ANNUAL REPORT

STATUS AND TRENDS REPORTING PROJECT

Yakama Nation Fisheries

Summary of 2024 project implementation, status ad trends. Released May 2025.

Honor. Protect. Restore.

Confederated Tribes and Bands
Of the Yakama Nation

Established by the
Treaty of June 9, 1855

January 31, 2025

To the Yakama Nation Membership,

We write to you during a time of shifting tides in our nation's political landscape. As we navigate this evolving environment, we remain steadfast in our commitment to protect our sovereignty and uphold the promises enshrined in our Treaty of 1855.

This new presidential administration has introduced a series of executive orders that may have implications for our lands, our people, and our future. We have no doubt that many more executive orders will be issued over the next four years. Those orders we know about today focus on a range of issues, many of which have relevance for our community and our relationship with the federal government. It is essential that we, as the Yakama Nation, work together to ensure the federal government honors the guarantees made in our Treaty.

As Yakama people, we carry a sacred responsibility to safeguard the legacy our ancestors fought so hard to preserve. Our Treaty is not merely a document; it is a covenant, a solemn promise made to our people. It represents the sacrifices of our ancestors and the foundation of our future. This covenant carries with it a trust responsibility and fiduciary duty, a duty we will never allow the federal government to forsake. Administrations will always come and go, but our dedication to our sovereignty and our Treaty will forever endure.

Throughout our history, we have faced numerous challenges, but time and again, we have demonstrated our strength and resilience. At the heart of our strength is the protection of our sovereignty – the right to govern ourselves, to determine our own path, and to ensure the well-being of our people. This is non-negotiable. We will continue to engage proactively with federal agencies and representatives to ensure that our rights are respected, our lands are protected, and that the promises of our Treaty are honored.

Our strength comes from our unity. We are Yakama. We are resilient. We will navigate these changing times together, with the wisdom of our elders and the strength of our future generations guiding us. Let us stand together as we move forward. We call upon all members of the Yakama Nation to remain informed, engaged, and united in our collective efforts to uphold our rights and protect our lands.

Thank you for your continued strength and resilience.

Sincerely,

Gerald Lewis

Gerald Lewis, Chairman
Yakama Tribal Council

Christopher J. Wallahee

Christopher Wallahee, Vice-Chairman
Yakama Tribal Council

Stephen Selam, Executive Secretary
Yakama Tribal Council

Post Office Box 151, Fort Road, Toppenish, WA 98948 (509) 865-5121

Cover photo: YN takes over Klickitat Hatchery ownership and operation. Representatives from the Yakama Nation, BPA, NOAA, BIA, Washington State and Klickitat County gathered for a groundbreaking ceremony Friday, Oct. 11 near Glenwood, Washington.

CONTENT

Above: Tribal fishing scaffold, Yakima River.

Confederated Tribes and Bands of the Yakama Nation

Established by the Treaty of June 9, 1855

For Immediate Release

GOVERNOR INSLEE AFFIRMS WASHINGTON'S COMMITMENT TO COLUMBIA BASIN RESTORATION INITIATIVE

Executive Order 24-06 cements Washington's partnership with Oregon and Columbia River Treaty Tribes to restore healthy and abundant native fisheries in the Columbia Basin.

December 6, 2024. TOPPENISH, WA – This week, Governor Jay Inslee signed Washington Executive Order 24-06 in support of salmon recovery. This Executive Order directs State agencies to support and advance the Columbia Basin Restoration Initiative ("CBRI") developed in 2023 by the Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Umatilla Indian Reservation, the Nez Perce Tribe, the Confederated Tribes of the Warm Springs, and the states of Washington and Oregon (the "Six Sovereigns").

As the Executive Order notes, the CBRI represents an unprecedented partnership amongst the states of Washington and Oregon and the Columbia River Treaty Tribes. "We came together because we all understand that preventing the extinction of wild salmon in the Columbia Basin is one of the most urgent and important conservation crises in the Nation," said Yakama Tribal Council Chairman Gerald Lewis. "To restore healthy and abundant Columbia Basin salmon – especially in the face of climate change – we knew we needed an informed, comprehensive approach to fisheries restoration that also addressed related energy, water, and development issues. The CBRI was the historic result."

On December 14, 2023, the Biden Administration entered into a 10-year agreement with the Six Sovereigns (the "Resilient Columbia Basin Agreement" or "RCBA") that included an initial package of federal commitments in support of the CBRI. The implementation of the RCBA supports the stay of litigation (ongoing for decades) over whether the operations of federal Columbia River hydro-electric dams are jeopardizing endangered salmon and steelhead.

"We've been getting a lot of questions about what will happen to the Six Sovereigns' Columbia Basin Restoration Initiative if the new Trump Administration doesn't honor the federal government's commitments to us under the Resilient Columbia Basin Agreement," noted Yakama Tribal Council Fish & Wildlife Committee Chair Jeremy Takala. "We hope the Trump Administration will honor the Agreement. It got us out of the courtroom. It provides stability and certainty for federal dam operators, for the Bonneville Power Administration, and ultimately for Pacific Northwest rate payers like our Yakama Tribal Members. If fully implemented, the Agreement will allow tribal and state fisheries managers to increase our salmon restoration efforts throughout the Columbia Basin, and help us finally put abundant numbers of fish back in our fishermen's nets and on our families' tables."

"Regardless of what happens with the new Trump Administration, the Six Sovereigns are committed to advancing the Columbia Basin Restoration Initiative," Chairman Lewis affirmed. "We applaud Governor Inslee for memorializing Washington's continuing commitment to the CBRI, and to the Six Sovereigns' partnership, in this important Executive Order."

Contact YN Public Information Officer Star Diavolikis at Star_Diavolikis@yakama.com or (509) 830-6698 with press inquiries.

YN Chairman Gerald Lewis providing a signature during the Resilient Columbia Basin Agreement (RCBA) signing ceremony on February 23, 2024.

In 2021, the Biden-Harris Administration began conversations that resulted in the **Resilient Columbia Basin Initiative**. This 10-year agreement was the product of negotiations with the Six Sovereigns (i.e., Nez Perce Tribe, Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Warm Springs Reservation of Oregon, Confederated Tribes of the Umatilla Indian Reservation, State of Oregon, and State of Washington) who are collectively advancing the Columbia Basin Restoration Initiative.

The agreement commits the U.S. Government to increase funding for salmon and steelhead restoration while including funding feasibility studies to identify alternative power options if Congress approves the removal of the lower Snake River dams. This later goal identifies a long-term commitment to support tribal clean energy development and to a future river system capable of supporting salmon and steelhead recovery.

Accomplishments during the first year of the RCBI include:

- Increased near-term fish restoration funding
- Identified tools required for advancing salmon recovery
- Evaluation of services needed to replace existing lower Snake River dam services
- Support for tribal clean energy projects and regional energy needs planning
- Implementation of an improved fish and wildlife mitigation program

Remaining Commitments

While significant accomplishments were achieved during the first year, a considerable amount of work needs to be completed during the remaining nine years of the agreement. Much of the agreement rests on completing numerous studies required to logically and feasibly replace the current infrastructure associated with the lower Snake River dams.

HATCHERY

New Owners of the Klickitat Hatchery Program

YN Tribal Council Chairman Gerald Lewis signing the deed transferring ownership of Klickitat hatchery to YN.

The Klickitat Hatchery, constructed in 1949, has been maintained and operated by the Yakama Nation since 2006, during which time we have raised and released spring Chinook, fall Chinook, and coho.

On December 13, 2024, ownership of the Klickitat Hatchery was transferred from the Washington Department of Fish and Wildlife to the Yakama Nation. The vision for this transfer began with àtwai Melvin Sampson, who developed the mission for our Yakama Klickitat Fisheries Project (YKFP). Plans also include facility upgrades and new additions to further advance the site's efficiency and productivity (see below for details).

The Klickitat Hatchery Project has demonstrated their professional capacity as leaders in the fisheries field. The Yakama Nation is proud of our leadership and ability to implement this work for the salmon, for our people, and everyone in the region.

The return of the property to the Tribe represents taking back this place on the Reservation that was taken away from the Yakama Nation for an extended period, and is one of the very few tribally owned and operated hatchery facilities located on tribal land.

Klickitat Hatchery as it appears today.

Upgrades to Klickitat Hatchery to increase spring Chinook salmon: Groundbreaking Ceremony

Glenwood, Wash. – On October 11, 2024, members of the Yakama Nation (YN), Washington Department of Fish and Wildlife (WDFW), the National Oceanic and Atmospheric Administration (NOAA), and the Bonneville Power Administration (BPA) gathered at the Klickitat Hatchery (KH) at the 42-river mile of the Klickitat River. They were all assembled to celebrate the groundbreaking for construction, now underway, of upgrades that are intended to boost the population and resilience of spring Chinook salmon in the Klickitat River Basin.

BPA is committed to spend roughly $35 million to upgrade several components of the hatchery still operating with 75-year-old equipment. The work is focused on improving the spring Chinook population, with plans to increase juvenile production from 600,000 to 800,000 annually.

Yakama Nation Klickitat Hatchery staff handling spring Chinook eggs at the Klickitat Hatchery. (Photo: YN)

Maintaining an aged facility such as the KH "involves working with our fisheries family both from the Yakama Nation Fisheries Resource Management Program and our Yakama Klickitat Fisheries Project (YKFP) side, to really make things happen and keep the production going," hatchery Manager Jason Rau explained. As well as working cooperatively with WDFW on the operation of this project. Rau also acknowledged the excellent working relationships with NOAA-Fisheries in administering Mitchell Act Funding and other grants that also helped to keep the KH functional.

Klickitat Hatchery Spotlight

Rendering of the planned upgrades to the Klickitat Hatchery, made by Schnabel Engineering. Above: facility design (left), growout circulars (right) and hatchery intake (above) (YN)

"BPA is funding the upgrades to enable the Yakama to move from exclusively using hatchery-raised fish for broodstock to incorporate natural-origin broodstock," said Jason Sweet, Executive Manager of BPA's Fish and Wildlife Program. "By integrating natural-origin broodstock, we expect to see greater fitness, production and survival of these salmonids."

These capital improvements help to fulfill commitments BPA made in the 2008 Columbia Basin Fish Accords Memorandum of Agreement and its subsequent extensions. The project is part of BPA's ongoing efforts to mitigate the effects of the Federal Columbia River Power System on fish and wildlife in the mainstem Columbia River and its tributaries.

Other key supporters of the YKFP were on hand for the celebration as well, including Klickitat County, the Bureau of Indian Affairs and the Northwest Power and Conservation Council.

Construction on the new upgrades at Klickitat Hatchery began in September 2024 and include:

- Improving spring water intakes, discharge piping, and a river pumping station
- Rebuilding the pollution abatement system
- Adding circular rearing tanks and a chemical storage building
- Updating the existing fish ladder and spawning and adult holding infrastructure

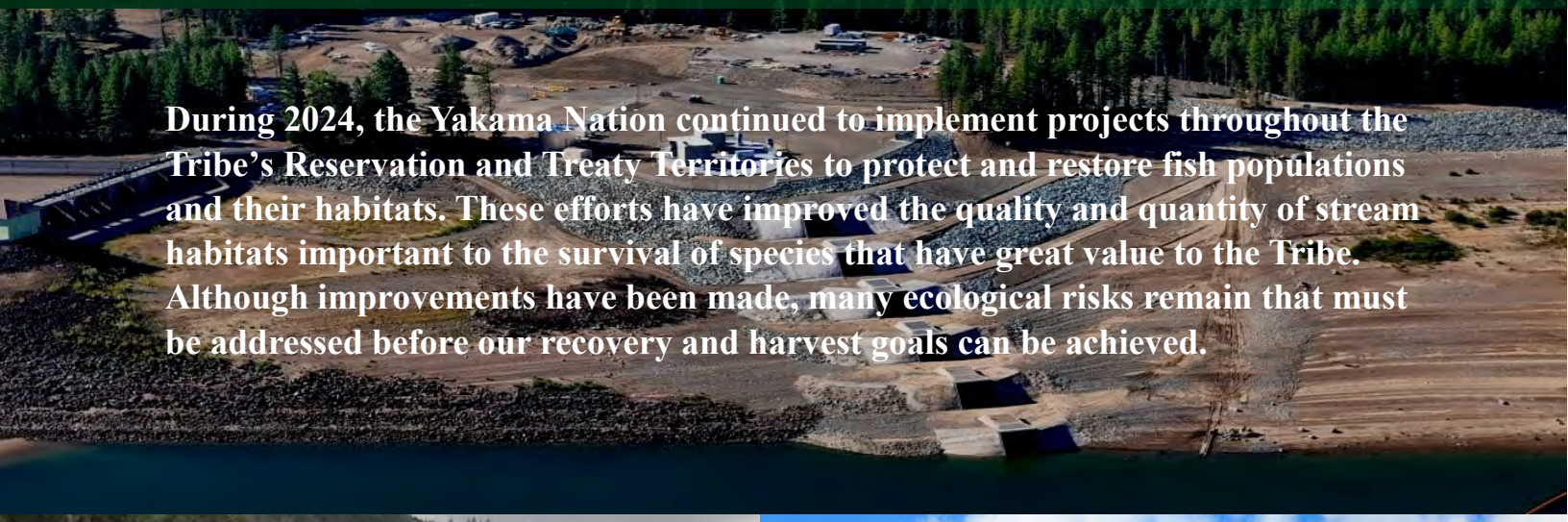
"I just want to thank everyone and our partners for being here," said YN Tribal Council Fish & Wildlife Committee Chairman Jeremy Takala. "I want to acknowledge our Klickitat Hatchery staff and their work. I would also like to think about our past, present and our future fishermen and the fish wars and hard times many of our fishers had to endure. It feels like this year has been a year of celebration, a year of events where we recognize the efforts not only with the tribe, but the partners that have been formulated over the decades."

With the sounds of the Klickitat River nearby, Yakama Nation Tribal Council Chairman, Gerald Lewis, spoke last:

"A wonderful day – the sun bearing witness, birds singing, as everyone is here to celebrate with the Tribe for years of holding the hatchery together" said Lewis. "The words spoken by the BPA, NOAA, WDFW, BIA, Klickitat County and by the Yakama Nation help preserve all the work done by the entities coming together as one. The tribe never gave up on our resource of spring salmon, steelhead, coho and lamprey. Now with the Fish Accord Agreement, the BPA and the Yakama Nation have come together to rebuild this aging hatchery to better support fisheries across the Northwest."

