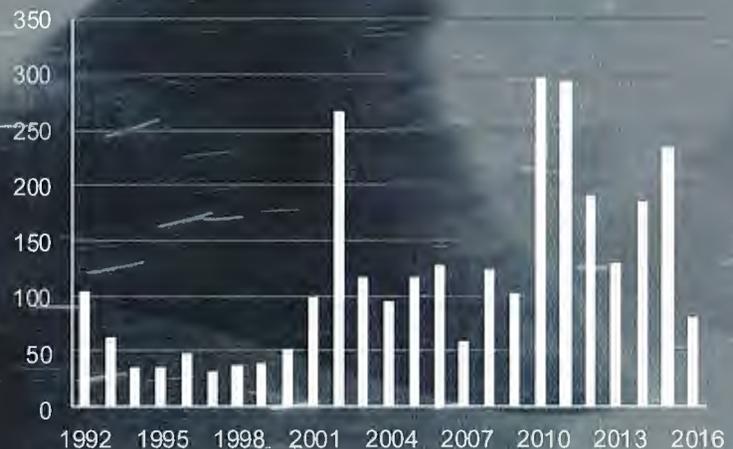


Based on Index and expanded reach redd counts. Source: Fraser, G. And C. Hamstreet 2017. Chinook Salmon spawning ground surveys on the Entiat River, 2016. (www.fws.gov)

Summer Steelhead

- 74 more natural spawners per year on average 2008-2016 versus 1999-2007
- Hatchery releases are a DPUD/WDFW/USFWS effort based out of Winthrop National Fish Hatchery

Natural-Origin Steelhead Spawning Escapement Estimate



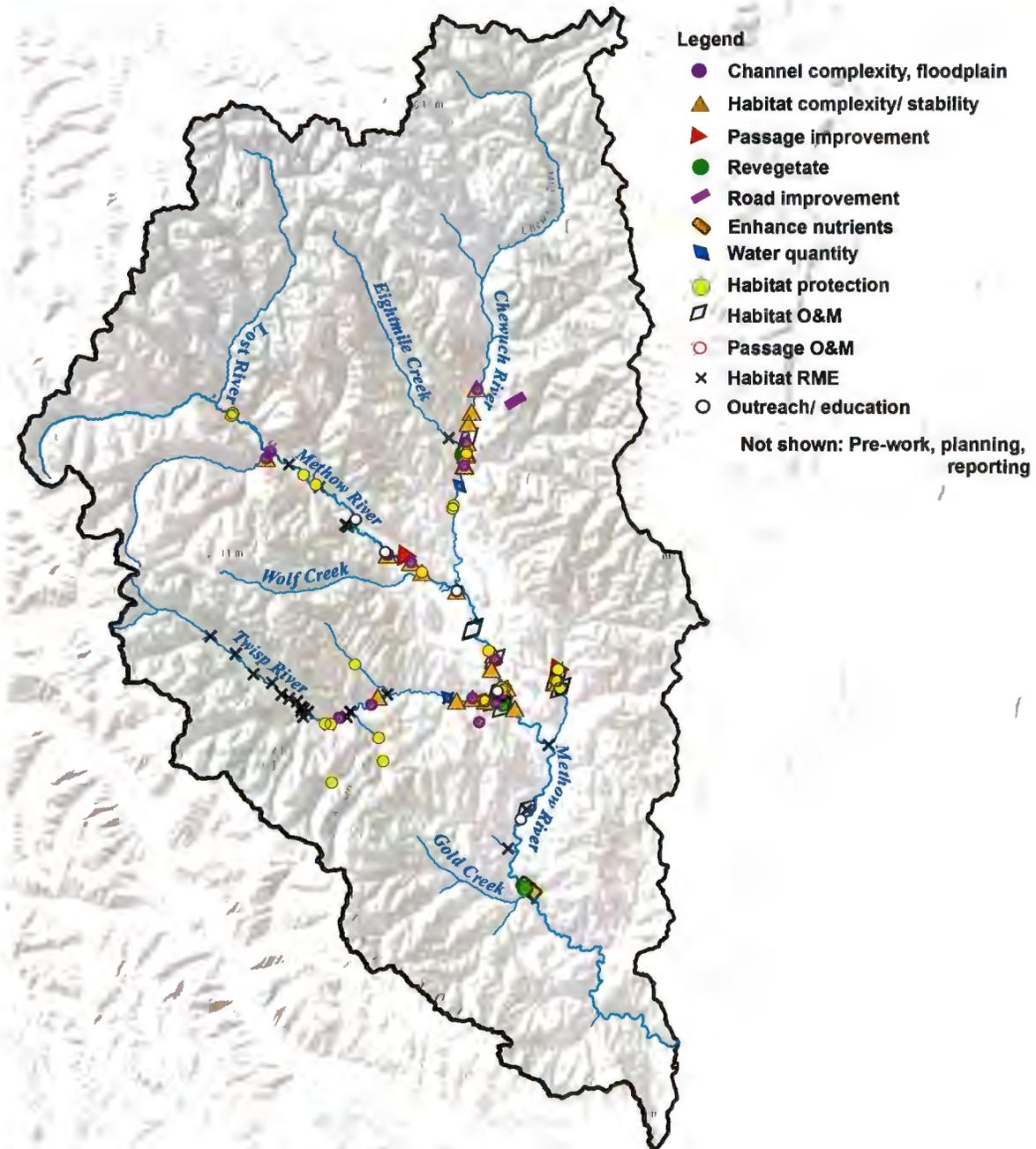
Based on Priest Raps minus Wells Dam counts; harvest, pre-spawn mortality and broodstock removed. Apportioned by radio telemetry studies. Source: WDFW (fortress.wa.gov)

[Photo Credit: Tony Grover, Flickr]

**METHOW
SUBBASIN**

HABITAT

Accord-funded Habitat Actions Implemented from 2008 to 2017



Accord funded actions reported as of 7/11/2017 at cbfish.org
 Many sites overlapping, all may not be visible.
 Sources: Esri, USGS, NOAA

ECOLOGICAL CONCERNS IN THE METHOW SUBBASIN

Ecological Concern	YN Addressing*	
Increased sediment quantity	●	 <p><i>Juvenile salmonids rearing in a restoration site in Twisp River, YN.</i></p>
Instream structural complexity	●	
Side channel/ wetland	○	
Decreased water quantity	○	
Bed and channel form	○	
Riparian vegetation	●	
Man-made barriers	○	
Altered primary productivity	○	
Floodplain condition	○	
Temperature	●	
Projects addressing: ● Numerous ○ Many ○ Some ○ Not directly (Rankings relative to this subbasin only)		

*Major ECs affecting listed salmonids, as identified in CRITFC PATS local expert evaluation (2015). ECs being addressed by Accord-funded projects as of 07/11/2017, as reported in cbfish.org. EC assignments from BPA, HWS reference, refined by STAR. Additional ECs possibly not listed.

STREAM FUNCTIONS RESTORED

Since 2008, the Yakama Nation has completed a number of projects that have restored stream functions to sustain salmon and steelhead in the Methow Subbasin.

Fish Passage

- 2 miles of habitat now accessible

Upland Habitat

- 25 acres treated/improved
- 166 acres protected

Wetland Habitat

- 168.2 acres protected

Water Quality

- 1,500 pounds of trash collected
- 17,000 pounds of nutrients added to 85 miles of streams

Water Quantity

- 267 acre/feet water kept instream

Riparian Habitat

- 8.8 miles protected
- 4.5 miles improved
- 30 terrestrial structures installed

Instream Habitat

- 31 structures installed
- 17 logs installed
- 17 pools created
- 4.7 miles of stream improved
- 6 exclusion structures installed
- 161 beavers released
- 1.76 miles of stream channel created

