Yakama Nation Fisheries

# SALMON IN THE WENATCHEE

## *Why are Salmon Important?*

**Salmon are an important icon of the Pacific Northwest. Their life cycle spans the diverse landscapes and peoples in our region. Salmon have always been an important food source and cultural identity for Yakama people.**

TOTAL ECONOMIC ACTIVITY GENERATED IN WASHINGTON FROM SPORT AND COMMERCIAL FISHING:

**$2,500,000,000**

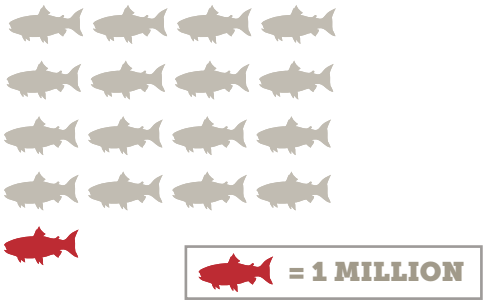
WASHINGTON JOBS CREATED FROM SPORT AND COMMERCIAL FISHING:

**28,000**

DECREASE FROM HISTORIC FISH RUNS:

**93%**

SALMON RETURNING TO SPAWN ANNUALLY:
HISTORICALLY VS. CURRENTLY




Salmon declines have led to the federal government protecting spring chinook, steelhead and bull trout under the Endangered Species Act.

Local salmon recovery plans identify habitat restoration projects that are designed to improve spawning and rearing habitat, as a top priority.

Recovery efforts must also address improvements to the hydropower system, hatcheries and fish harvest in order **to ensure sustainable salmon returns for the next generation**.

Yakama Nation Fisheries

# RESTORING PACIFIC LAMPREY: BRINGING BACK ASÚM TO THE COLUMBIA RIVER

Pacific Lamprey are among the planet's oldest living vertebrates—predating dinosaurs by as many as 200 million years. Though they have survived for millions of years, their population in Washington state is in severe decline, dropping by 90 percent in some areas due to pollution and the damming of lakes and rivers since the early twentieth century.

A traditional food staple and ceremonial fish for the Yakama people, Pacific Lamprey play a critical role within the Columbia River ecosystem. Modern day Lamprey have been overlooked and misunderstood, so the Yakama Nation Fisheries launched the Pacific Lamprey Project in 2008 to address the urgent need to restore the fish to levels that sustain healthy populations, generate ecological contributions and support tribal harvest opportunities.

## WHY PACIFIC LAMPREY?

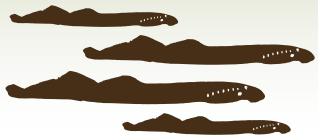
### 1 An important food source for people

The rich and fatty meat of the lamprey was a traditional food staple for the Yakama people—and other tribal communities of the Columbia River Basin. The fish was given a place of honor next to salmon in ceremonial settings, and its oil was used as healing medicine, making Pacific Lamprey a revered delicacy in Yakama culture.

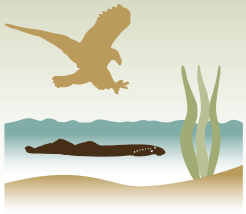
### 2 An essential part of a healthy river system

Lampreys, like salmon, spend most of their adult life in the ocean, returning to fresh water to spawn. As a fish that is native to the waters of the Columbia River and its tributaries, lampreys play an important role in stream health, carrying proteins and nutrients from the ocean that strengthen the freshwater ecosystems to which they return. Lampreys are also an important source of food for other animals, including birds, fish and mammals, such as seals.

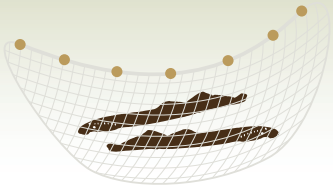
# **PROJECT GOALS:** FULFILLING A VISION FOR THE FUTURE



Species abundance



Significant ecological contributions



Meaningful harvests

## PROJECT OBJECTIVES

By researching where lampreys live, both historically and in present day, and by studying their migration behaviors and preferred habitats, we developed and began implementation of a long-term action plan to restore this important fish. Simultaneously, we launched and will evaluate a pilot project that involved moving adult and larval Pacific Lampreys to sub-basins where they have a high likelihood of reproductive and/or rearing success.