Work on the upgrades are expected to be completed in June of 2026 with the first release of yearlings from the upgraded facility in May of 2027.

HABITAT Program Accomplishments (2015-2024)



During 2024, the Yakama Nation continued to implement projects throughout the Tribe's Reservation and Treaty Territories to protect and restore fish populations and their habitats. These efforts have improved the quality and quantity of stream habitats important to the survival of species that have great value to the Tribe. Although improvements have been made, many ecological risks remain that must be addressed before our recovery and harvest goals can be achieved.

Photos: Cle Elum Reservoir downstream juvenile fish passage helix intakes, Pool Raise Protection, and Fish Passage Facility. See p. 17-18.

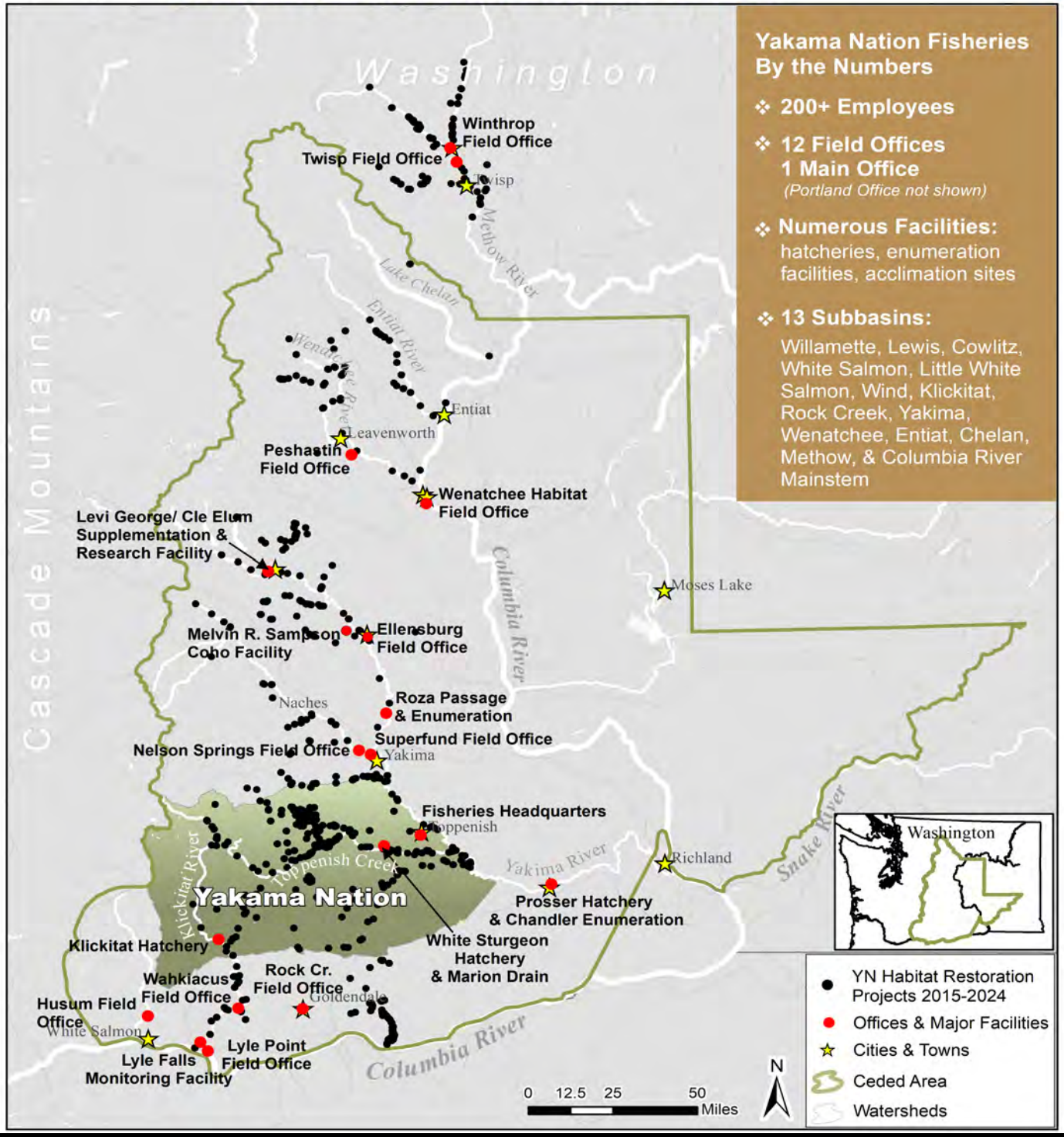
1,398 Miles

Stream and riparian habitat improved, treated, or protected

17,138 Acres

Wetland & freshwater habitat improved or protected

Yakama Nation Fisheries Facilities and Habitat Restoration Sites 2015-2024



139 Miles

Habitat made accessible to fish

7 Subbasins

1,042 Work Locations

**YN metrics reported to cbfish.org (funded by BPA), 2015-2024.Includes work completed, or in-progress.*

HARVEST

Overview:

The Yakama Nation Harvest Monitoring Program monitors the Zone 6 Treaty Fishery as a whole, which includes fishers from all 4 Treaty Tribes, including: The Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Warm Springs Reservation, Confederated Tribes of the Umatilla Indian Reservation, and The Nez Perce Tribe. “Zone 6” on the Columbia River is an exclusive Treaty Indian commercial fishing area, a 147-mile stretch between Bonneville Dam and McNary Dam. Tribal fishers are legally entitled to half the harvestable surplus of fish in the river. To meet that requirement, Oregon and Washington must set their fisheries in Zones 1-5 in order to leave enough fish for harvest in Zone 6. Tribal fishing is regulated under the ongoing U.S. District Court litigation known as U.S. v. Oregon. (Source: CRITFC)

The Treaty Tribes are in the midst of renegotiating the **US v OR Management Agreement** to set all of the harvest quotas in Zone 6 Treaty and Non-Treaty fisheries. The Treaty sockeye harvest quota is capped at 7% due to the **Endangered Snake River Sockeye** and we are working to get the harvest rate increased for our fishers based on the excellent work that the Okanagan Nation Alliance is doing with sockeye production in Lake Osoyoos. We are exploring expanded Usual and Accustomed (Treaty protected) harvest areas to provide more fishing opportunities to the YN membership. Specifically, the Yakama Nation is looking to expand Usual and Accustomed Traditional Use Areas to harvest more spring chinook, sockeye and fall chinook outside of Zone 6.

Sockeye

Building on the success of reintroductions in the Upper Yakima River, the Yakama Nation is looking toward sockeye restoration throughout more of their historic range, with the ultimate goal of more fish available for fisher's nets. Increased temperatures in the summer months, however, at times create thermal barriers that fish do not want to cross. These barriers, such as those that can form at the mouth of the Yakima and Okanogan Rivers, hamper sockeye migration to spawning grounds and increase stress and susceptibility to disease. In addition, the endangered status of some species (e.g. Snake River sockeye, see above) can force other fisheries to close down to protect the at-risk species. Therefore, even if one isn't targeting these diminished species, the best recovery strategy us to restore all historically occurring species everywhere, the "whole ecosystem" approach, which builds a system that is more diverse and resilient to weather future challenges as well as recover from past ones. As a wise YN Tribal Elder once said “ Put it back the way it was”.

YN Tribal Fisher Below Horn Rapids Dam, Yakima River.

Icicle River Fishery

To help restore the Icicle River Fishery, the YN is actively engaged in projects funded through the multi-stakeholder Icicle Strategy's Tribal Adaptive Management Group. Projects include enhancing fishing site amenities like restrooms and improved fishing access, and developing sediment removal recommendations to increase spillway pool depth and enhance fishing opportunities. We are also working in close coordination with USFWS on a pilot study of early designs modernizing and/or testing full build-out of their highly water-efficient Partial Recirculating Aquaculture System (pRAS). The intended result of this project is to re-establish the 1988 Grand Coulee fisheries, including mitigation with 2.2 million spring Chinook juveniles released annually. YN sets fishing seasons on the Icicle River for spring Chinook as soon as the hatchery is assured their brood goal, and in the late fall for Coho if enough fish are available.

Above: Tribal fishing platforms, Icicle Creek (USFWS)

Fisheries staff carefully prepare fish to be stored in the deep-freezer for distribution. (Photo: YN).

Surplus

The Yakama Nation obtains surplus from federal hatcheries when more fish return to the hatchery than are required for their broodstock goals. These table-quality fish are picked up in the round from the hatchery by and processed by YN staff at the YN Processing Facility at Marion Drain. Fish are filleted and frozen in the tribal freezer for use at community events like Treaty Days, Elder's Dinners, and Longhouse ceremonies. Families can also request these freezer fish for their own ceremonies including funerals, name-givings and memorials. If YN receives surplus fish above the annual freezer program needs, direct handouts to the enrolled YN community are scheduled.

Smelt and Lamprey Fisheries

Although listed as a threatened species in 2010, in recent years the Columbia River smelt run size in Southwestern Washington has been determined to be large enough to support a limited dip-net fishery. YN sets seasons and allows fishing by Permit in the Cowlitz River for smelt fishing annually in February - March. Smelt fishing is a way to teach young tribal members about traditional fishing practices, providing them with valuable experience and connecting them to their cultural heritage.

YN Tribal School students fishing for smelt, Cowlitz River (YN)

A member of the Yakama Nation plucks a Pacific lamprey off the rocks at Willamette Falls, Oregon. (High Country News)

YN also sets a Pacific lamprey harvest season and allows harvest by permit at Willamette Falls in June - July. Our fisheries staff also participates in both smelt and lamprey fisheries and hand out smelt and Pacific lamprey to the general YN population or freezes the fish for distribution to the Longhouses or to members for ceremonies.