Outreach

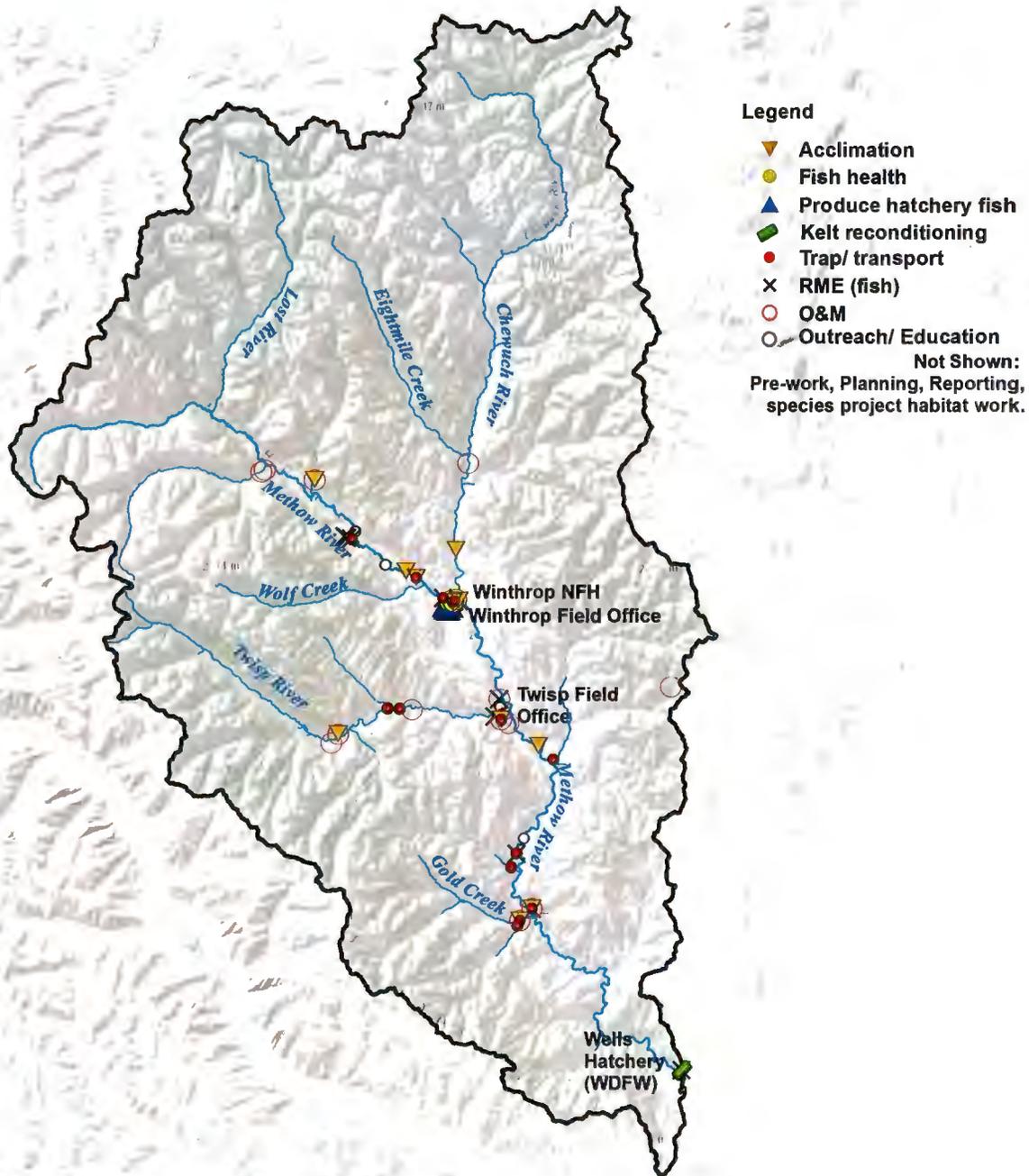
- 1,100 people contacted

*BPA-funded metrics reported to cbfish.org 1/1/2008- 07/11/2017

**METHOW
SUBBASIN**

PRODUCTION

Accord-funded Production Actions Implemented from 2008 to 2017

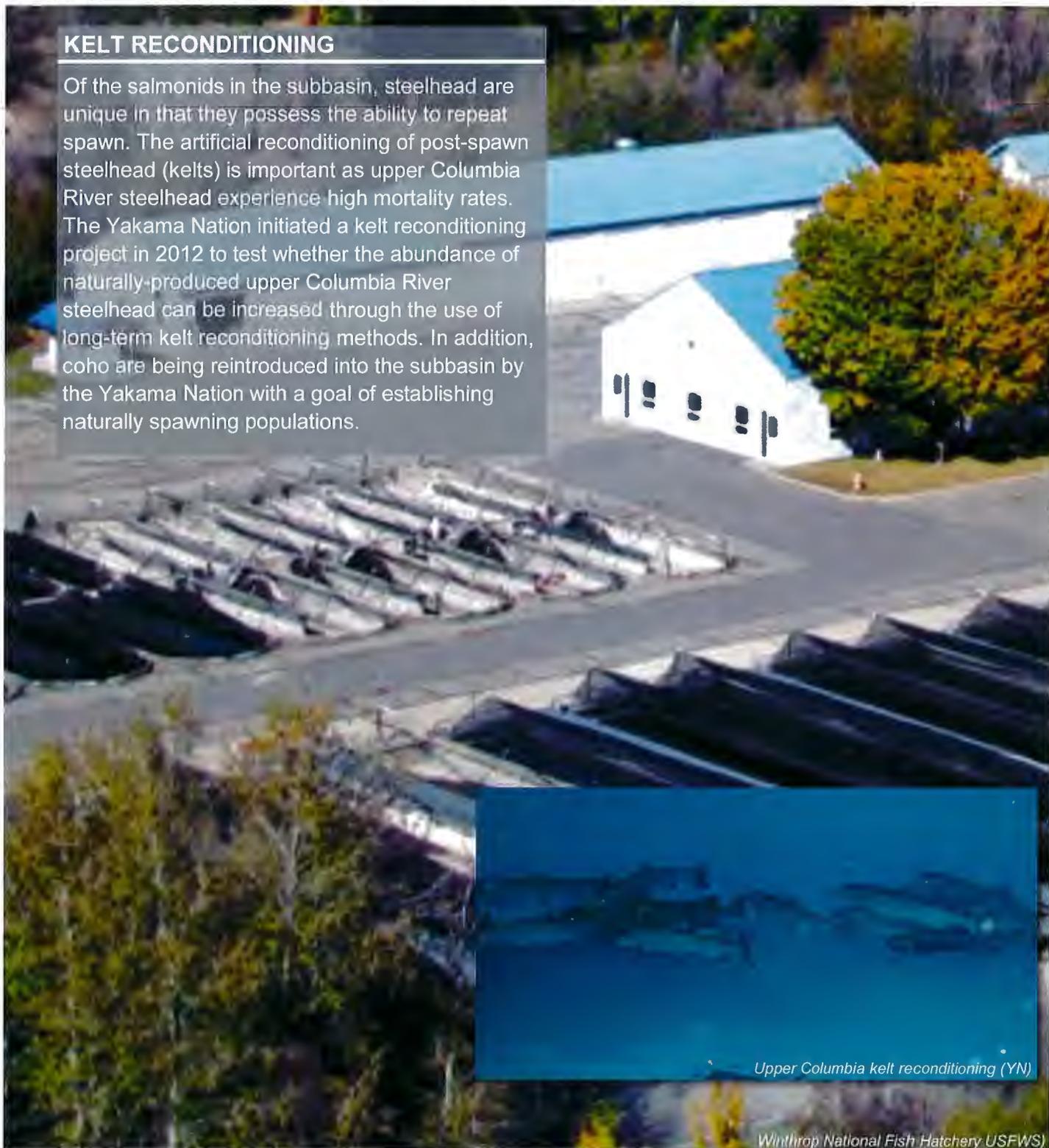


Accord funded actions reported as of 7/11/2017 at cbfish.org
 Many sites overlapping, all may not be visible
 Sources: Esri, USGS, NOAA

YAKAMA NATION PRODUCTION IN THE METHOW SUBBASIN

KELT RECONDITIONING

Of the salmonids in the subbasin, steelhead are unique in that they possess the ability to repeat spawn. The artificial reconditioning of post-spawn steelhead (kelts) is important as upper Columbia River steelhead experience high mortality rates. The Yakama Nation initiated a kelt reconditioning project in 2012 to test whether the abundance of naturally-produced upper Columbia River steelhead can be increased through the use of long-term kelt reconditioning methods. In addition, coho are being reintroduced into the subbasin by the Yakama Nation with a goal of establishing naturally spawning populations.