## PROJECT ACCOMPLISHMENTS

Our efforts to restore lampreys in the Columbia River are making a difference. We've seen their resurgence in historical river systems and we've taught our youth where to find lamprey and how to harvest them. Other accomplishments include:

- **Development of a long-term management and action plan**
- **Artificial reproduction of Pacific Lamprey at two Yakama hatcheries, resulting in thousands of lamprey larvae**
- **Launch of the translocation pilot project by moving ~1,000 adult lampreys from the Lower Columbia River to Yakima, Wenatchee and Methow sub-basins**
- **Documentation of the current location of the lamprey populations in the Yakima, Wenatchee, Methow, Entiat, Klickitat and White Salmon sub-basins**
- **Modification of fish passage systems in the Lower Columbia River, as well as tributary rivers (such as Prosser Dam, Yakima River) to address the specific needs of lampreys**
- **Documentation of the return of lampreys, either naturally or through translocation, to various sub-basins within Ceded Lands**

### About Yakama Nation Fisheries

The Yakama Nation established Yakama Nation Fisheries in 1983 to restore nearly extinct runs of salmon and the river habitat upon which they depend. Since inception, Yakama Nation Fisheries has employed scientific expertise in concert with traditional ecological knowledge to develop innovative projects and partnerships, which are credited with restoring culturally important fish runs in the Columbia River. Our Pacific Lamprey Project is just one example.

Yakama Nation Fisheries

# ENSURING FISH HARVESTS: PRESERVING A CULTURE ON THE COLUMBIA

For thousands of years, the Yakama people have lived along the shores of the Columbia River, thriving off of the natural resources that both the river and the land provided. Fish and water have always been central to our culture and our survival—allowing us to prosper. To this day, we honor the salmon with thousand-year-old ceremonies, passed down from one generation to the next.

## FISH HARVEST: A TREATY RIGHT

In 1855, the Yakama Nation entered into a treaty with the United States government. Under the treaty, we reserved the right to fish, hunt and gather at all "usual and accustomed places," which included areas outside of our reservation lands. It also included the right to have enough fish present in these places to support a meaningful tribal harvest.

## THE STATE OF SALMON IN THE COLUMBIA RIVER

Conservative estimates place the historical number of salmon returning to spawn in the Columbia River at 11 to 16 million fish. In modern times, as a result of overfishing, habitat loss, pollution and the introduction of dams, salmon fish runs have drastically declined. In 1986, Coho salmon in the Columbia went extinct and, in 1991, several more species were listed as endangered. As of 2014, 13 species of salmon and steelhead are endangered or threatened.

# BRINGING LIFE BACK TO THE RIVER

## 100+ projects

ACROSS

## 10 sub-basins

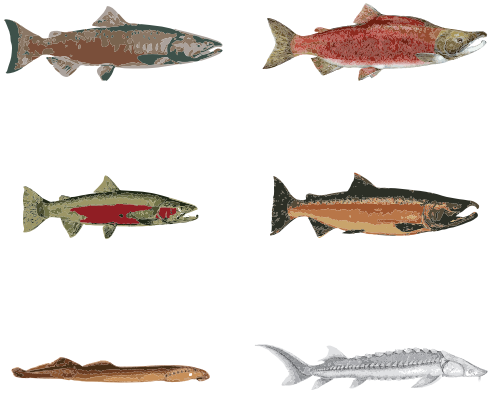
AND

## 8 counties

PROTECTING AND RESTORING

## 6 species of fish

Chinook, Sockeye, Steelhead, Coho, Pacific Lamprey and White Sturgeon.