HARVEST Zone 6

Columbia River Zone 6 Tribal Harvest in 2024

Chinook
132,258

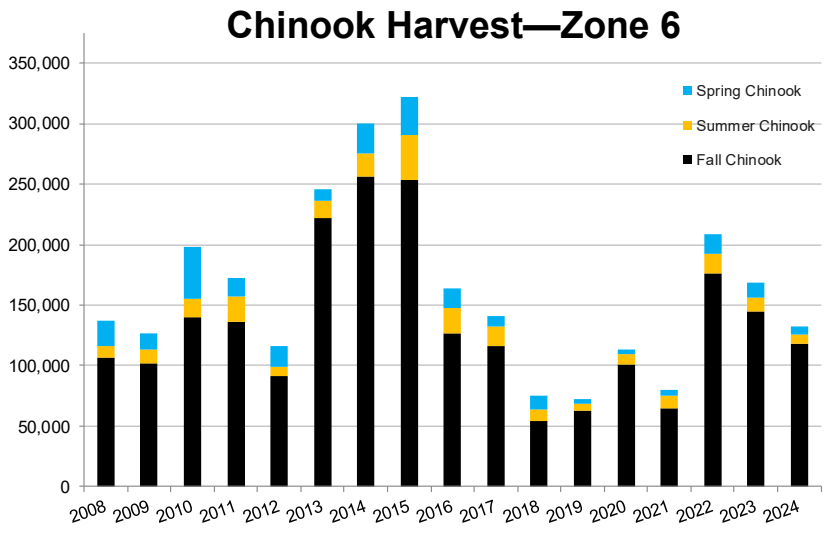
Steelhead
13,777

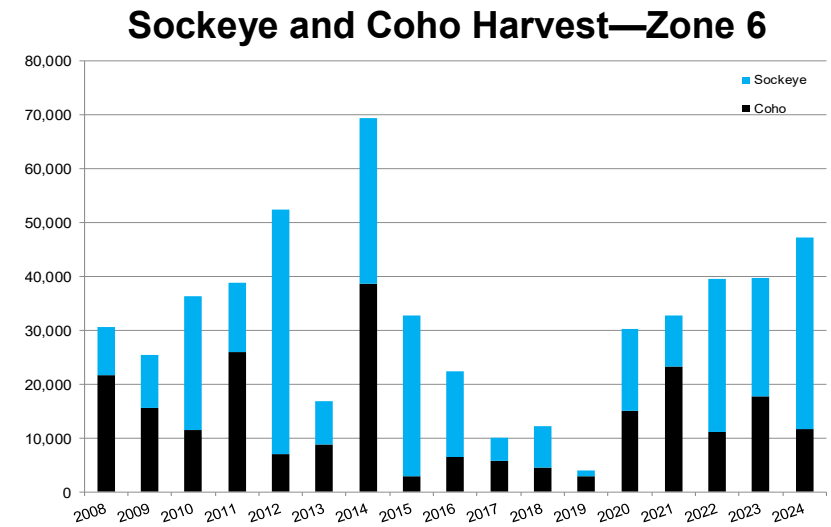
Coho
11,604

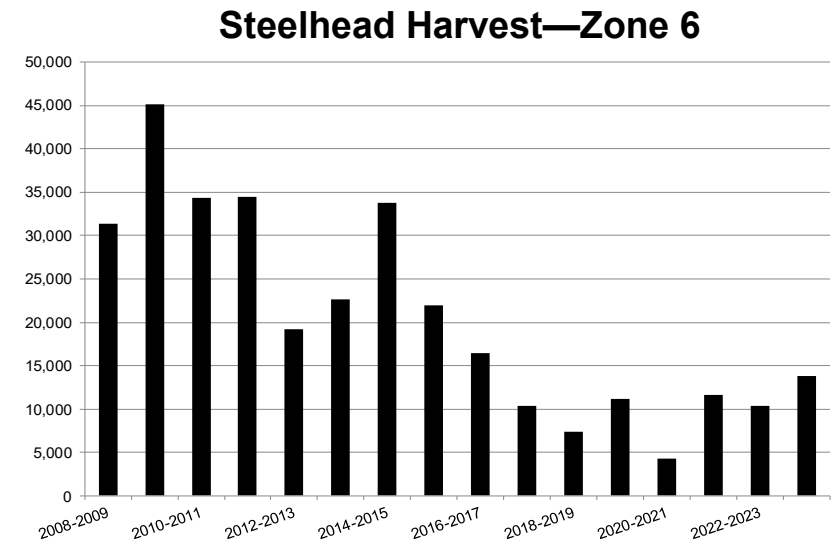
Sockeye
35,715

Sturgeon
2,639

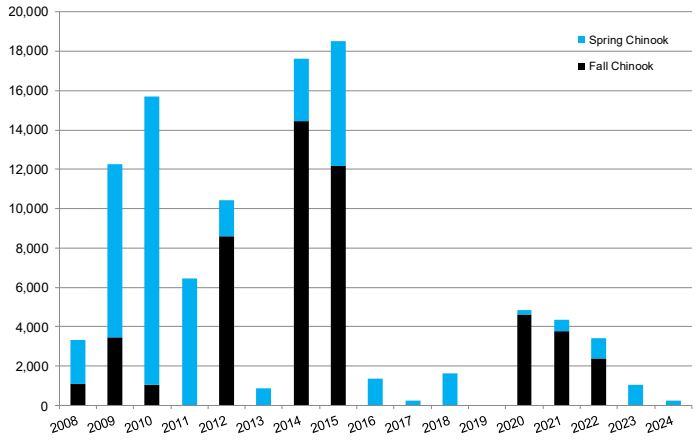
*Source for all harvest numbers: YN



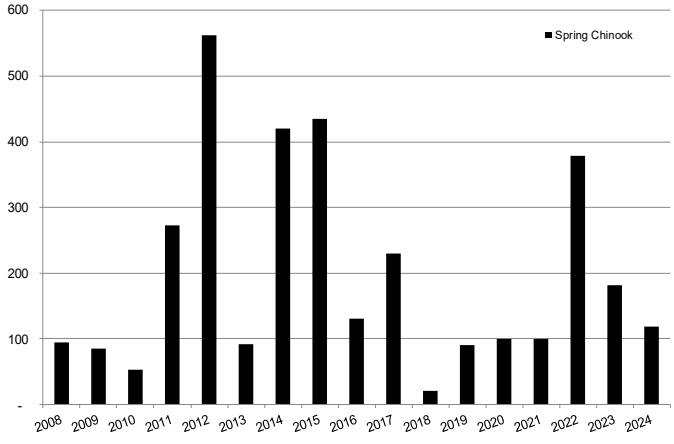




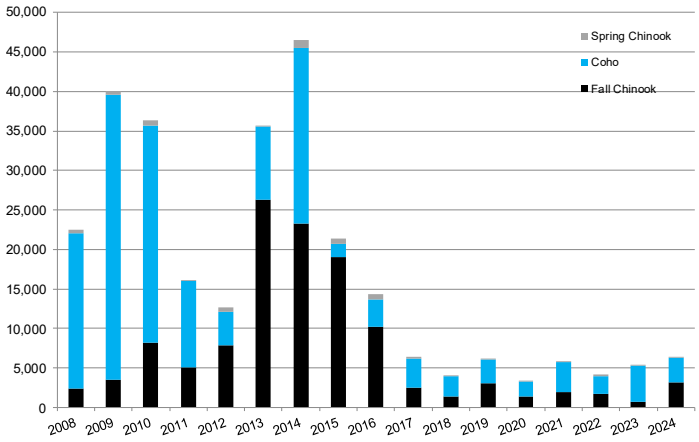
YN Treaty Harvest—Drano Lake



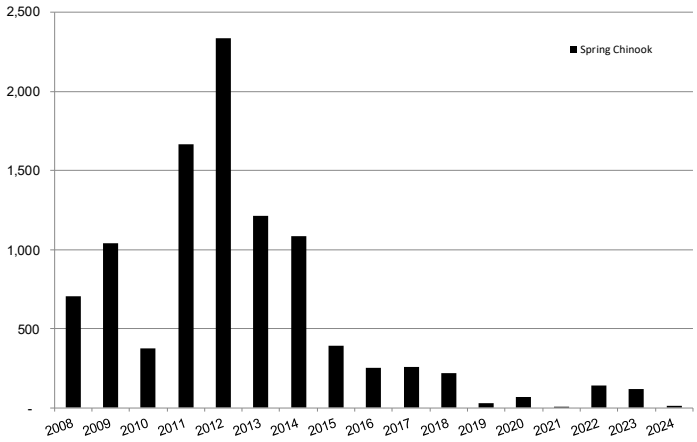
YN Treaty Harvest—Wind River



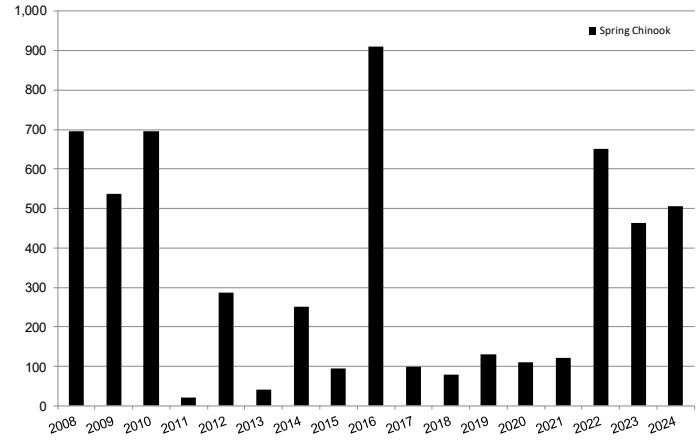
YN Treaty Harvest—Klickitat River



YN Treaty Harvest—Yakima River



YN Treaty Harvest—Icicle River



Fsh in traditional fishing net, Lyle Falls, Klickitat.
(Waykanashpum Presentation, YN)

Rock Island Dam Relicensing: Summer 2024 Proceedings

Background: The Chelan County Public Utility District (CPUD) initiated its Federal Energy Regulatory Commission (FERC) relicensing process for Rock Island Dam on December 15, 2023. The current 40-year license expires in 2028, and the process is expected to take at least five years. Relicensing offers an opportunity to renegotiate terms of operation, reconsider what environmental impact they may have, and address potential issues such as fish passage, water quality, habitat conservation, cultural resources, and recreational access.

Photo:: Rock Island Dam (Chelan PUD)

FERC Issuance of Scoping Documents (February 13, 2024)
Agency/Public Meetings (March 13-14), Expanded Scope (May 17)

The scoping process allows for: 1) identification of environmental and social issues, 2) determination of necessary studies for informed decision-making, 3) facilitation of agency involvement, and 4) shaping the Environmental Impact Statement/Environmental Assessment that FERC will use to evaluate the license application.

Study Plan Determination (SPD)

The SPD process provides that necessary environmental, aquatic, and other resource studies are conducted to evaluate project impacts. After gathering input from agencies, tribes, and stakeholders, CPUD submitted its Proposed Study Plan (PSP) to FERC. **Chelan PUD filed the Proposed Study Plan (PSP) on May 28, 2024** which outlines the studies CPUD proposes, how they will be implemented, and their relevance to relicensing decisions. **Tribes, federal and state agencies, NGOs, and other stakeholders reviewed the PSP** and provided comments requesting modifications and additional studies. **Chelan PUD submitted a Revised Study Plan on September 25, 2024** which includes review process feedback. **FERC issued its final Study Plan Determination on October 24, 2024**, which includes decisions regarding required studies.

Fisheries and Aquatic Resource Studies Required by FERC

The following fisheries and aquatic studies were included in the SPD:

- Burrowing Lamprey Dewatering Risk
- Adult Lamprey Fishway Passage Evaluation
- Native Fish Trapping and Stranding
- Subyearling Spring Chinook Salmon Reservoir Rearing Evaluation and Life History Data Gaps
- Freshwater Mussel Habitat Assessment and Survey
- Benthic Macroinvertebrate Study
- Assessment of Sub-Adult Bull Trout Downstream Passage Survival
- Evaluation of Downstream Kelt Survival through the Rock Island Project

Other studies requested by the Yakama Nation, such as Estimating Delayed Project-Related Mortality in Yearling Chinook at Rock Island Dam, Wild Chinook Smolt Passage Survival, and Juvenile Pacific Lamprey Passage Behavior and Survival, were not included in FERC's SPD.

Study Implementation

Following FERC's SPD, studies will be conducted over one or two years, with reports submitted to FERC. Chelan PUD's Initial Study Report is expected to be filed with FERC in October 2025.

EDUCATION & OUTREACH Summary

YN Fish & Wildlife Committee Chairman Jeremy Takala introduces students to tribal traditions (YN)

Yakama Nation Fisheries runs **public education events** to introduce the public to Yakama Nation culture and values, including fishing, hunting, gathering, and other culturally significant facets of tribal life, and to celebrate these values with tribal members and cultivate the next generation of natural resource stewards.

Willamette Falls lamprey celebration (YN)

Our **educational events** over the last year have included: a lamprey event at the Kittitas Environmental Education Network in Ellensburg, taking students of the Yakama Nation Tribal School to smelt dip-net fish in the Cowlitz River, and a celebration of Native American Heritage month at Selah Intermediate School including history, culture, and live sturgeon and lamprey presentations. At Goldendale Primary School we had cultural and natural resource presentations, including highlighting the role of beavers as nature's engineers. We also sponsor ongoing educational programs like Salmon in the Classroom with an annual year-end event, and Water Jam, which teaches Gorge-area students about the importance of salmon.

Students with hatchery-reared white sturgeon

Happy participant in family fishing day, Toppenish (YN)

Yakama Nation Fisheries also celebrates significant accomplishments and acknowledges collaborators through **ceremonial and leadership commemorations**. Such events over the last year have included the Klickitat Hatchery Deed Ceremonial signing and groundbreaking, and hosting the Executive Director of the Columbia River Task Force and White House Council on Environmental Quality staff member for a Yakama Nation Fisheries and energy projects tour. Earlier in the year, we celebrated a groundbreaking with Office of the Assistant Secretary for Indian Affairs to celebrate a nearly $10 million investment to provide critical rehabilitation at Tribal fishing sites along the Columbia River. Finally, we acknowledged the much anticipated opening of the juvenile fish passage facility at Cle Elum Dam in Upper Yakima.

We hosted two **documentary film screenings**: "These Sacred Hills," about the Rock Creek Band of the Yakama Nation and their fight to protect their sacred lands, and "Finding Common Ground" about the history of collaborative salmon other natural resource governance in Washington State and the region.

There were several **public celebrations** (with grilled salmon lunch!) held last year, including the Levi George Hatchery Open House, and the Willamette Falls Lamprey Celebration. We celebrated World Fish Migration Day with education and lamprey releases, a "Return of the Yakima River Asum" celebration, and held an Earth Day cleanup. Finally, we held a family fishing day community event, welcoming over 600 guests for a beautiful day of fishing, fun, food and friendship!

Translocated lamprey release in the Yakima Basin for World Fish Migration Day (YN)

YAKIMA Subbasin

By the 1970s and 1980s, Yakima River steelhead and salmon populations were either gone or severely depressed. Summer Chinook were extirpated by 1970 and coho 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 and other species, we are improving habitat and using hatcheries to improve ecosystems and provide sustainable and harvestable populations of fish. These actions have been successful as sockeye are once again returning to the subbasin as a result of our efforts. Chinook runs are experiencing increases in spatial distribution, and we are addressing sources of mortality in the lower basin. Extirpated in the 1970s, summer Chinook are once again returning due to our reintroduction program, and fall Chinook are supplemented to mitigate lost harvest opportunities and spawning habitats. Coho are now being produced at our new hatchery at increased levels, to support harvest and natural reproduction of this once extirpated fish.

At-risk bull trout are being rescued from dewatering and rehabilitated for release into more suitable areas. As a result of our Pacific lamprey restoration projects, populations are increasing and re-colonizing areas where they had been extirpated. White sturgeon are also getting a reproductive boost though our propagation program, which releases them back into the Columbia River.

127
Miles
Habitat made accessible to fish

21,874
Features
Added for instream habitat

164
Acres
Wetland treated or protected

Photo:: YN stream restoration project, Yakima Basin

HABITAT improved for fish and wildlife (2015-2024)

22,794
Miles
Riparian improved or protected

204
Miles
Streams improved or protected

14,913
Acres
Upland treated or protected

*YN metrics reported to cbfish.org (funded by BPA), 2015-2024.Includes work completed, or in-progress.

YAKIMA Subbasin

Groundwater Recharge Project

Yakama Nation fisheries staff measuring a well's water level. (Photo: YN)

Groundwater is a major source of freshwater for farming, irrigation, and drinking, especially where limited clean water exists from lakes or rivers. To reach groundwater, wells are drilled to varying depths depending on the depth of underground water reservoirs. Unfortunately, pumping from these wells can lead to groundwater depletion.

The ground beneath us has layers like soil, gravel, sand, clay, silt, and rock. These layers can vary in their makeup, thickness, and ability to hold water. To understand what's below we use well logs, which give us a picture of these layers.

For groundwater, our goal is to create a stable and sustainable groundwater system to benefit all water users. In an effort to promote sustainability to groundwater sources, we have implemented aquifer recharging projects, notably the Toppenish Fan Shallow Aquifer Recharge Project (TFSAR). Through this project we use natural waterflow processes at times of abundance to reinvigorate groundwater sources so that they are available for times of higher demand and less natural water abundance.

The TFSAR project has resulted in 5 to 15 ft. increases to groundwater levels. Additionally, the time it takes groundwater levels to recede has showed some signs of slowing during times of heavy usage.

Cle Elum Innovative Fish Passage

With the opening of Cle Elum's innovative fish passage upgrades, we have demonstrated we are at the forefront for fish improvement projects. Along with Washington State Department of Ecology and The Bureau of Reclamation, we completed this facility to recover Yakima River sockeye populations by providing access to 30 miles of fish habitat previously blocked by the Cle Elum Dam.

Ribbon cutting for new fish passage facility. (Photo: YN)

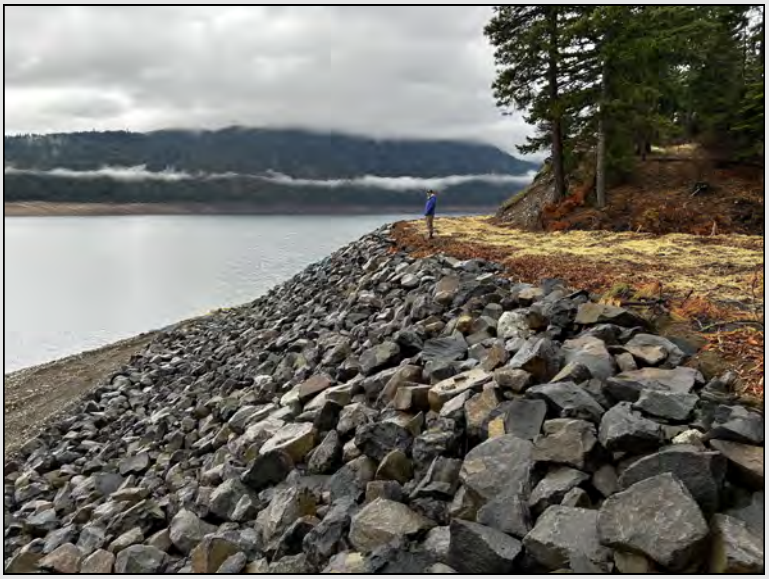
The juvenile fish passage structure allows juvenile fish to pass downstream of the dam safely, effectively, and efficiently at all water levels.