Upper Columbia kelt reconditioning (YN)

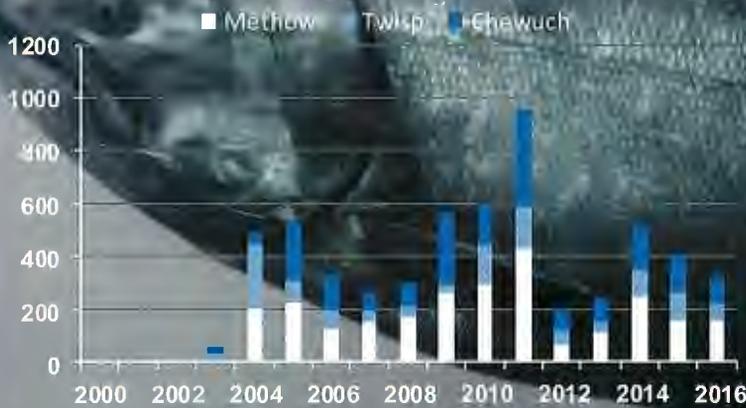
Wentworth National Fish Hatchery USFWS

METHOW SUBBASIN

SPECIES STATUS

Industrial development of the Columbia River, agricultural, forestry, and private development of the Methow Subbasin, combined with historically intensive fishing, have led to declines of wild salmonid populations. By the 1930s, only 200 to 400 adult spring Chinook returned to the subbasin. There have been large fluctuations in redd counts from the 1950s through the 1990s. For summer Chinook, the run size averaged approximately 1,000 adults from 1980 to the 1990s. Although the Methow Subbasin was once a productive steelhead system, the population now sustains itself only at a threshold population level. Coho, were extirpated in the early 1900s and have recently been reintroduced by the Yakama Nation, with natural reproduction now occurring.

Natural-Origin Spring Chinook Spawning Escapement Estimate

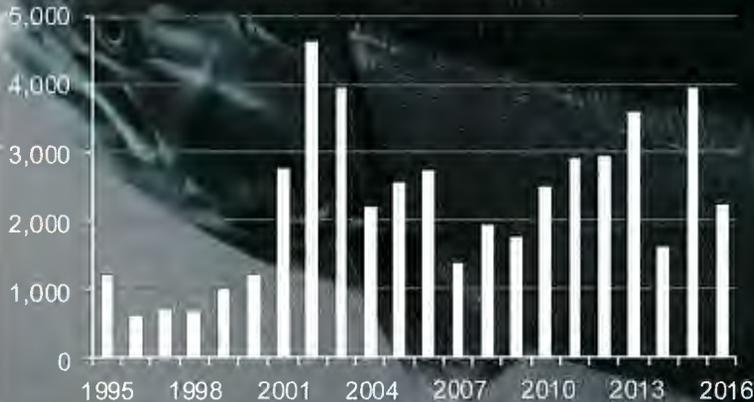


Expanded redd count. Source: Snow, C., et al. 2017. Monitoring and evaluation of the Wells Hatchery and Methow Hatchery programs: 2016 Annual PUD Report (DRAFT). (www.douglaspu.org)

Spring Chinook

- Although better than the 1990s, natural-origin spawners have stayed at low levels for the past 15 years
- Hatchery releases are CPUD/DPUD/USFWS mitigation and supplementation efforts
- Yakama Nation will be assisting with experimental acclimation to improve homing to areas of better habitat quality

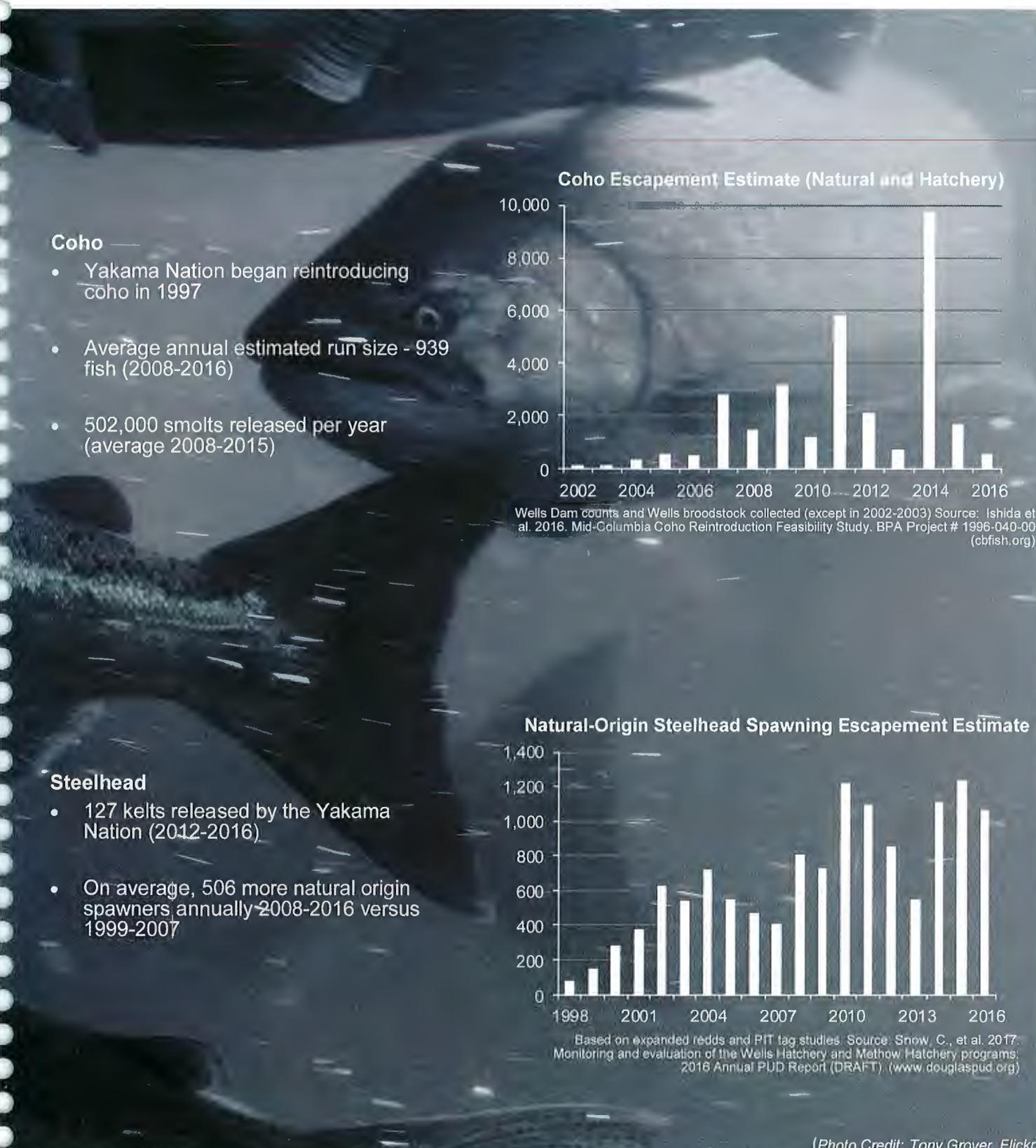
Summer Chinook Spawning Escapement Estimate (Natural and Hatchery)



Expanded redd count. Source: Hillman, T., et al. 2017. Monitoring and evaluation of the Chelan and Grant County PUDs hatchery programs: 2016 Annual PUD Report. (www.gcpud.org)

Summer Chinook

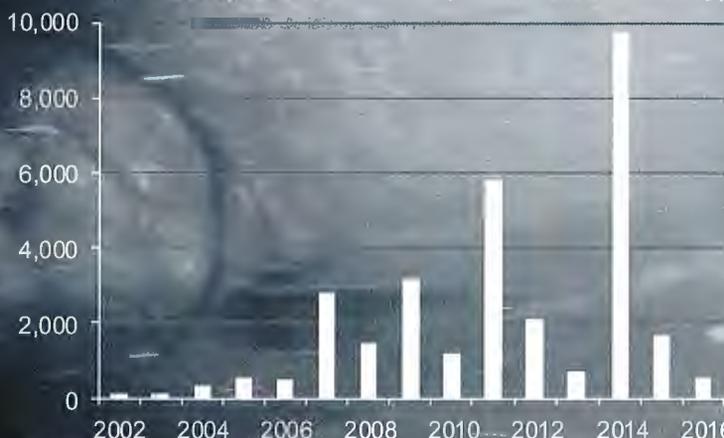
- Purpose of GPUD/CPUD/WDFW hatchery releases are for increased harvest opportunity
- Hatchery returns are segregated from natural tributary spawning populations



Coho

- Yakama Nation began reintroducing coho in 1997
- Average annual estimated run size - 939 fish (2008-2016)
- 502,000 smolts released per year (average 2008-2015)

Coho Escapement Estimate (Natural and Hatchery)

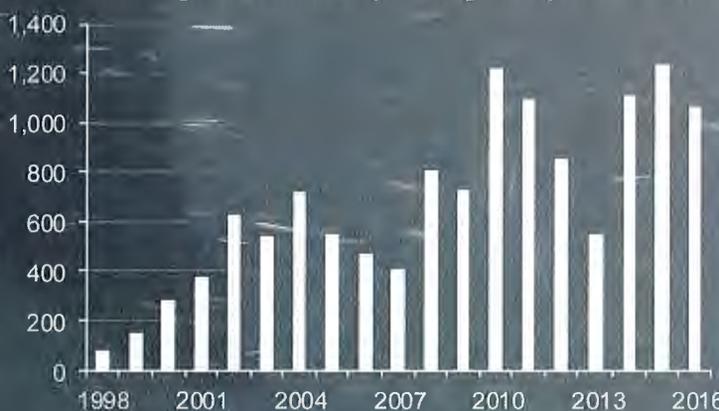


Wells Dam counts and Wells broodstock collected (except in 2002-2003) Source: Ishida et al. 2016. Mid-Columbia Coho Reintroduction Feasibility Study. BPA Project # 1996-040-00 (cbfish.org)

Steelhead

- 127 kelts released by the Yakama Nation (2012-2016)
- On average, 506 more natural origin spawners annually 2008-2016 versus 1999-2007

Natural-Origin Steelhead Spawning Escapement Estimate



Based on expanded redds and PIT tag studies. Source: Snow, C., et al. 2017. Monitoring and evaluation of the Wells Hatchery and Methow Hatchery programs: 2016 Annual PUD Report (DRAFT). (www.douglaspu.org)

(Photo Credit: Tony Grover, Flickr)

1890s Restoration Project (Methow Subbasin)



Fish Present: Endangered spring Chinook, threatened steelhead, and bull trout

Problem: Construction of Highway 20 and a flood control levee redirected the Methow River from the historic main channel, constraining it and reducing important juvenile salmon and steelhead habitat.

Restoration Actions:

- Recreated historic channel west of Highway 20
- Installed a groundwater gallery system of perforated pipe buried along the upstream end of the channel
- 56 wood structures installed to create cover habitat and pools
- Riparian zone revegetated with native trees and wetlands

Benefits

- New off-channel habitat provides refuge for rearing juvenile salmonids
- Improved flows provide cool water refuge in summer and an ice-free refuge in the winter
- Wetlands restored



Chewuch River Right Fish Enhancement Project (Methow Subbasin)

Fish Present: Endangered spring Chinook, threatened steelhead, and bull trout

Problem: Instream wood removal in the early 1900s and floodplain disconnection and development reduced complex fish habitat.

Restoration Actions:

- 2,700 foot historic side-channel excavated and reactivated with perennial flow
- 48 wood structures installed
- 1.55 acres of floodplain wetlands created

Benefits:

- Increased habitat complexity and quantity
- Side channel provides hydraulic refuge and rearing habitat for juvenile fish and pool habitat for staging adults
- Installed wood provides cover and creates/maintain scour pools



Project area after implementation.

3-D and 3-D LWM Revisited (Entiat Subbasin)



Fish Present: Endangered spring Chinook, threatened steelhead, and bull trout

Problem: Impacts from logging, splash-dams, bank armoring and flood control reduced habitat complexity (i.e., instream wood and wood recruitment) and disconnected the river from its floodplain.

Restoration Actions:

- 800 pieces of wood, including 10 bank-based structures installed
- Developed a connector channel to an existing pond
- Installed fabric enclosed soil lifts and revegetated the riparian area with native plants

Benefits:

- Increased instream complexity and diversity
- Provided access to off-channel rearing habitat and refuge
- Reconnected floodplain and side channel to maintain function of peripheral habitats
- Reduced erosion
- Wood enhanced backwater alcove and channels

Nason Creek Lower White Pine Groups 2 and 3 (Wenatchee Subbasin)

Fish Present: Endangered spring Chinook, threatened steelhead, and bull trout

Problem: Past management actions straightened and simplified the channel while disconnecting it from the floodplain. A lack of riparian vegetation, habitat complexity, and in-stream wood limit rearing habitat for fishes, and results in high stream temperatures.

Restoration Actions:

- 800 foot perennial groundwater alcove connected to existing oxbow pond
- 8 wood structures and scour pools installed
- Revegetated riparian areas
- 2 wetland benches created
- 200 cubic yards of trash removed

Benefits:

- Improved cover and complexity
- Alcove provides rearing habitat and refuge from temperature and flow extremes
- Re-establish stream processes that support high quality habitat and riparian conditions

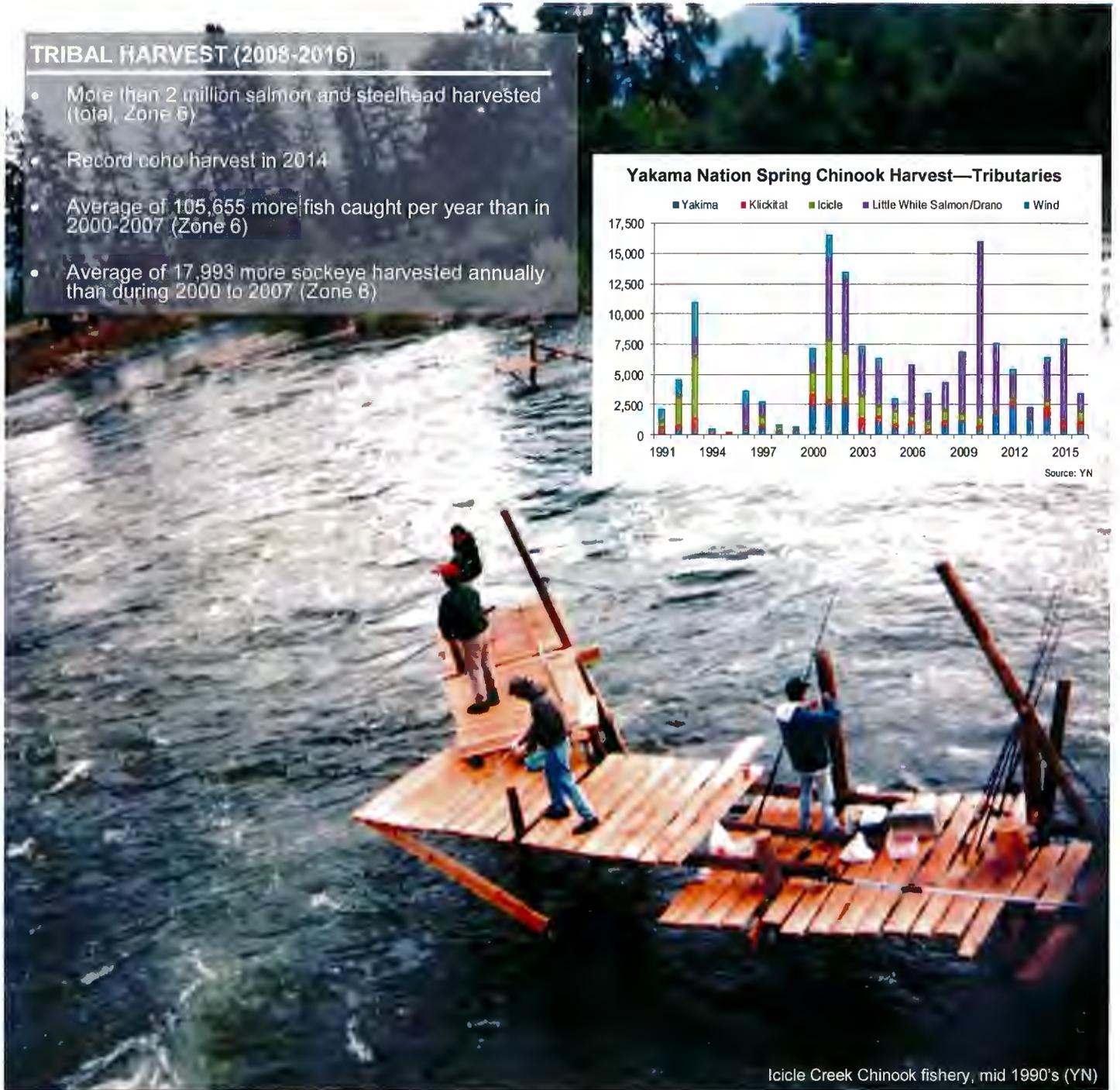
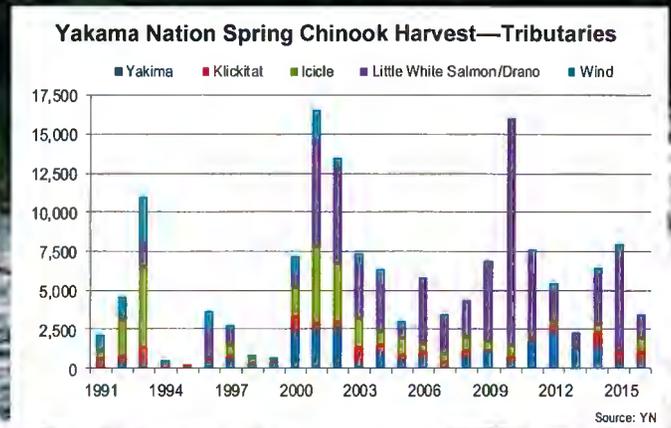