These facilities will help overcome impediments that have impacted out-migrating juveniles and returning adults. These facilities combined with our sockeye reintroduction efforts highlight the benefits of our restoration efforts and our responsible stewardship of natural resources.

Future upgrades to the facility include an adult upstream fish collection facility that is anticipated to be completed late-2026 or early-2027. This facility will reduce the current journey via trucking from Roza Dam to upstream of Cle Elum Dam, from 60 miles to less than 1,000 feet, reducing stress and improving migration and spawning success of returning adults.

Cle Elum Pool Raise: Domerie Bay, Night Sky, and Timber Cove Shoreline Protection

Constructed in 1933, the purpose of the Cle Elum Reservoir is to provide water for irrigation in the Yakima Subbasin. Through 30 years of studies, it was determined that the current water supply for the Yakima Basin does not meet in-stream or out-of-stream demand, including the aquatic demands for fish and wildlife and the out-of-stream needs of irrigation and municipal supply. To address this issue, it was determined that the reservoir's maximum pool elevation should be increased by 3 feet, thus adding 14,600 acre-feet of additional storage that would be used exclusively for instream flows that benefit ESA-listed Mid-Columbia steelhead, spring Chinook, and Sockeye salmon.



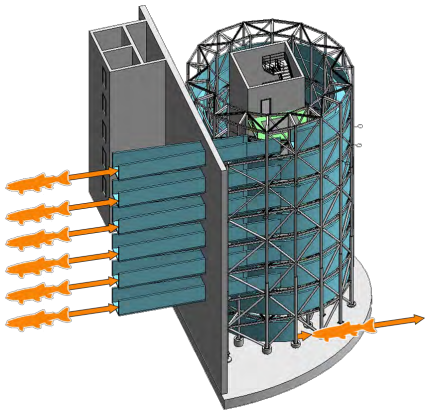
Above: 1.5:1 sloped rock revetment with Class B rock at the Domerie Bay shoreline protection area. (Photo: YN)

The instream flow augmentation realized by raising the pool level of Cle Elum Reservoir would improve habitat conditions for salmonids for approximately 194 stream miles, which includes the Cle Elum River downstream of the Lake Cle Elum Dam and the mainstem Yakima River from the confluence with the Cle Elum River downstream to its confluence with the Columbia River.

With the pool level of the reservoir being raised, specific sections of shoreline (above the new pool elevation level) were identified as needing to be stabilized to provide protection in case inundation occurred during high water years. These included Domerie Bay, Night Sky, and Timber Cove shorelines.

Implementation of the shoreline protection project was carried out by the Yakama Nation during which we were responsible for the managing design, permitting, and realty actions at the Domerie Bay, Night Sky, and Timber Cove residential communities. Shoreline construction at Domerie Bay and Night Sky were completed on October 25, 2024 and November 15, 2024, respectively. The Timber Cove project is expected to be completed in 2025.

Cle Elum Fish Passage Continued....



Above: First-in-the-nation helix fish passage structure accommodates variable water elevations (Wa. Dept. Ecy.). Right: Downstream passage structure under construction (BOR).

YAKIMA Subbasin

Low– Head Dams: Wapato Dam

Wapato Dam East Diversion, with two fish ladders and rock weirs below.. (Photo: BIA/ YN)

Built in 1917 by the Bureau of Indian Affairs (BIA), the Yakima River's Wapato Dam is the main diversion point for the Wapato Irrigation Project's Main Canal, and it is now in need of modification and maintenance. Although there are fish ladders and fish screens in place at the diversion, recent studies have shown that the cumulative impact of screening on juvenile salmon and steelhead migration timing and survival in the Yakima River is significant. Now, the BIA is coordinating with the Yakama Nation to modify the diversion to improve adult and juvenile fish passage and survival. Other issues that need addressing at the site include operator safety, sediment accumulation upstream of the dam, flooding concerns, and lack of traditional fisher access.

Project progress includes an appraisal level design, as we are further evaluating the benefits of possible alternatives. We will be testing many of these alternatives using a physical model at the Pacific Northwest National Laboratory (PNNL) in Seattle. We are partnering with PNNL to run sensor fish through the physical model to evaluate the potential for fish injuries under each alternative through 2025. Once physical modeling is complete we hope to be able to select a preferred alternative and move forward with the 30% design, followed by final design and implementation. Construction may begin as early as 2027, with multiple construction phases taking approximately 5 years to complete. (Source: BIA, YN)

Prosser Dam Passage Improvements

Changes to natural habitats and water flows in the lower Yakima River have resulted high mortality for salmonids passing through the area. In order to improve conditions for these fish, the Yakama Nation is working on addressing barriers at multiple sites, improving access for juvenile fish to areas with cooler water temperatures during summer months, as well as restoring access to traditional tribal fishing locations. In addition, studies recently conducted in collaboration with USGS have concluded that the Chandler Power Plant Bypass is a major source of mortality for juvenile salmonids, and we are now evaluating best alternatives for correction of these issues. Funding for the Prosser Dam habitat improvement work comes from the Bipartisan Infrastructure Law and Inflation Reduction Act, administered by NOAA. The need to address mortality at Chandler Canal has been highlighted in the 2024 Six Sovereign's Columbia Basin Restoration Initiative, Mid-Columbia Near-Term Priorities. These projects directly address fish habitat complexity, fish passage, instream flows, cold water refuge habitat, and predation. They are well-vetted projects that have broad support and are implementable within the next 2 years.

Yakima River at Prosser Dam (Wikimedia Commons)

PROJECT: Lower Yakima River Fish Passage

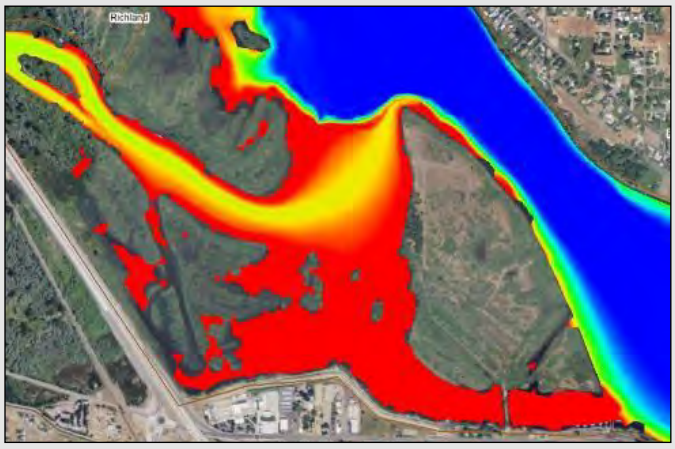
Bateman Island Causeway

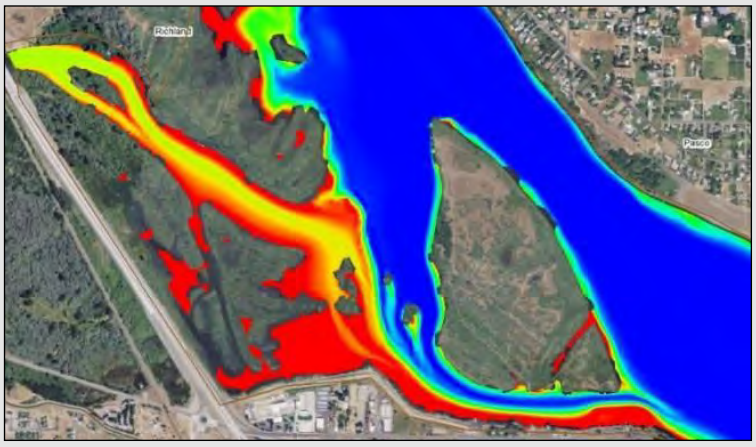
Aerial photo of the Yakima Delta. The causeway is circled in yellow. Photo: Benton Conservation District, 2012.

Bateman Island was connected to the mainland in 1939 by an illegally built 500 foot earthen causeway, which blocks the flow of the Yakima River into the Columbia River. By blocking the flow, the causeway raises water temperatures and creates thermal barriers, where significant numbers of salmon are picked off by other fish and predatory animals, and sediment builds up. In addition, the location where these two rivers used to meet was a sacred fishing and farming spot for many Tribes since time immemorial, and is named 'Chamna".

Fish species affected include: Yakima Major Population Group of federally-threatened Middle Columbia River (MCR) steelhead smolts and adults; smolts and adults from the entire Yakima populations of Middle Columbia River spring and fall/summer run Chinook, Columbia River Coho, and Columbia River Sockeye salmon; and ammocoetes and adults from the entire Yakima population of Pacific lamprey. The project will also benefit Upper Columbia salmon and steelhead that rear in the Yakima River delta. Barrier removal will also improve water quality and reduce mosquito infestations.

The YN has studied the effects of the Causeway and is coordinating with a variety of governmental and tribal agencies to address the issues. It's one section of the larger Yakima Basin Integrated Plan, a long term project to fix environmental issues along the entire length of the Yakima River. The Bateman Island Causeway is currently scheduled to be removed in February of 2026. The required Environmental Assessment has been completed by the U.S. Army Corps (USACE) in October 2024, and we have signed a project partnership agreement with Washington Department of Fish and Wildlife to be cosponsors of the project. The USACE is now starting up on final design for causeway removal and is finishing up the required federal permitting.





Above: Existing surface water temperature conditions (left) result in a thermal barrier that prevents fish passage during most days during summer. Modeled water temperature conditions with causeway removal (right) will allow passage from the Columbia River into the Yakima River more frequently. More natural flow conditions through the delta will also reduce predation by invasive species and improve rearing habitat. (Modeling by Mid-Columbia Fisheries Enhancement Group, 2012)

YAKIMA Subbasin

Adults Counted at Prosser Dam in 2024

Spring Chinook
2,345

Summer Chinook
1,522

Fall Chinook
1,340

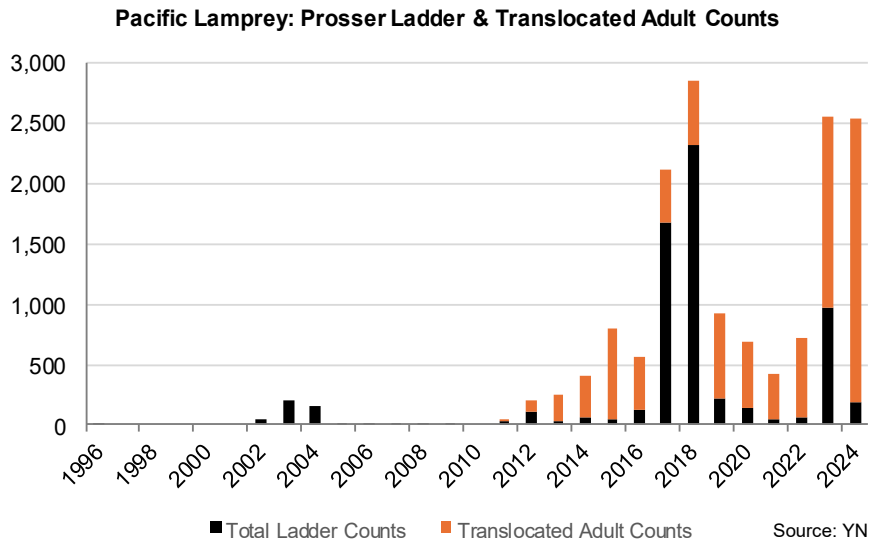
Sockeye
2,799

Coho
3,338

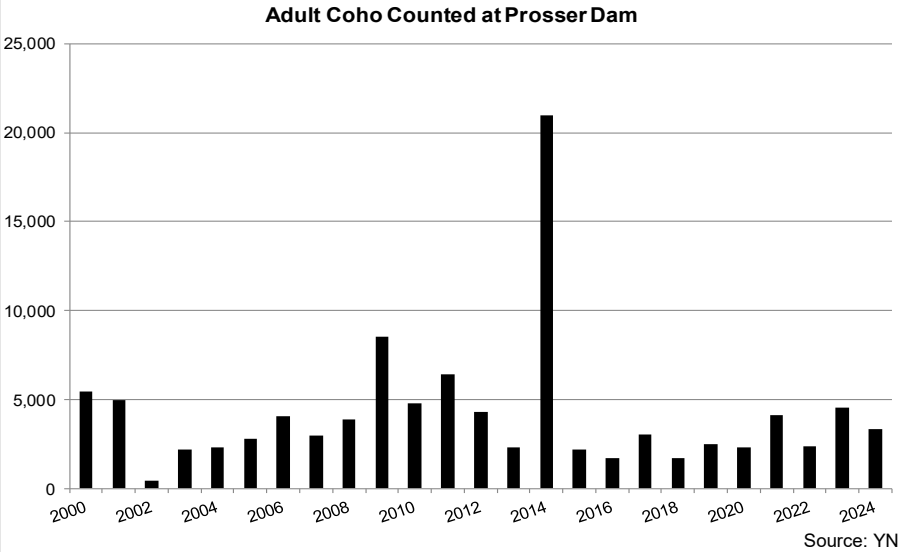
Pacific Lamprey[1]
194

Steelhead[2]
1,309

[1] Includes natural and hatchery fish
[2] 2,542 including translocated adults

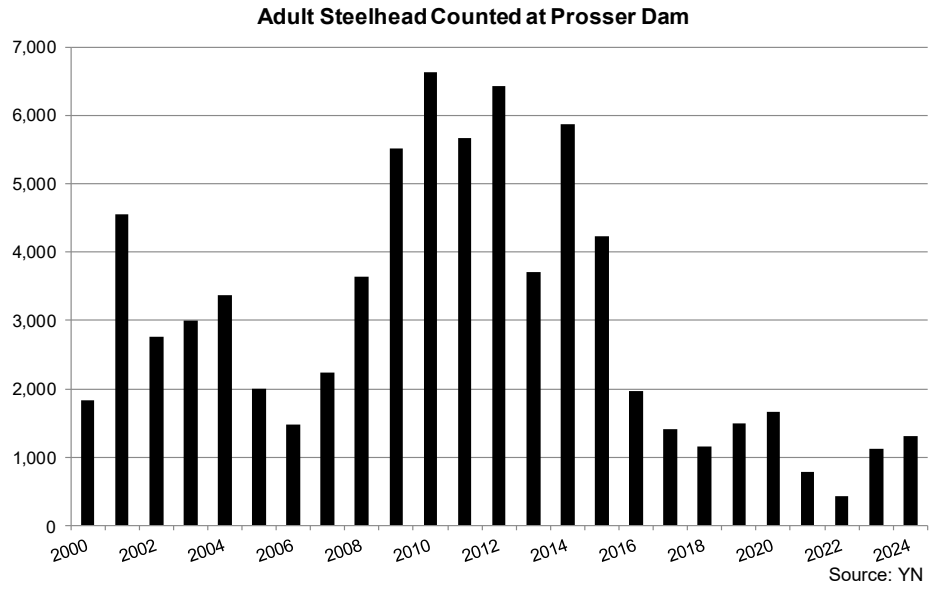


The **YN Pacific Lamprey Ceded Lands Evaluation and Restoration Project** is actively reintroducing Pacific lamprey throughout their historic range in the Treaty Territories of the Yakama Nation. They are accomplishing this through adult translocations from Lower Columbia River Basin, while documenting current species distributions, identifying appropriate habitat, and reducing threats, such as entrainment, dewatering, and poor dam passage. As a result, lamprey are now successfully rearing in virtually all historical habitat where they have been reintroduced. These areas include not only the Yakima Subbasin, but also the Wenatchee and Methow subbasins, and cooperatively in other parts of the Upper Columbia Basin. The project is also investigating hatchery techniques to facilitate early life stage reintroductions in the Yakima Subbasin.