ZONE 6 AND TRIBUTARIES

HARVEST

TRIBAL HARVEST (2008-2016)

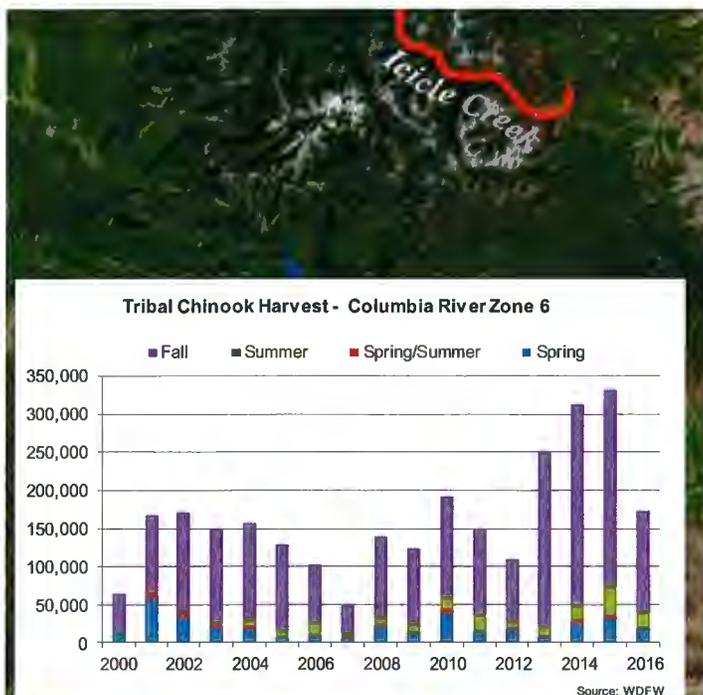
- More than 2 million salmon and steelhead harvested (total, Zone 6)
- Record coho harvest in 2014
- Average of 105,655 more fish caught per year than in 2000-2007 (Zone 6)
- Average of 17,993 more sockeye harvested annually than during 2000 to 2007 (Zone 6)



Icicle Creek Chinook fishery, mid 1990's (YN)

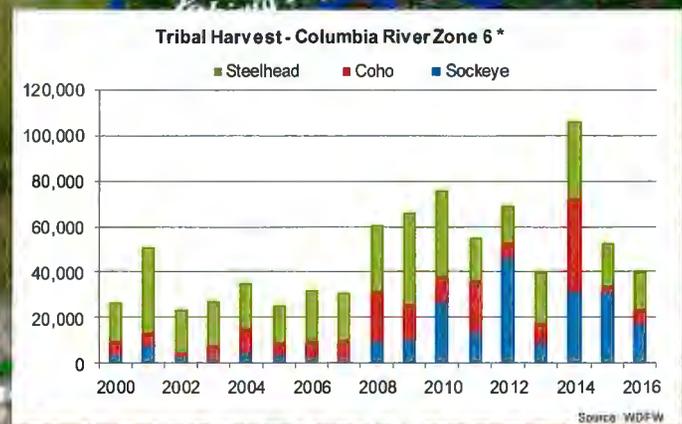
OVERVIEW

In the Treaty of June 9, 1855, the Yakama Nation reserved the right to maintain its culture and the natural resources on which its culture depends, including rights to water, land, and natural foods and medicines at all usual and accustomed places. Subsequent federal court rulings assured the Yakama Nation the right to self-regulation of their own fish management and take, a fair share of all allowable harvest, and the restoration of fish historically present and/or mitigation for losses.



Lyle Falls Tribal Fishery

The Lyle Falls fishery is important for ceremonial, subsistence, and commercial harvest. Klickitat Hatchery production of fall Chinook and coho helps to sustain the fishery that contributes significantly to tribal members' income. Traditional dip nets, set nets, and jump nets are common fishing method. Lyle Falls is one of the last places where Yakama tribal members can harvest fish using traditional methods and pass these techniques on to the next generation, ensuring the survival of our way of life.



*See Yakima and Klickitat Subbasin sections for more information about tributary harvest.

COLUMBIA RIVER BASIN

PREDATION

Construction and operation of hydro-facilities have led to conditions that enhance opportunities for predators to consume juvenile and adult fish. To reduce predation, the U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, and Bonneville Power Administration fund efforts to control predators.

Lake Cle Elum Non-Native Predator Removal

- To increase sockeye survival, invasive mackinaw trout have been removed by the Yakama Nation since 2013
- Unlimited harvest regulations enacted in 2015

Sea Lions

- Threat to salmonids, sturgeon, and lamprey
- Predation has increased in recent years
- Annually consume thousands of returning adult fish (includes sturgeon and lamprey)
- Efforts to reduce predation include hazing and removal

East Island

Caspian Terns and Double-Crested Cormorants (Estuary Populations)

- Populations have increased significantly in the last 20 years
- Efforts to address predation include redistributing colonies, fencing, nest destruction, hazing, and (when necessary) lethal take.

Northern Pikeminnow

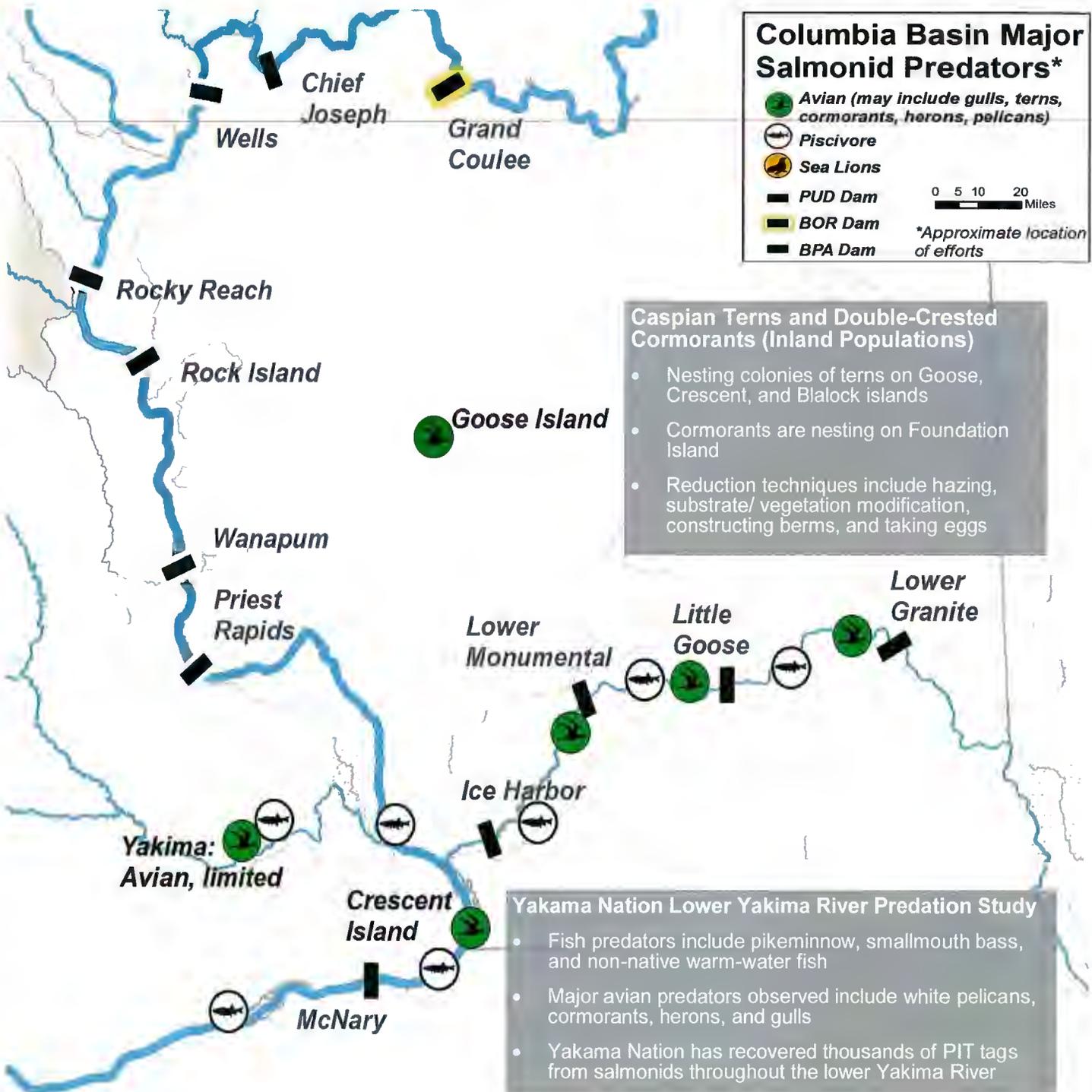
- Dam construction has led to increased predation on juvenile salmonids
- Active sport-reward pikeminnow fishery has reduced annual predation by one-third
- Abundance has been reduced