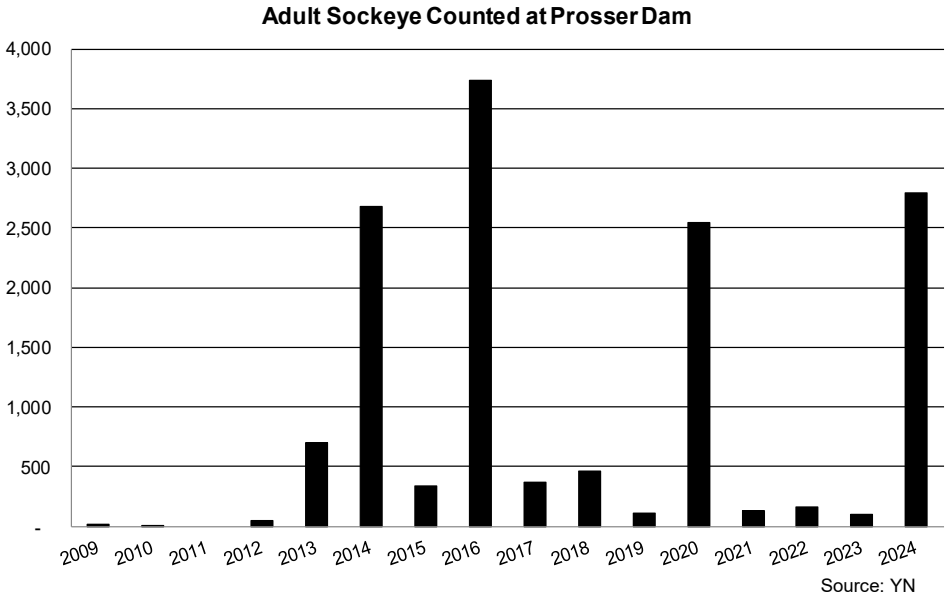
Extirpated from the Yakima Basin since the early 1980's, YN has expanded our reintroduction efforts. Coho have been spawned at YN's dedicated **Mel Sampson Coho Hatchery** in Ellensburg WA since 2021. The facility is environmentally friendly, with 80% of water being re-used, and it's equipped with a solar grid. With this hatchery, we will be able to produce 700,000 juvenile coho annually for release into the subbasin in order to increase harvest levels, natural spawning abundance, and spatial/temporal distribution.

SPECIES Status and Trends



In the Yakama Basin, **steelhead** dropped to around 1,000 returns in 1990, versus around 40,000 returns historically. Two ways that YN is helping to restore steelhead is through habitat restoration (including restoring natural water flows), and through kelt reconditioning. Steelhead are able to spawn multiple times in their lifetimes, but are often in too poor condition due to migratory challenges to survive the process. Since 1999, the YN has been holding spawned-out steelhead and restoring them to health so that they can spawn again, naturally in the wild. Their lifetime reproductive success has been studied and proven to make this effort worthwhile to the overall population contribution.

Historically, annual escapement of **sockeye** to the Yakima River Basin exceeded 200,000 spawners, but in the early 1900's irrigation storage dams were built without fish passage, leading to the fish's rapid extirpation. In 2009, with support from several partners and an agreement with U.S. v. Oregon parties, the Yakama Nation began a sockeye reintroduction program. Initially the reintroduction program is based on the translocation of adult sockeye. Since 2013, successful spawning has led to the return of naturally produced sockeye to the basin, after an absence of over 100 years. Now, great efforts are taking place to restore upstream and downstream passage (see p.17-18).



	Historic Abundance Estimate	Abundance Goal (Low-High)
Spring Chinook	199,000	6,000-84,400
Steelhead	26,200	3,500-16,600
Sockeye	200,000	5,000-1,000,000
Coho	75,000	2,000-10,000
Fall Chinook	150,000	2,000-10,000
Pacific Lamprey	50,000	2,500-16,500

Source: Marine Fisheries Advisory Committee [MFAC] Columbia Basin Partnership [CBP] "Vision for Salmon And Steelhead: Goals to Restore Thriving Salmon and Steelhead to the Columbia River Basin" Report, Phase 2, Oct. 2020. Lamprey source: YN (based on historic habitat and abundance data).

SOUTHERN TERRITORIES

Prior to the 1920s, there was a large spring Chinook run and a significant Tribal fishery at Lyle Falls in the Klickitat River. From 1977 to 2003, returns decreased to an average of 1,900 fish. The subbasin supports native winter and summer steelhead and historically provided a significant steelhead fishery. From 1987 to 2003, average escapement of steelhead was fewer than 300 fish. In Rock Creek, native steelhead population numbers only reach minimum viability thresholds in some years.

To restore these species, we are improving habitat and restoring watershed functions to improve flows while conducting research and monitoring of fish populations to evaluate their needs so we can be most effective. To mitigate for lost harvest opportunities, hatchery-produced coho and fall Chinook are released.

12
Miles
Habitat made accessible to fish

840
Features
Added for instream habitat

6,417
People
Informed and educated

Photo:: Habitat restoration in the Klickitat Subbasin (Haul Road river channel restoration, center) (YN).

HABITAT improved for fish and wildlife (2015-2024)

90
Miles
Riparian improved or protected

24
Miles
Stream improved or created

13
Acres
Wetland treated or protected

*YN metrics reported to cbfish.org (funded by BPA), 2015-2024.Includes work completed, or in-progress.

White Creek Large Wood Replenishment – Phase II

The White Creek watershed is likely the most important spawning and rearing tributary watershed within the Klickitat Subbasin and in recent years has accounted for up to 40% of the observed steelhead spawning in this entire subbasin. However, the productivity of the watershed is limited due to past land management activities along White Creek and its tributaries. Conditions reflecting impaired habitat include channel incision, low channel complexity, non-native vegetation, and decreased water storage in impaired meadows.

Pre-project view of the treatment reach, March 2022. (Photo: YN)

Through this project channel complexity is being restored by improving existing pools via construction of large woody debris jams. This added roughness increases pool volume and quantity and begins to address channel incision through ensuring sediment storing and sorting.

This project is the continuation of an ongoing effort to improve conditions for ESA-listed Mid-Columbia steelhead by increasing pool frequency and gravel retention in headwater streams. Phase I of the project was completed in 2017, during which approximately 400 logs and rootwads were installed along White Creek from river mile 3.3 to 5.0, as well as in Brush Creek from river mile 0 to 1.5.

In 2024, we implemented Phase II of the project, during which we placed 267 rootwads, 127 logs, and 174 small wood pieces at 34 log sites over 3.5 miles of White Creek (from river miles 5 to 8).

Large wood debris placed in White Creek, and helicopter used to transport logs, October 2024.

Middle Tepee Creek Restoration

From 2002 to 2019, 14% of the ESA-listed steelhead spawning activity in the White Creek watershed occurred in Tepee Creek. Therefore, our efforts for restoration focused in this area.

Goals for the Middle Tepee project include:

1) improve stream conditions for juvenile rearing by increasing pool frequency and reconnecting historic side channels

2) improve adult spawning habitat by supporting the stream to retain precious spawning gravel.

These goals were to be achieved by increasing the number of post-assisted log structures (PALS) and beaver dam analogs (BDA).

Middle Tepee Creek before 2009 restoration activities. (Photo: YN)

Results of applying beaver dam analogs in Middle Tepee Creek in 2024.

The restoration design for this location required a phased approach using low-tech process-based restoration, where wood structures were placed in the stream to amplify natural stream processes, aiding the stream in healing and restoring itself.

Factors that were addressed by this project include low flows, high water temperatures, limited instream complexity, and floodplain connectivity.

Restoration efforts began in 2009 with channel reconfiguration. Improvements completed in 2024 included: 1) 17 channel-spanning PALS, and 2) 2 BDA's installed over approximately 2,500 linear feet of stream.

KLICKITAT/ ROCK CREEK Subbasins

Adults Counted at Lyle Falls in 2024[1]

Spring Chinook

150

Summer Chinook

1

Fall Chinook

513

Steelhead[2]

1,337

Coho

767

Pacific Lamprey

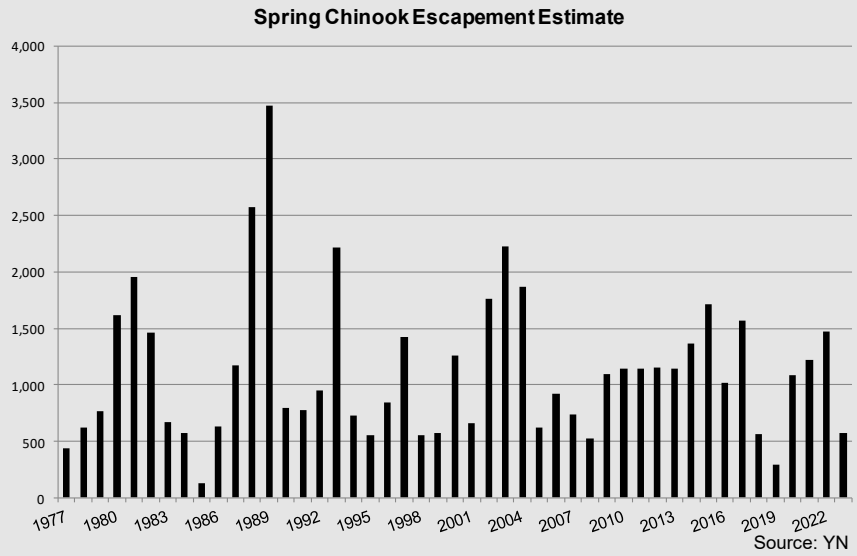
2,675

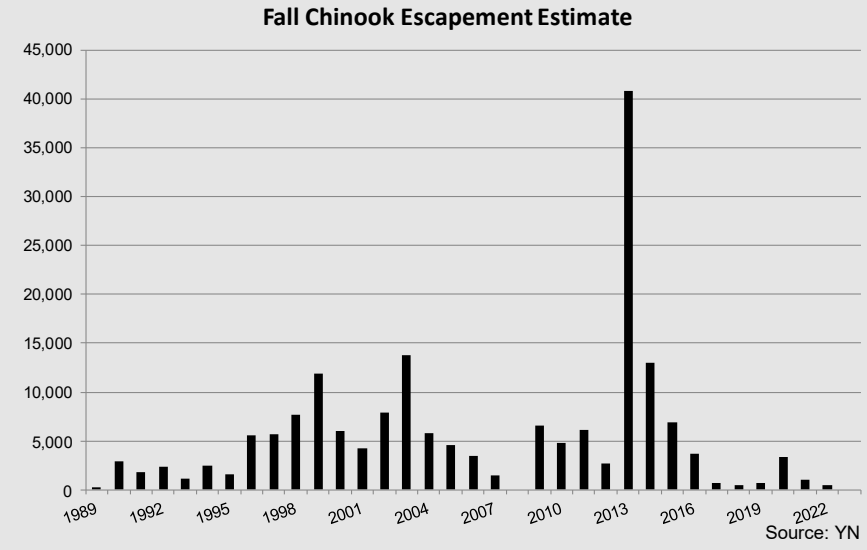
[1] Lyle Falls trap counts only represent a subsample of the total run