Wash

Bonneville

The Dalles

Jo



Columbia Basin Major Salmonid Predators*

- Avian (may include gulls, terns, cormorants, herons, pelicans)
- Piscivore
- Sea Lions
- PUD Dam
- BOR Dam
- BPA Dam

0 5 10 20 Miles

*Approximate location of efforts

Caspian Terns and Double-Crested Cormorants (Inland Populations)

- Nesting colonies of terns on Goose, Crescent, and Blalock islands
- Cormorants are nesting on Foundation Island
- Reduction techniques include hazing, substrate/vegetation modification, constructing berms, and taking eggs

Yakama Nation Lower Yakima River Predation Study

- Fish predators include pikeminnow, smallmouth bass, and non-native warm-water fish
- Major avian predators observed include white pelicans, cormorants, herons, and gulls
- Yakama Nation has recovered thousands of PIT tags from salmonids throughout the lower Yakima River

ohn Day Oregon

Note: Non-lethal hazing also conducted at all federal lower Columbia River and Snake River dams, with limited lethal removal of gulls at McNary, Ice Harbor, Lower Monumental, Little Goose, and Lower Granite dams.

COLUMBIA RIVER BASIN

HYDROSYSTEM

Construction and operation of hydroelectric dams in the Columbia River Basin have significantly impacted fish and wildlife populations important to the Yakama Nation. Without mitigation for losses, the dams would jeopardize the existence of the Yakama Nation's treaty trust natural resources.

Improvements to the dams have been implemented as a result of the Accords. Many of these changes were advocated for by the Yakama Nation and others to be included in the agreement. In addition to the Accord, other requirements are in place as a result of court orders and the NOAA 2008 BiOp for the Federal Columbia River Power System operations.



Map for illustration only. Not intended to be used for legal purposes.

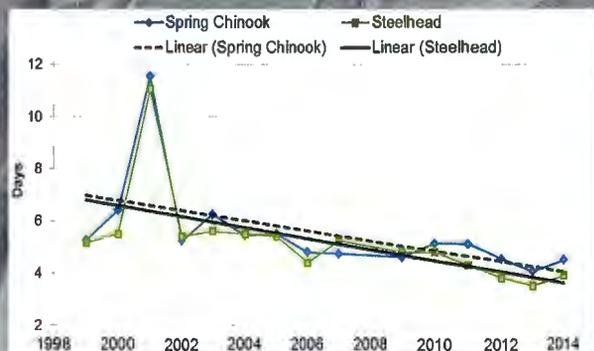
JUVENILES: SPILL, FLOW, AND RUN-TIMING

Spill and flow are important for the survival of juvenile salmonids passing through the Columbia and Snake River hydropower system. Increased spill levels reduce passage delay and the time required to pass through the Columbia River, improving downstream survival. In addition, surface spill provides a safer route with lower mortality than through bypasses and turbines, increasing survival through the entire system.

General Improvements

- Travel times have declined due to increased flows and surface spill structures
- Structural and operational improvements have increased survival; however, concern exists regarding excessive dissolved gas

Average Juvenile Travel Time: McNary Dam to Bonneville Dam (April - June)¹⁰



¹⁰Travel times calculated from data reported at Fish Passage Center (fpc.org) (Photo: USACE)

Improving Juvenile Survival: Hydro-facility Modifications

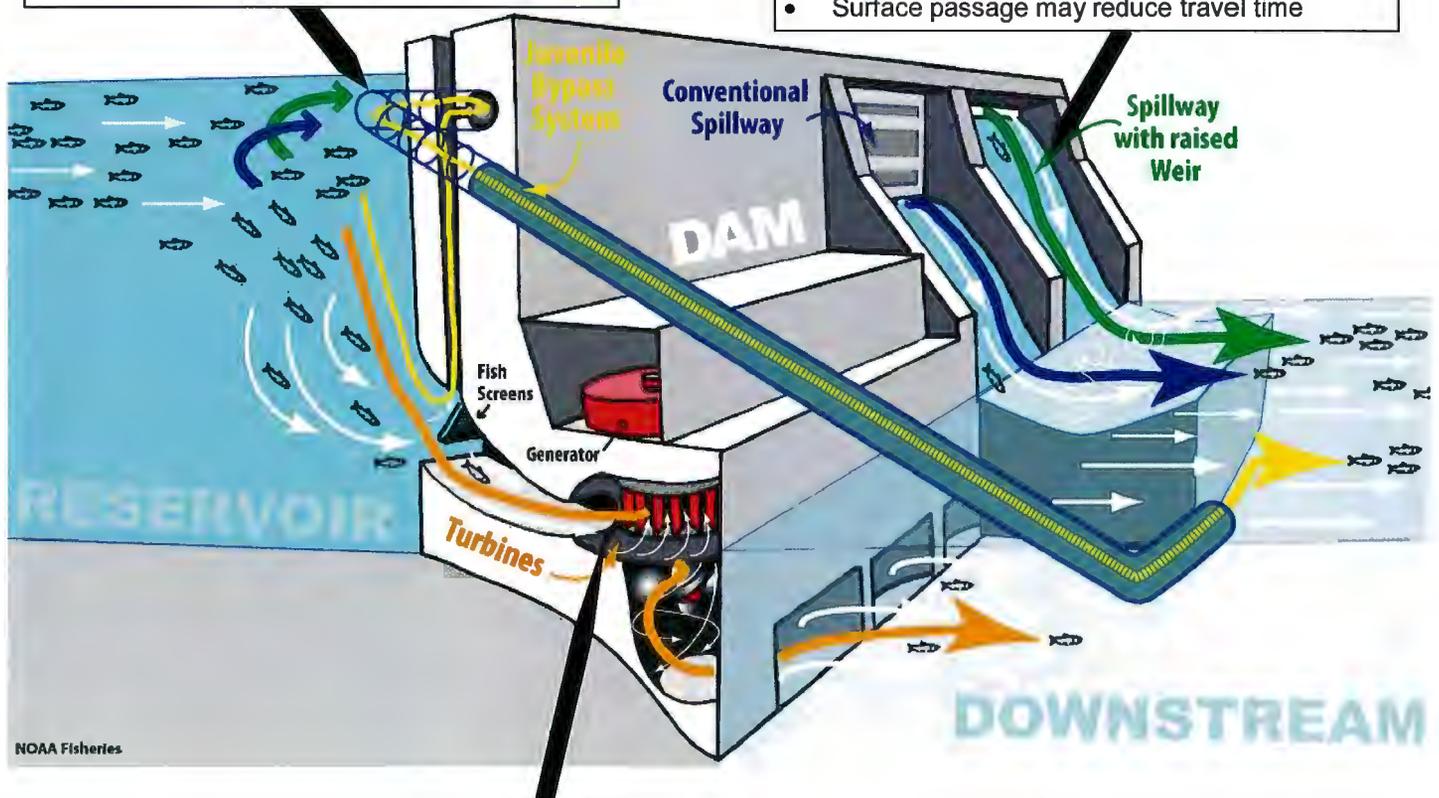
Hydro-facility designs can cause increased mortality. Through the 2008 BiOP and Accord Agreement, some issues are being addressed. The modifications may have contributed to whole-system survival improvements (Snake River spring migrants) of 4% for Chinook, 13% for steelhead, and 16% for sockeye (1999-2008 vs. 2009-2015). Concern remains regarding late-summer migrating species. Additional evaluations are needed to ensure court-ordered survival targets are met.