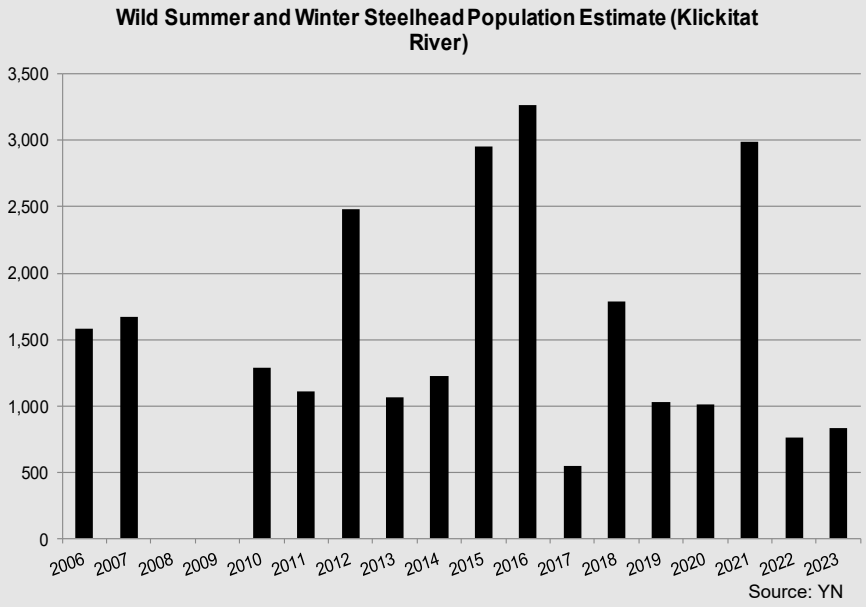
[2] Natural and hatchery fish

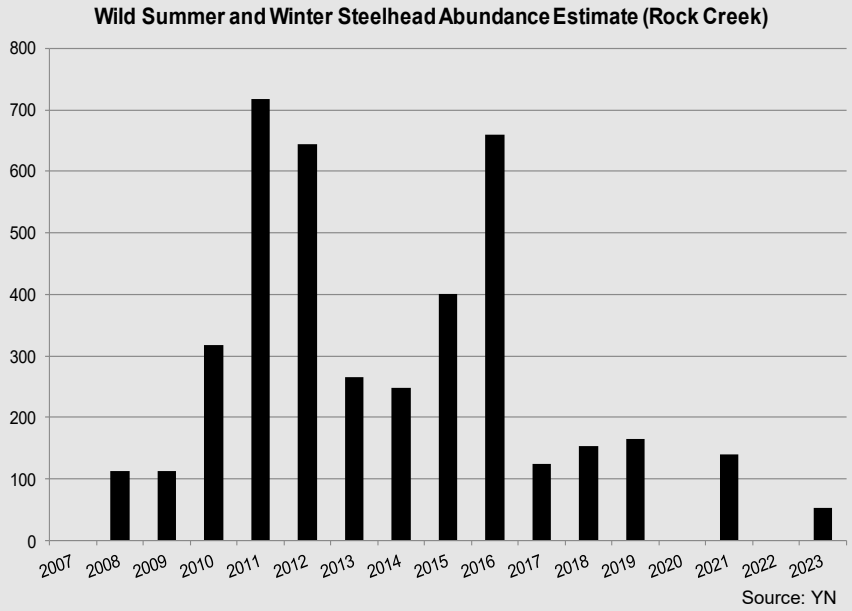
Klickitat Subbasin

Four segregated harvest fish programs are implemented in the Klickitat Basin: **spring Chinook**, **fall Chinook**, and **coho** are all produced at the Klickitat Hatchery, with Mitchell Act mitigation funding for lost harvest opportunities. As a segregated program, hatchery fish populations are maintained primarily or exclusively with hatchery-origin adults used as broodstock, with little to no interaction with the naturally spawning population. A project is currently underway, however, to transition Klickitat spring Chinook to an "integrated" program, in support of strengthening wild populations. The integrated program will incorporate natural-origin adults into the hatchery broodstock to provide both harvest and conservation benefits. A capital construction project funded by the Bonneville Power Administration is currently underway, as well as a recent transition to full YN ownership of the hatchery (see p.5 for more information).









While there are **steelhead** hatchery releases in the Klickitat Basin from WDFW's Skamania Hatchery, a native wild steelhead population is also present throughout the Basin. They are a part of the "Mid-Columbia Steelhead" distinct population segment, which has ESA threatened status. YN is helping in their restoration primarily through habitat and watershed health restoration, and the subsequent restoration of base stream flows. Restoration of floodplain and side-channel connectivity that provide important juvenile rearing habitats, protection and restoration of wet meadows that help maintain base flows, and the restoration of stream function to maintain spawning gravels are some of the methods.

Leonard Dave of the Yakama Nation fishes on the Klickitat (CRITFC)

Rock Creek joins the Columbia River at RM 230, about 12 miles upstream of John Day Dam. Lake Umatilla, the reservoir behind the dam, inundates the lower mile of Rock Creek. As of the 2000 survey, Rock Creek's **steelhead** population was 503, however in recent years lack of landowner permission has limited the ability to conduct surveys to assess actual population numbers. The current range of steelhead in the Rock Creek watershed is believed to generally resemble the historical condition, although some stream sections that probably once supported spawning and rearing may now serve only as migration corridors due to habitat degradation. Limiting factors include low summer flows and high summer water temperatures, which YN is working on mitigating.

Klickitat Subbasin Only	Historic Abundance Estimate	Abundance Goal (Low-High)
Spring Chinook	2,500	750-1,200
Steelhead	3,500	1,000-3,000
Pacific Lamprey	12,000	550-3,900

Source: MFAC, YN (lamprey)

WENATCHEE Subbasin

During the pre-treaty era, salmonids were abundant in the Wenatchee Subbasin. Although exploitation and habitat degradation have depleted runs and some populations are ESA protected, the Wenatchee still has the greatest diversity and overall abundance of fish in the Upper Columbia subbasins. Past forest management and mining practices, and recreational, agricultural, municipal, and residential development have led to a decline in fish habitat quality and quantity.

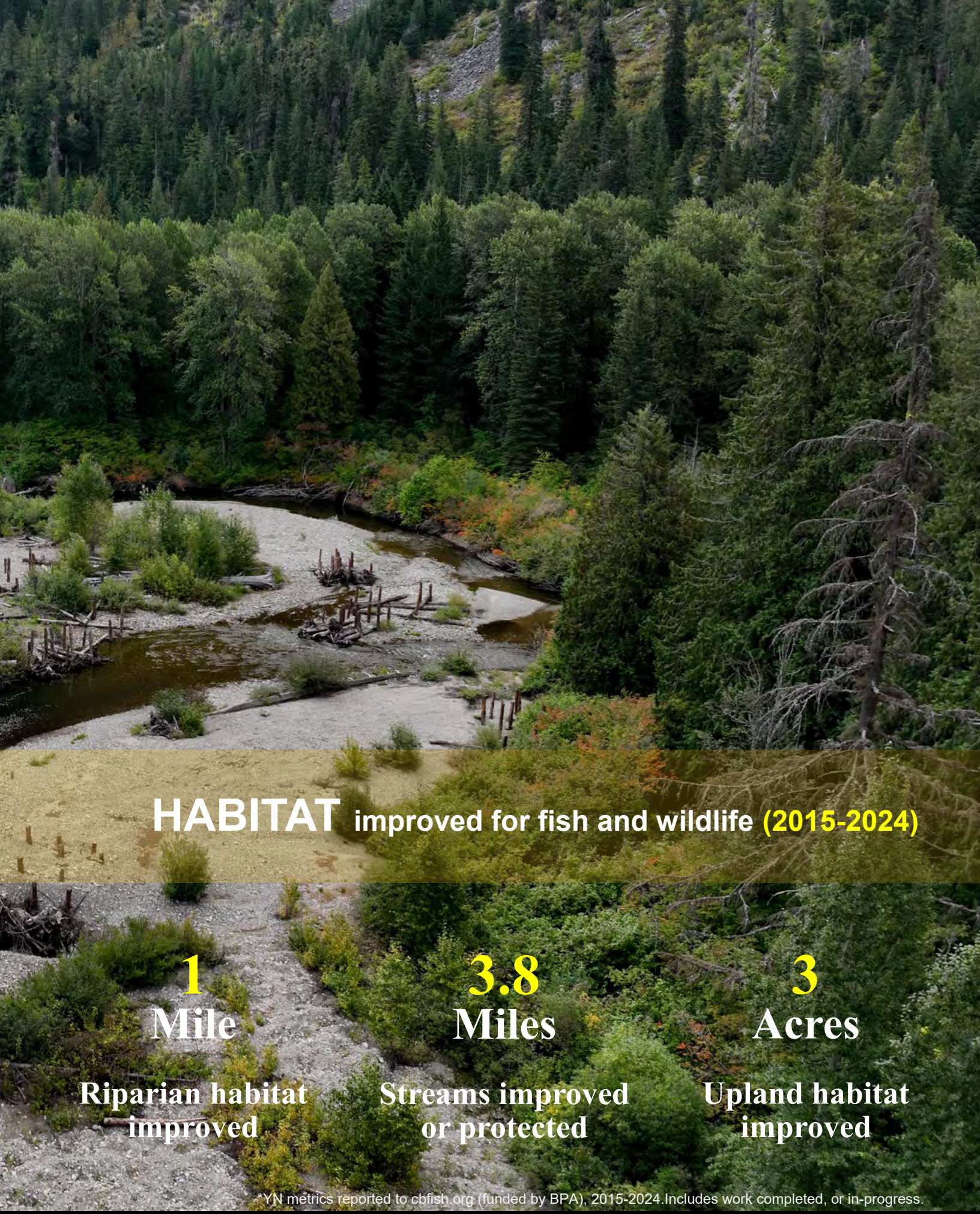
The Yakama Nation is currently implementing habitat restoration projects to address some of these impacts. From low fish numbers in the 1990s that prompted species protections, fish numbers have recently increased. However, spring Chinook and summer steelhead population numbers do fluctuate, and they are often still not reaching recovery goals. Work to restore fish population abundance and distribution is ongoing. Coho, extirpated in the 1930s, have recently been reintroduced by the Yakama Nation and are now reproducing in the wild.

8.5
Miles
Instream habitat improved

147
Features
Added for instream habitat
(logs and boulders)

50
Pools
Created for instream habitat

Photo:: Upper Nason Creek Habitat restoration project aerial view



HABITAT improved for fish and wildlife (2015-2024)

1
Mile
Riparian habitat improved

3.8
Miles
Streams improved or protected

3
Acres
Upland habitat improved

*YN metrics reported to cbfish.org (funded by BPA), 2015-2024.Includes work completed, or in-progress.

Chiwawa River—Area G Phase 1

The Chiwawa River - Area G Phase 1 Habitat Restoration Project is located in the Lower Chiwawa River Assessment Unit which is designated as a high priority area for habitat improvement actions supporting recovery of ESA-listed spring Chinook, steelhead, and bull trout. The existing habitat conditions that are limiting salmonid productivity include: loss of historic large wood cover, loss of floodplain connectivity, and decreased quantity and quality of pools.

Completed bank buried engineered logjam on Chiwawa Area G Phase 1. (Photo: YN)

To address these limiting factors, the Upper Columbia Habitat Restoration Project constructed two apex engineered log structures and six bank-buried engineered log structures. These features improved pool quantity and quality, cover, and large wood habitat complexity throughout the 0.5-mile reach of the Chiwawa River.

Phase 2 of this project is on track for implementation in 2025 and will include the addition of a 600’ long constructed side channel, as well as 6 more bank-buried engineered log structures and 4 more apex engineered log structures. Once Phase 2 is complete, the treated project reach will span nearly 1.5 miles of critical aquatic habitat.

Completed apex-engineered logjam on Chiwawa Area G Phase 1. (Photo: YN)

Chiwawa Confluence Habitat Restoration

Placed log structure associated with the Chiwawa River post-restoration project. (Photo:YN)

The Yakama Nation implemented the Chiwawa Outlet Habitat Restoration Project in 2024. The project is located at the confluence of the Wenatchee and Chiwawa Rivers, a critical ecological and biological area for adult and juvenile salmonids that migrate, spawn, and rear in both rivers.

Habitat assessments identified this area as overly simplified and lacking in pools that had any substantial depth or large wood cover, all of which impair salmonid productivity. As a result, it was designated a priority restoration project area.

The in-stream construction work enhanced the stream's complexity and increased large wood pieces throughout the 0.5-mile project area. Restoration efforts included the installation of four bank-buried engineered log structures and two bar apex log structures. Given the project's proximity to residential areas, bumper logs were installed on the bank-buried structures to minimize wood accumulation and reduce risks to river recreationists. These completed installations will increase the accumulation of cobble and gravel-sized sediment, improving spawning habitat. The associated pools are dual-purpose for both adult holding and juvenile rearing habitat.

Yakama Nation Fisheries will continue to monitor this project area in the coming years to assess how the habitat structures interact with river flows and contribute to improved fish habitat.

Action Effectiveness Monitoring

YN Fisheries staff conducting snorkel surveys to enumerate juvenile salmon and steelhead.

YN's Upper Columbia Action Effectiveness Monitoring (AEM) project has been evaluating juvenile salmonid response to habitat restoration in the Chewuch River, a tributary to the Methow River. The project utilizes before-after-impact-control study design to monitor how juvenile salmon and steelhead abundance, density, size, growth, movement, and survival change in a restored reach of the Chewuch River compared to multiple control reaches. The project has completed 2 years of pre-treatment and 3 years of post-treatment monitoring and is in the process of extensive data analysis. These analyses will help AEM refine its protocols and methodology before expanding the project to monitor multiple restoration actions in the Methow, Entiat, and Wenatchee basins. Monitoring results will be presented to YN habitat biologists who will use the information to assess the impact of their habitat actions and, if necessary, modify their methods to meet restoration goals.

Salmonids, taking refuge under a restored log structure (YN)

Upper Columbia Kelt Project

YN Fisheries staff releasing reconditioned steelhead kelt

Steelhead were once abundant in the Methow River but naturally-spawning populations currently exist at threshold levels. YN has been leading an effort to help steelhead restoration in the Methow River through kelt reconditioning. Reconditioning utilizes steelhead's ability to spawn multiple times during their life to increase wild spawning populations and enhance genetic diversity. YN collects post- spawn steelhead, known as kelts, through live-spawning and trapping. Kelts are brought to the Methow Steelhead Kelt Facility for reconditioning where they receive food and pathogen treatment. Kelts are released into the Methow River after either 6 months as consecutive spawners or 18 months as skip-spawners, depending on their maturation status. The Methow Steelhead Kelt Facility at the Winthrop National Fish Hatchery has been operating since 2012. Kelts released from the project have boosted wild steelhead spawning escapement by approximately 4% annually in the Methow River and reproductive success studies have demonstrated that reconditioned kelts produce more offspring than wild, first-time spawners. The project is currently working to develop an additional kelt facility that would allow expansion into the Wenatchee River.