Turbine Bypass

- Screened juvenile bypass systems at 7 of the lower Columbia and Snake River dams
- Adjusting the location of the outfall and deferring predators may be required to improve survival
- Bypass survival is lower compared to spillway values

Surface Fish Passage (spillway weirs)

- Provide a more natural route by allowing fish to pass near the surface
- Exist at all lower Columbia River and Snake River dams
- Surface passage may reduce travel time



NOAA Fisheries

Turbine Passage

- Potentially 30% of the summer migrants pass through turbines
- Modifications to blades, walls, and operations have reduced mortality and injury

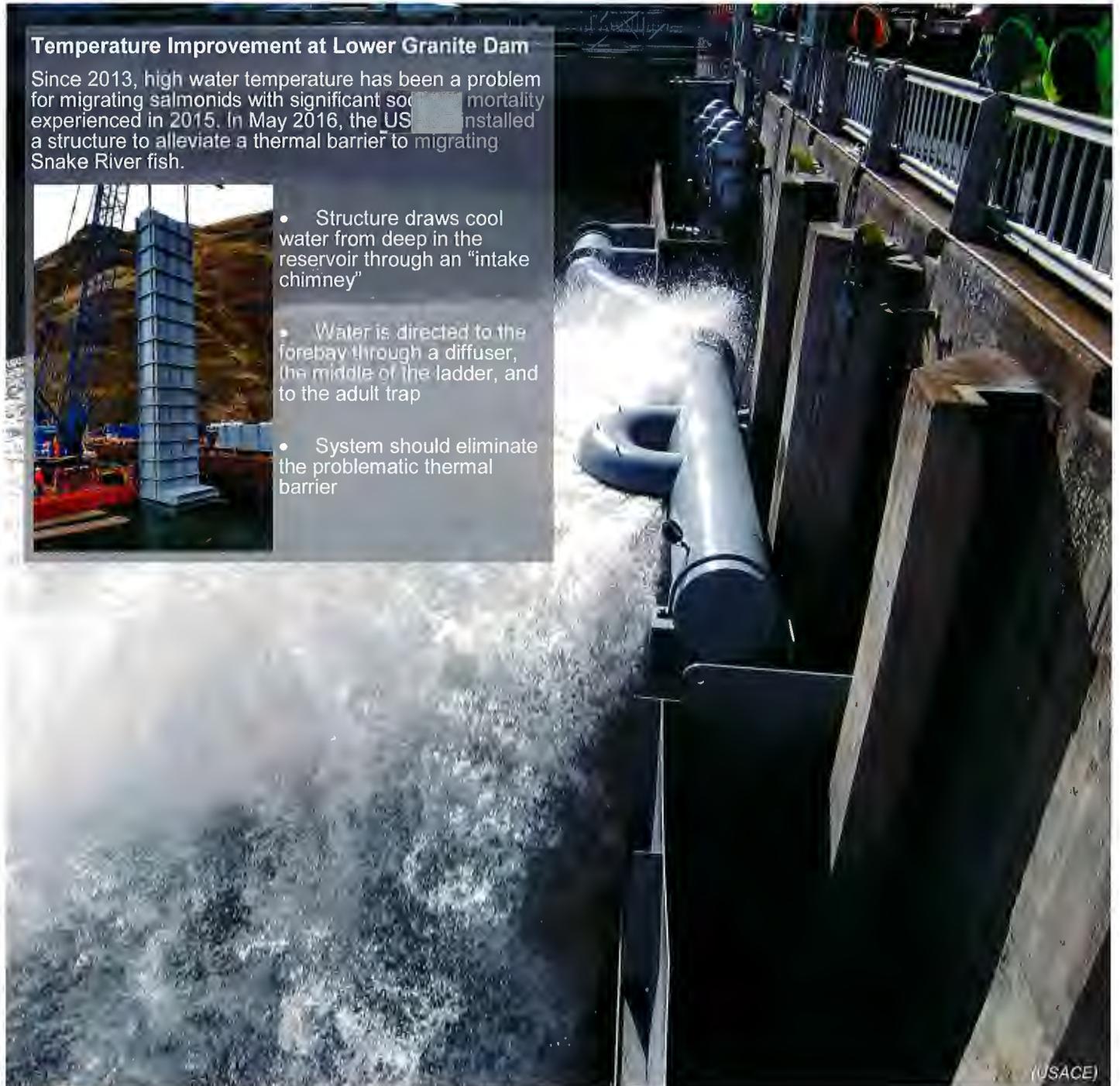
RECENT PASSAGE IMPROVEMENT PROJECT FOR ADULT SALMONIDS

Temperature Improvement at Lower Granite Dam

Since 2013, high water temperature has been a problem for migrating salmonids with significant sockeye mortality experienced in 2015. In May 2016, the USACE installed a structure to alleviate a thermal barrier to migrating Snake River fish.



- Structure draws cool water from deep in the reservoir through an "intake chimney"
- Water is directed to the forebay through a diffuser, the middle of the ladder, and to the adult trap
- System should eliminate the problematic thermal barrier



(USACE)

RECENT PASSAGE IMPROVEMENT PROJECTS FOR ADULT PACIFIC LAMPREY



Bonneville Dam (Washington Shore Ladder)

- Radio-tracking studies have shown that this side of the dam attracts more lamprey
- Bypasses known “trouble spots” for lamprey passage, such as the fishway entrance.
- Features two entrances, attraction flow, and grates that block salmon entry

John Day Dam

- Structures were installed to reduce velocities at the ladder entrance and lower ladder
- Seamless floor connections and plating installed
- Fabricated the ladder with rounded corners (90° corners present an attachment challenge)
- Installed diffuser grating in the lower part of the ladder
- Entrance weirs removed

For information about the new Prosser Dam lamprey passage structure, see the Yakima Subbasin section of this report.

(USACE)

COLUMBIA RIVER BASIN

TOXICS PROJECTS*



Why is the Yakama Nation concerned about toxic contaminants?

The Columbia River, its tributaries, and the fish that depend upon them are of paramount importance to the Yakama Nation, to the diets of our people, and to our health. Toxics in the sediments and surface water are in high concentrations at numerous hazardous waste sites, and have already been documented as posing grave risks for juvenile salmon, Pacific lamprey, and sturgeon.



Where are the contaminated sites?