Female steelhead, Winthrop National Fish Hatchery (USFWS)

WENATCHEE Subbasin

Spawning Escapement Estimate in 2024[1]

Spring Chinook
1,631

Summer Chinook[2]
2,111

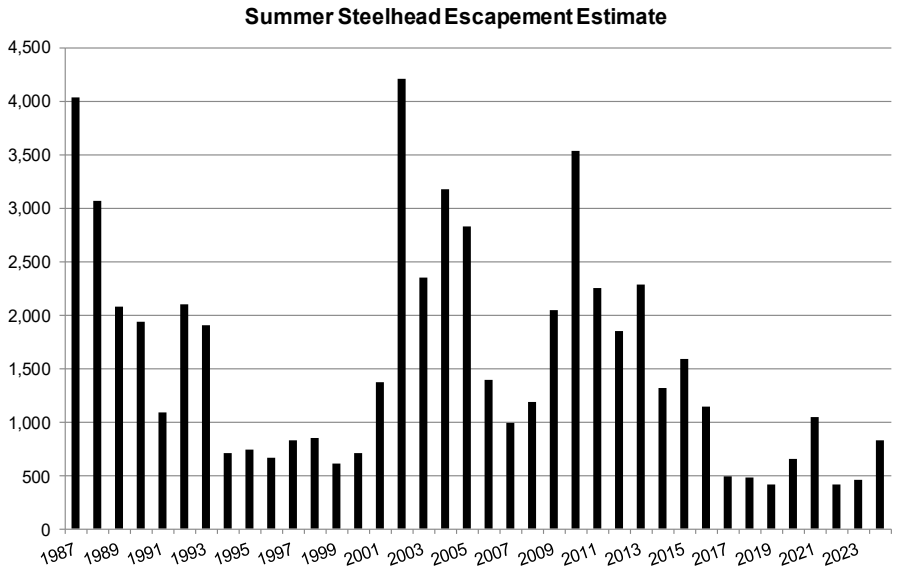
Steelhead
829

Coho
11,448

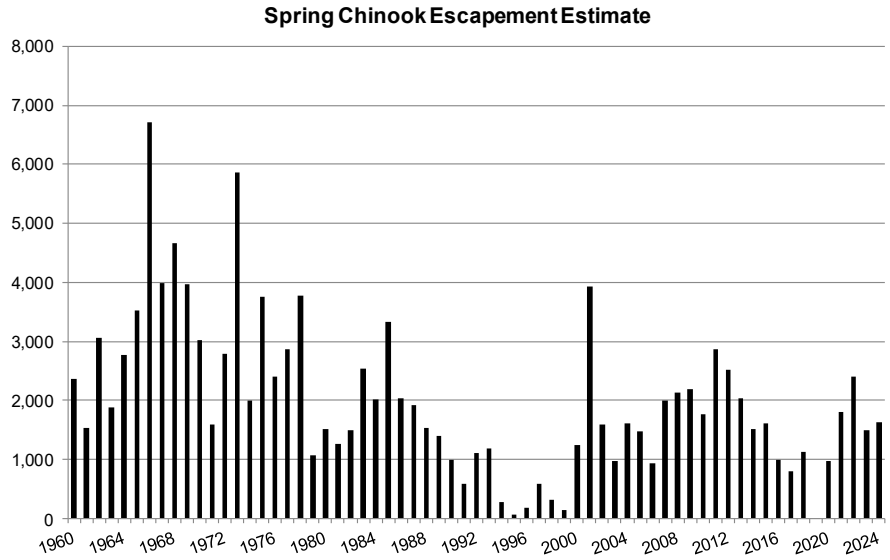
Pacific Lamprey[3]
600

[1, 2] Natural and hatchery fish, includes adults and juveniles

[3] 2,495 Including translocated adults



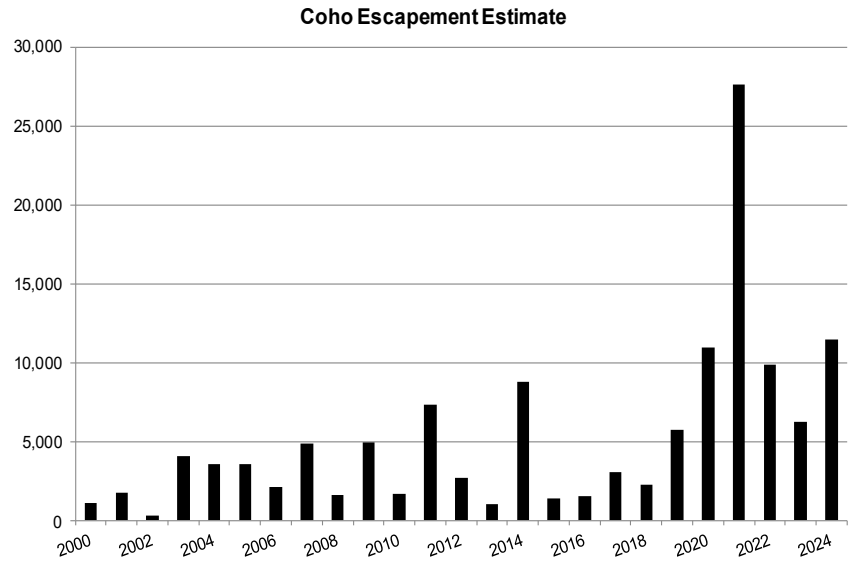
Source: YN



Source: WDFW

Our **Upper Columbia Salmon and Steelhead Acclimation Project**, which began in 2009, is designed to provide additional acclimation opportunities for existing spring Chinook and steelhead hatchery mitigation programs in the Wenatchee and Methow subbasins. Juvenile salmon and steelhead are initially reared at local hatchery facilities and transported as pre-smolts to acclimation ponds in target areas within the respective basins in mid-March. They are reared in the ponds before being volitionally released in mid- to late April. We use natural ponds for short-term acclimation to improve the efficacy of existing supplementation programs. By encouraging returning fish to seek available good quality habitat where they may successfully spawn, we are helping to rebuild natural populations. This effort is important since hatchery produced Wenatchee spring Chinook have been shown to have reproductive success equal to natural-origin spawners when they spawn in areas of high quality habitat and low spawner densities.

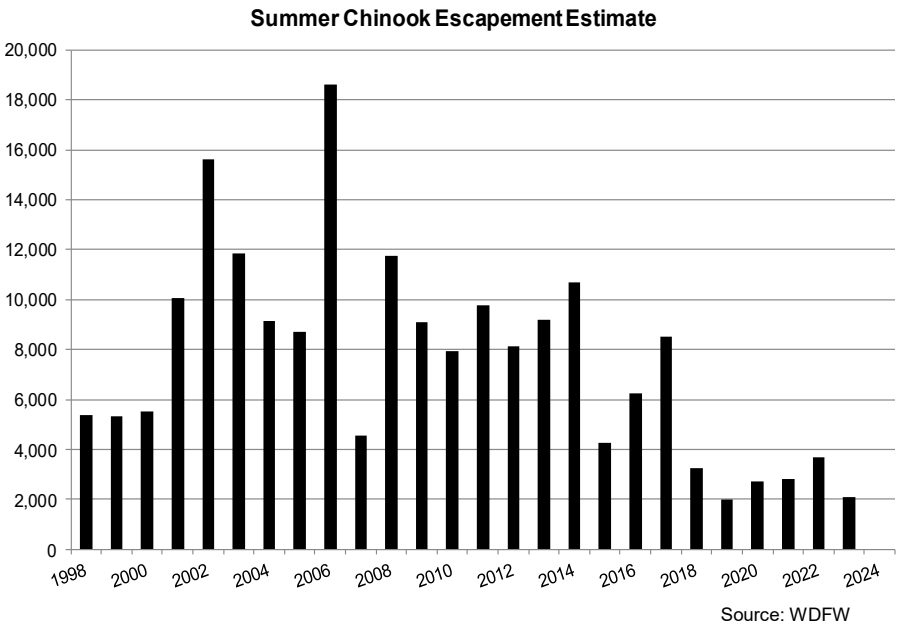
SPECIES Status and Trends



Source: WDFW

YN is restoring coho into the Wenatchee and Methow Rivers. See p.45 for more information.

Icicle Creek Tribal platform fishery. (USFWS)



Source: WDFW

	Historic Abundance Estimate	Abundance Goal (Low-High)
Spring Chinook	20,650	2,000-4,065
Summer Chinook	21,000	1,000-8,600
Summer Steelhead	7,300	1,000-3,000
Sockeye	35,000	3,500-35,000
Coho	6,500	1,500-6,000
Pacific Lamprey	15,000	700-4,900

Source: MFAC, YN (lamprey)

ENTIAT Subbasin

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. In addition to other factors, past land management practices such as mining, logging, diversions, and flood control structures contributed to habitat degradation, erosion, and loss of habitat complexity and diversity.

These habitats are needed by fish for essential spawning, rearing, and resting areas throughout their lives. The Yakama Nation and others are restoring habitat to help bring back fish populations. Although there has been some improvement in numbers in recent decades, recovering fish populations still need to increase before they can be considered a viable resource long-term.

424
Acres
Riparian area improved

195
Features
Added for instream habitat

5
Acres
Wetland treated or protected

Photo:: Silver Falls Project, Entiat River

HABITAT improved for fish and wildlife (2015-2024)

57
Miles
Riparian areas improved

5.49
Miles
Streams improved or created

3
Acres
Upland treated or improved

*YN metrics reported to cbfish.org (funded by BPA), 2015-2024. Includes work completed, or in-progress.

Mad River Restoration Project

Road building, logging, bridge placement in the Mad River watershed and the historic removal of large wood from this stream have resulted in the loss of floodplain habitat, reduced habitat complexity, and limited the quantities of in-stream spawning gravel. The limited amount of the large wood present today can be attributed to the lack of sufficiently sized or stable pieces of large wood that could annually "capture" other wood. As a result, the amount of split-flow conditions and off-channel habitats that were historically present have consequently been reduced.

The goal of this project was to restore connectivity to historic off-channel habitats, helping to reestablish conditions necessary to sustain spring Chinook, steelhead, and bull trout. Work completed through this project will promote cobble and gravel deposition, increasing spawning habitat. The associated pools will also provide adult holding and juvenile rearing habitat, while the log structures and excavated side channels will also help to re-connect floodplain habitats critical for rearing juvenile salmonids.

Above: Log structures installed in the Mad River to improve outlet cover habitat on Tillicum Fan, a YN Restoration project completed in 2018. (Photo: YN)

Project accomplishments include:

- 18 mainstem large wood structures installed
- 4 relict side channels (1,500 ft total length) perennially reconnected to mainstem channel
- 100 rootwads placed for habitat complexity within reconnected side channels
- 23 boulders placed in mainstem channel for habitat complexity

Right: Mad River mainstem channel-spanning log structure to encourage floodplain connectivity.

Opposite page: Completed apex log jam and side channel reestablishing split flow conditions. (Photos: YN)

PROJECT Spotlight

ENTIAT Subbasin

Spawning Escapement Estimate in 2024[1]

Spring Chinook[2]

122

Summer Chinook

179

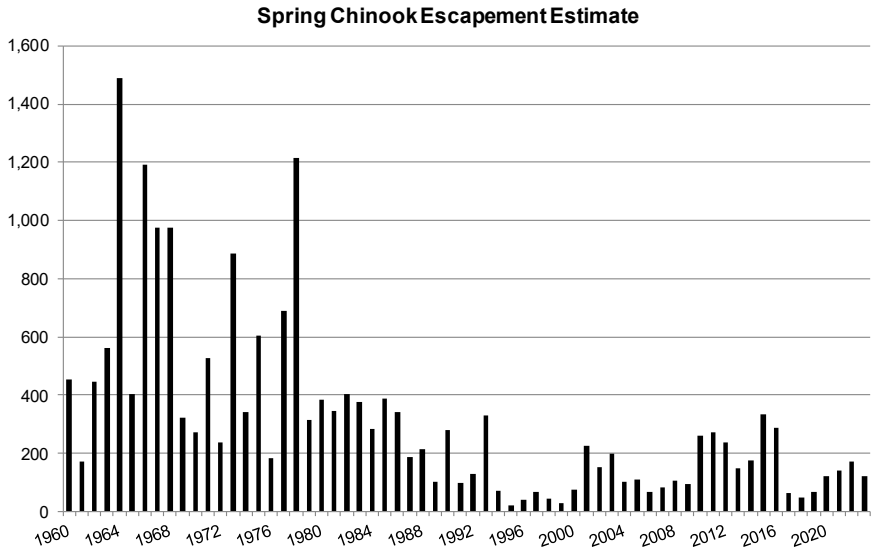
Steelhead

245

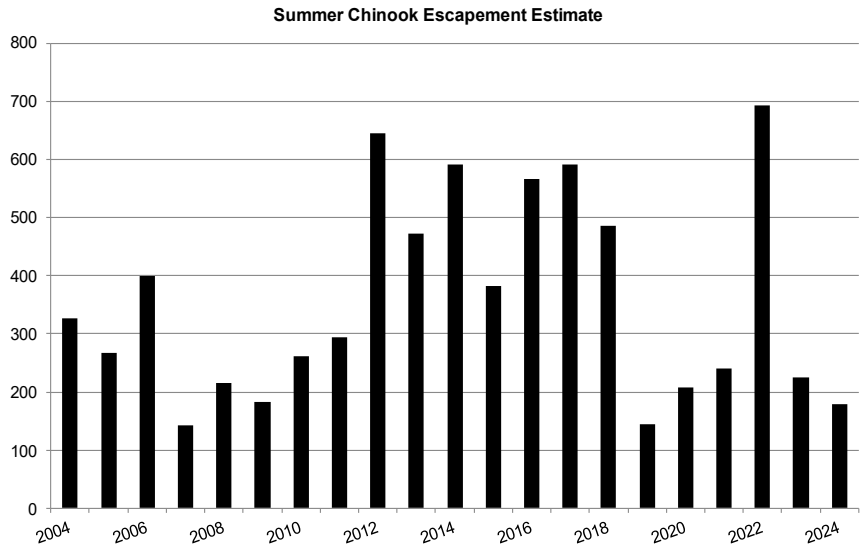
Pacific Lamprey[3]

1,000

[1] Natural fish, includes adults and jacks
[2] 2023 estimate
[3] YN Estimate



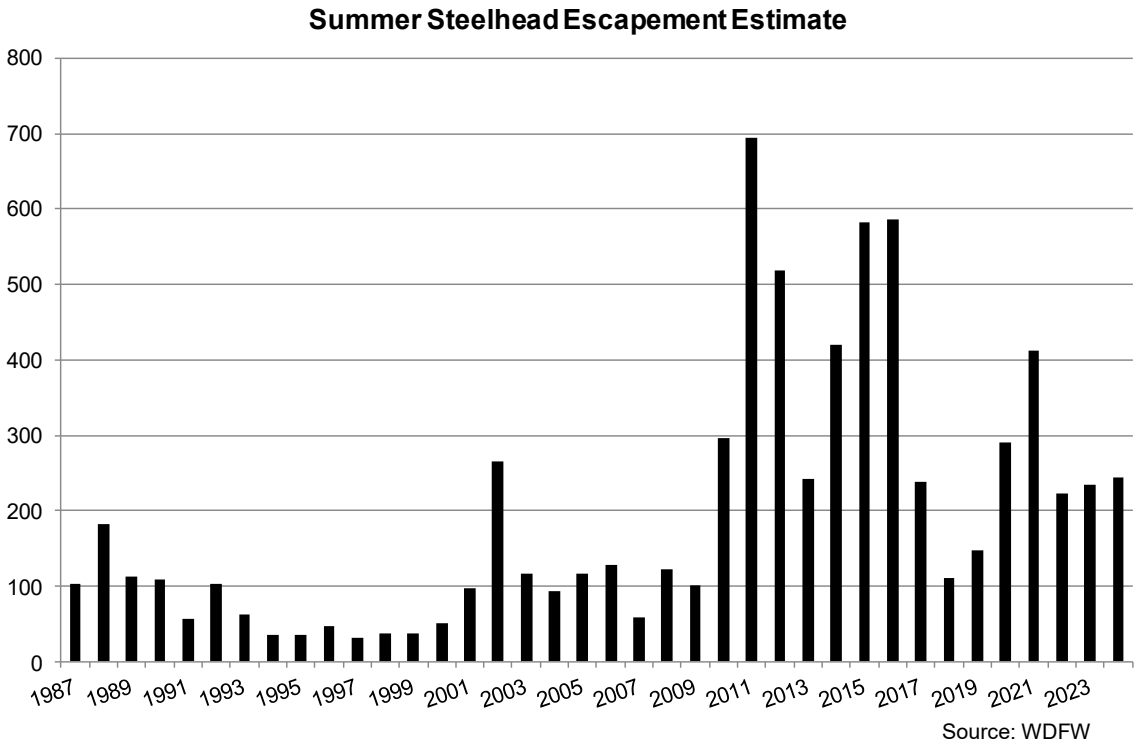
Source: WDFW



Source: USFWS

Native, naturally spawning **spring Chinook in** the Upper Columbia is an "Evolutionary Significant Unit" comprised of the Entiat, Methow and Wenatchee populations, all of which are listed as endangered under the Endangered Species Act. According to NOAA's 2022 5-year review, all populations have been on a downward trend for the most recent evaluation of 5-year abundance levels. Low ocean survival in recent years are considered a major factor in these numbers. Please see p. 35 "**Upper Columbia Salmon and Steelhead Acclimation Project**" to read about what steps YN is taking to help recover the species.

SPECIES Status and Trends



Source: WDFW

Entiat **summer steelhead** were identified as a unique stock based on their distinct spawning distribution, but no genetic analysis has been done. The proportion of hatchery-origin fish spawning in the Entiat increased from 1939 until 1987, at which point the proportion of wild fish has increased. Hatchery releases into the Entiat were discontinued in 1999 at the request of NOAA Fisheries who wanted a control stream with no hatchery releases to compare with upper Columbia tributaries that receive hatchery releases for supplementation-based recovery. The Entiat River, however, is now known for it's summer steelhead fishery, although the wild stock is considered depressed. (Source: WDFW)

Steelhead photo Zach Mays, YN Fisheries

	Historic Abundance Estimate	Abundance Goal (Low-High)
Spring Chinook	3,400	500-1,020
Summer Steelhead	500	500-1,500
Coho	11,000	500-2,000
Pacific Lamprey	5,000	300-1,700

Source: MFAC, YN (lamprey)

METHOW Subbasin

Industrial development of the Columbia River, mining, water diversions, forestry, and private development in the Methow Subbasin, combined with historically intensive fishing, have led to declines of wild salmonid populations. Most of the habitat degradation is located in the mid-to-lower portions of the subbasin. Of all the fish species in the Methow, spring Chinook is one whose population numbers are of most concern. By the 1930s, only 200 to 400 adult spring Chinook returned to the Methow. There have been large fluctuations in redd counts from the 1950s through the 1990s, and they are still not reaching minimum thresholds for viability. Summer Chinook, which is now a supplemented population, averaged a run size of about 1,000 adults from 1980 to the 1990s, but now is seeing greater returns and harvest in the mainstem Columbia River.

Although the subbasin was once a productive steelhead system, the population now sustains itself only at a threshold population size.

Coho were extirpated in the early-1900s; however, through the Yakama Nation's reintroduction efforts, natural reproduction is now occurring. Since 2000, YN and partners have been successfully reintroducing coho to the Methow Subbasin, and the project is now demonstrating success with harvestable returns.

1
Barrier
Access to habitat addressed

308
Features
Added for instream habitat

6
Acres
Wetland treated or improved

Photo: Methow River (WGS/DNR)

HABITAT improved for fish and wildlife (2015-2024)

435
Acres

Riparian areas improved

24
Miles

Stream treated or improved

4
Acres

Upland treated or improved

*YN metrics reported to cbfish.org (funded by BPA), 2015-2024.Includes work completed, or in-progress.

METHOW Subbasin

Spawning Escapement Estimate in 2023

Spring Chinook[1]
268

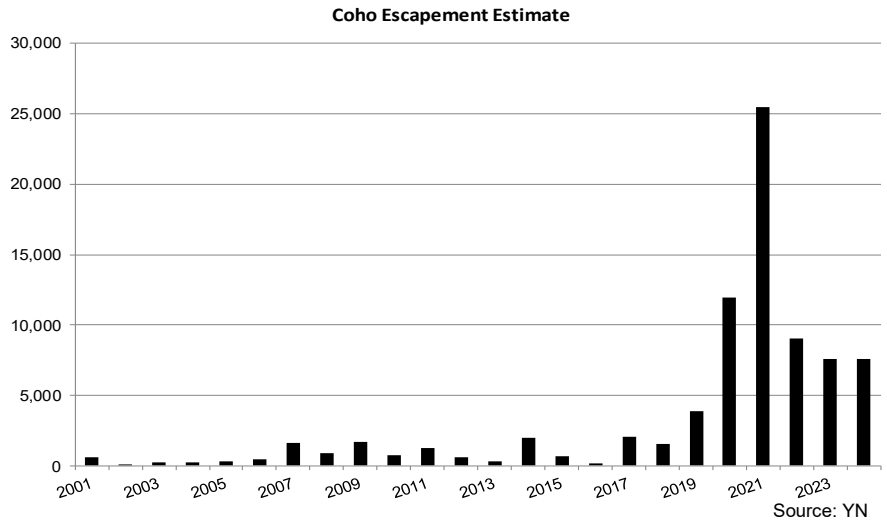
Summer Chinook[2]
2,633

Coho[2,3]
7,595

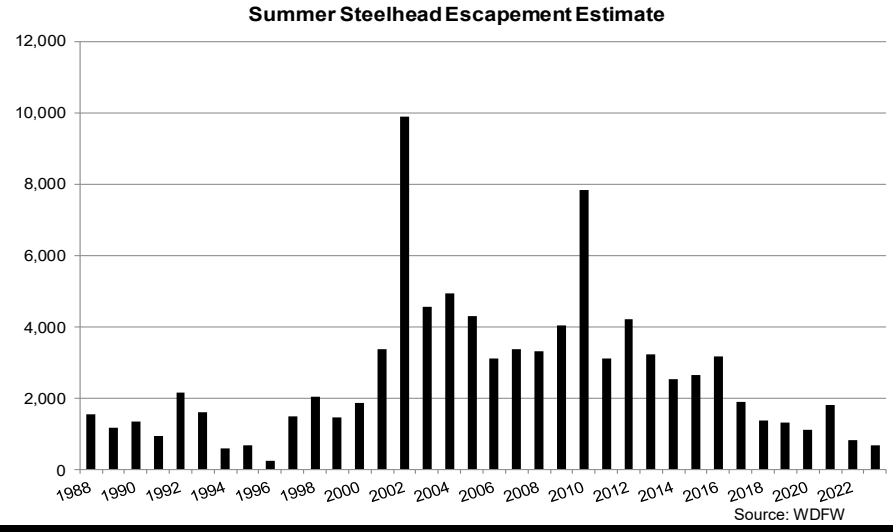
Steelhead[1]
687

Pacific Lamprey[4]
600

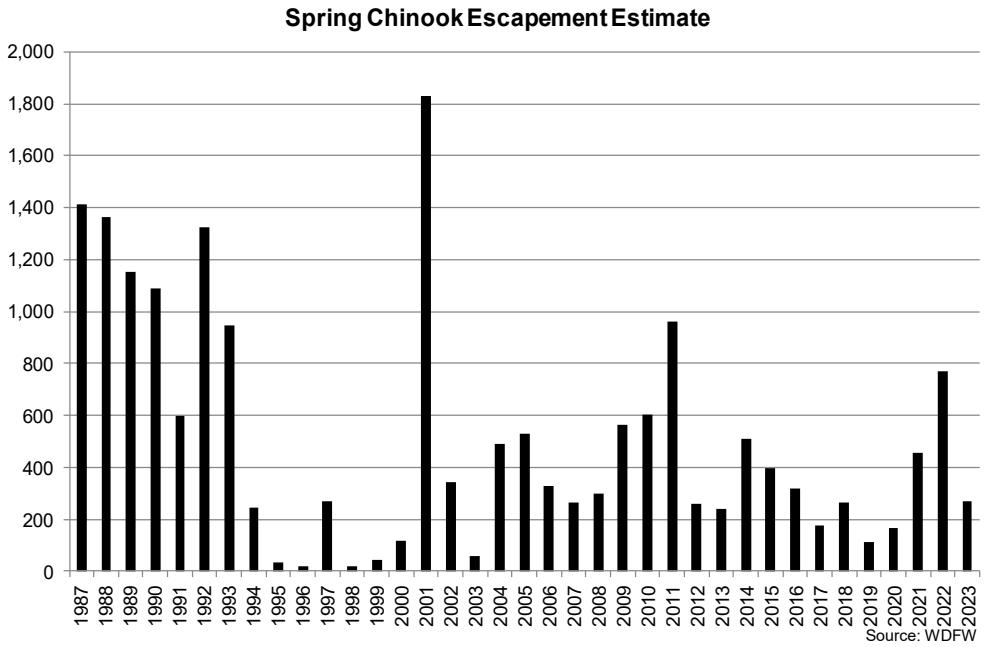
[1] Natural fish, includes adults and jacks
[2] Natural and hatchery fish, includes adults and juveniles
[3] 2024 estimate
[4] 1,645 including translocated adults



Coho were once abundant in the mid-Columbia region with estimates of adult populations of about 30,000 in the Methow, where they may have once been the most common salmon species. By the end of the 20th century, coho in the mid- and upper- Columbia River basins were extirpated due to hydropower development, unscreened irrigation diversions, overharvest in the lower-Columbia River, and habitat degradation. Because coho spawn in small, low gradient streams and because these streams are often in locations that humans populate, coho are particularly vulnerable. The Yakama Nation recognized the potential to return coho to the Methow and Wenatchee River subbasins, and since 2000 we have been collaborating with the US Fish & Wildlife Service, Oregon Department of Fish & Wildlife, and various local landowners to re-establish spawning coho populations to levels that can support harvest. Although broodfish were initially sourced from lower Columbia River stocks, a transition to local broodstock occurred as early as 2005. Through guidance of our long term Master Plan, we continue to expand project releases while initiating natural-origin production within historic spawning areas, ultimately creating sustainable spawning aggregates within target watersheds. After decades of effort, the Yakama Nation Mid-Columbia Coho Restoration Program is now demonstrating the benefits predicted. Ancestral fishing rights are being supported, the ecological health of the watersheds is being improved, coho species fitness is being strengthened, and both tribal and non-tribal harvests are increasing.



SPECIES Status and Trends

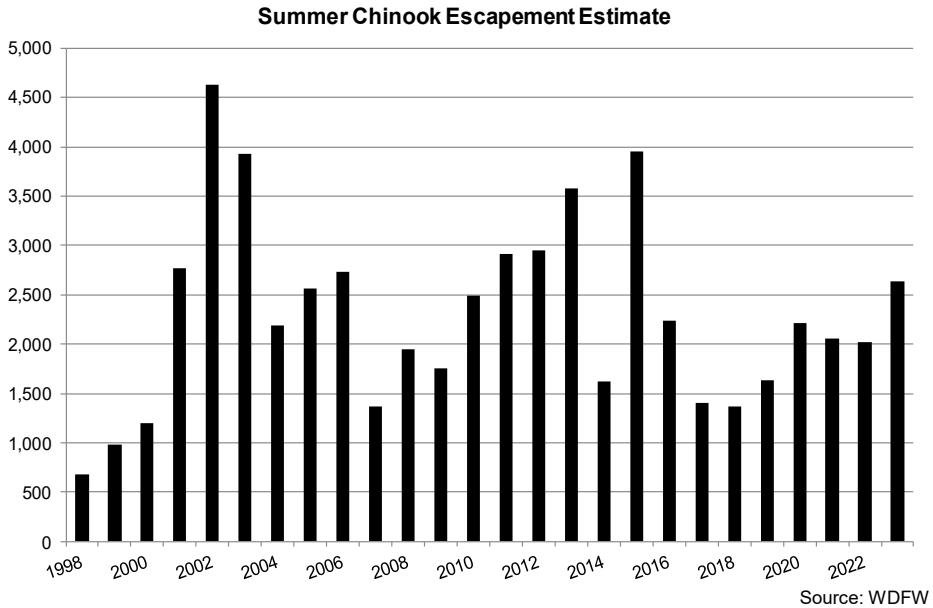


Habitat restoration efforts implemented by he Yakama Nation are designed to benefit juvenile and spawning Chinook and steelhead.

See p. 35 for more information about **Upper Columbia Chinook** and the YN Multi-Species Acclimation Project.

See p. 41 for information regarding NOAA's 5-year review of the Upper Columbia Spring Chinook Evolutionary Significant Unit.

Chinook (OSU/ Wikimedia Commons)



	Historic Abundance Estimate	Abundance Goal (Low-High)
Spring Chinook	24,000	2,000-4,050
Summer Chinook	12,000	1,000-4,400
Summer Steelhead	3,600	1,000-1,650
Coho	27,000	1,500-6,000
Pacific Lamprey	14,000	700-4,500

Source: MFAC, YN (lamprey)

Honor. Protect. Restore.

BONNEVILLE
POWER ADMINISTRATION

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