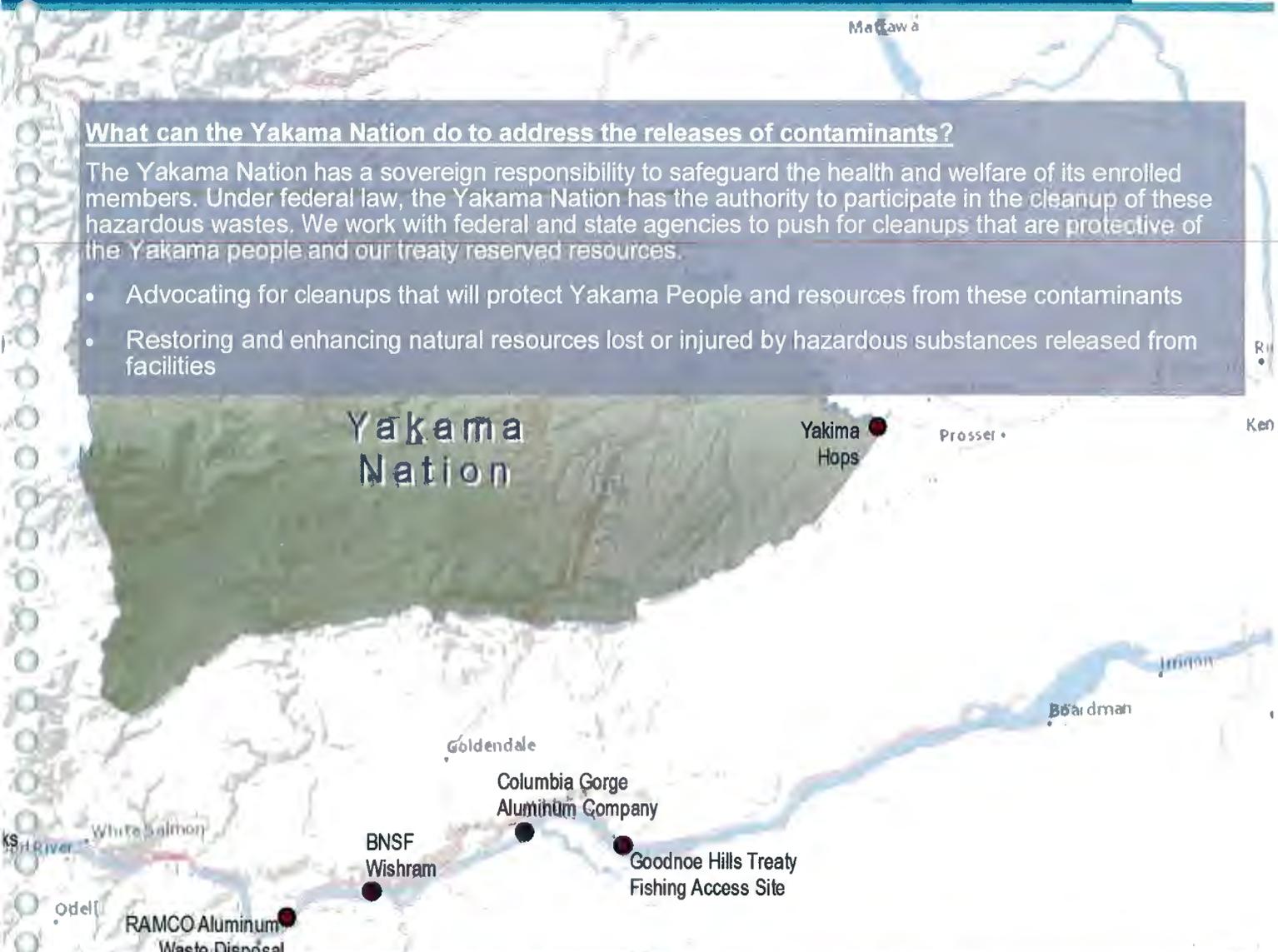
Over 70 priority hazardous waste sites are located in Yakama Nation's homeland, including Portland Harbor, Bradford Island, and Holden Mine. Releases of hazardous substances at these sites have led to high levels of toxics in soils, sediments, surface waters, groundwater, and pore water.

*Not an Accord funded project, however included here due to significance to the Yakama Nation. Map is not comprehensive: Yakama Nation has interest/engagement in sites other than those shown here.

What can the Yakama Nation do to address the releases of contaminants?

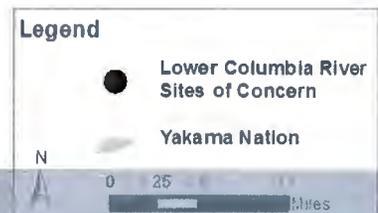
The Yakama Nation has a sovereign responsibility to safeguard the health and welfare of its enrolled members. Under federal law, the Yakama Nation has the authority to participate in the cleanup of these hazardous wastes. We work with federal and state agencies to push for cleanups that are protective of the Yakama people and our treaty reserved resources.

- Advocating for cleanups that will protect Yakama People and resources from these contaminants
- Restoring and enhancing natural resources lost or injured by hazardous substances released from facilities



How is the Yakama Nation ensuring the releases are addressed?

The Yakama Nation has authority as a natural resource trustee to restore, rehabilitate, and/or replace natural resources that have been lost or injured by releases of hazardous substances from facilities. This is usually done through restoration projects.



The Yakama Nation is a natural resource trustee under:

- Section 107(f) of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9607(f)
- Section 1002(a)(2)(A) of the Oil Pollution Act of 1990 ("OPA"), 33 U.S.C. § 2702(a)(2)(A)



Funding provided by the Bonneville Power Administration, under Status and Trends Annual Reporting Project, #2009-002-00

YAKAMA NATION OFFICE OF LEGAL COUNSEL

March 26, 2018 - 3:57 PM

Transmittal Information

Filed with Court: Supreme Court
Appellate Court Case Number: 95029-6
Appellate Court Case Title: Spokane County, et al v. State of Washington Department of Fish and Wildlife
Superior Court Case Number: 16-2-04334-5

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IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
IN AND FOR THURSTON COUNTY

SPOKANE COUNTY, a political
subdivision of the State of Washington;
PIERCE COUNTY, a political subdivision
of the State of Washington; DOUGLAS
COUNTY, a political subdivision of the
State of Washington; LEWIS COUNTY, a
political subdivision of the State of
Washington; KITSAP COUNTY, a
political subdivision of the State of
Washington; MASON COUNTY, a
political subdivision of the State of
Washington; CHELAN COUNTY, a
political subdivision of the State of
Washington; and CITY OF SPOKANE, a
political subdivision of the State of
Washington,

Petitioners,

v.

STATE OF WASHINGTON
DEPARTMENT OF FISH AND
WILDLIFE,

Respondent.

No. 16-2-04334-34

DECLARATION OF PHILIP RIGDON IN
SUPPORT OF BRIEF OF *AMICUS CURIAE*
CONFEDERATED TRIBES AND BANDS
OF THE YAKAMA NATION

I, Philip Rigdon, state:

1. I am over eighteen years of age and I am competent to testify.

DECLARATION OF PHILIP RIGDON IN SUPPORT OF BRIEF
OF *AMICUS CURIAE* CONFEDERATED TRIBES AND GANDS
OF THE YAKAMA NATION- 1

CASE NO. 16-2-04334-34

YAKAMA NATION OFFICE
OF LEGAL COUNSEL
P.O. Box 151 / 401 Fort Road
Toppenish, WA 98948
Phone (509) 865-7268

1 2. I currently hold the title of Superintendent of the Yakama Nation Department of
2 Natural Resources. I am responsible for supervising and coordinating the Yakama Nation's
3 Fisheries Programs and habitat restoration work. I have been employed by the Confederated
4 Tribes and Bands of the Yakama Nation ("Yakama Nation") for the past twenty-two (22) years.

5 Before assuming my current position, I worked in the Yakama Nation's forestry department.

6 3. My knowledge of the information within this Declaration is based upon my work
7 as the Superintendent of the Yakama Nation Department of Natural Resources for the past twelve
8 (12) years.

9 4. Chapter 77.55 of the Revised Code of Washington (the "Hydraulic Code"), by
10 requiring Washington State Department of Fish and Wildlife ("WDFW") review of all hydraulic
11 projects that impact state waterways, is one of the few ways that Washington State regulates
12 streamside development in order to limit damage to fish habitat and support healthy fisheries.

13 5. Construction of dikes, levees, and roads can channelize waterways and restrict
14 natural flooding processes that create fish habitat.

15 6. Ground disturbance and vegetation removal can degrade habitat through erosion,
16 sediment delivery, decreased bank stability, loss of shade and loss of available wood recruitment.

17 7. The Yakama Nation, working in concert with federal and state agencies, has
18 invested heavily in projects above and below the Ordinary High Water Line ("OHWL") to restore
19 lost and damaged fish habitat.

20 8. Habitat restoration necessarily happens both above and below the OHWL.

21 9. Examples of restoration projects above the OHWL include: removing instream
22 barriers to allow fish passage; removing upland roads to increase water quality and allow for
23 naturally flooding processes; installing logs and poles into the waterway to increase stream
24 complexity; and restoring necessary nutrients to nutrient-deprived waters.

25 10. In one habitat restoration project, the Yakama Nation partnered with Columbia
26

1 Land Trust to decommission a degraded logging road that restricts Klickitat River's floodplain
2 function.

3 11. The Klickitat River Haul Road, an old railroad turned asphalt logging road,
4 confined the Klickitat River along the hardened road embankment and straightened the channel so
5 that the river water was unable to access its historic floodplain and important habitat.

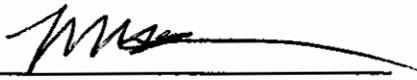
6 12. Not only the road surface, but all of the underlying fill material, had to be removed
7 in order to allow the Klickitat River to once again access its natural floodplain.

8 13. Benefits of the natural course during flood years include distributary channels and
9 calm water refuge for juvenile salmon during high flow events, gravel recruitment into the system
10 for spawning riffles, formation of adult holding pools, and increased habitat complexity.

11 14. All of the Klickitat River Haul Road restoration work occurred above the OHWL
12 and has exponentially increased that floodplain's habitat potential and resiliency.

13 I declare under penalty of perjury that the foregoing is true and correct.

14
15 Dated this 27th day of June, 2017.

16
17 
18 Philip Rigdon

YAKAMA NATION OFFICE OF LEGAL COUNSEL

March 26, 2018 - 3:57 PM

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