THIS IS ACCOMPLISHED BY:

**Restoring Columbia River habitats**

**Supplementing fish stocks**

**Research and data collecting**

**Partnerships**

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Learn more by visiting us at **www.yakamafish-nsn.gov**

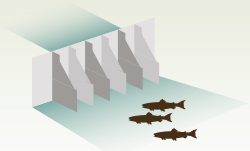
Yakama Nation Fisheries

# SOCKEYE IN THE YAKIMA BASIN: A STORY OF RESURGENCE

A century ago, sockeye runs that historically produced 200,000 fish each year were obliterated in the Yakima Basin. Victims of the heyday of dam building in the early 1900s, sockeye salmon simply disappeared as the man-made structures blocked passage to their traditional spawning grounds.

We're reversing that story line. In concert with our ongoing work to restore salmon and salmon habitats throughout the Columbia Basin, Yakama Nation Fisheries launched the Yakima Basin Sockeye Reintroduction project in 2009, focusing first on returning sockeye to Cle Elum Lake.

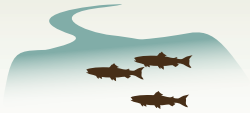
## HOW IT WORKS:
## THE REINTRODUCTION PROCESS



1. Adult sockeye return to Priest Rapids Dam.

2. Yakama Nation Fisheries personnel collect the fish.

3. Fish are released into Cle Elum Lake.



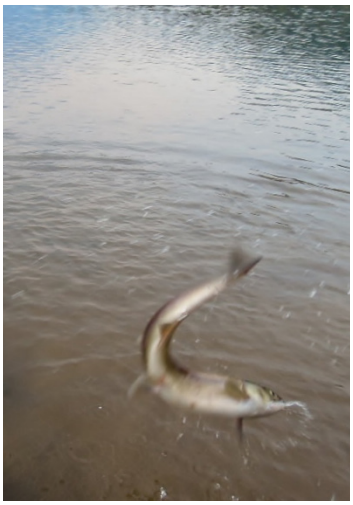
4. Fish swim to the Yakima River where they spawn.

5. Smolt (juvenile fish) swim through a temporary* passage flume built into the dam.

* A more permanent passage is scheduled to be built in 2017.

# CELEBRATING THE RETURN OF THE SOCKEYE

In 2009, when we released 1,000 sockeye into Cle Elum Lake, it had been 100 years or more since the once plentiful fish spawned in the waters above the lake. Four years later, the offspring of those released sockeye returned to their birth place to repeat their almost mystical cycle of life.



**22,000**

Sockeye released into Cle Elum Lake between 2009 and 2013. These transported fish successfully spawned each year.

**80,000**

Sockeye migrated from their home streams to the ocean in 2011.

**701**

Sockeye returned to the Yakima Basin in 2013.

**4,000**

Sockeye returned to the Yakima Basin in 2016.

## Honor. Protect. Restore.

The Yakama people revere salmon as part of our spiritual and cultural identities. Restoring sockeye and other species of fish is not just an economic or environmental imperative—it's central to the survival of Yakama's culture.

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# YAKAMA NATION
## COAL FACT SHEET

## The Yakama Nation Opposes the Proposed Morrow Pacific Terminal

The Yakama Nation has always opposed any development that would compromise its treaty rights. Until now, it has seldom made those fights public.

The transportation and export of coal from the proposed Morrow Pacific terminal at Boardman, Oregon, would destroy traditional Yakama fishing areas along the Columbia River, and directly harm Yakama tribal members' health.

This new transporting and barging of coal on the Columbia River would violate two fundamental rights established in the Treaty of 1855:

- The right to hunt, gather and take fish in all usual and accustomed places
- The right to live free from environmental damages

This proposed terminal represents an assault on Yakama Nation treaty rights, civil rights, and human rights; and it undercuts all our efforts to honor, protect, and restore the fish and wildlife that live in the Columbia River.

## The Effects of Coal

The following shows some of the effects that coal pollution would have on the Columbia River and the surrounding environment.

**1 ton**

AMOUNT OF **COAL DUST THAT CAN ESCAPE FROM A SINGLE COAL CAR**

**4/day**

NUMBER OF **INCOMING AND OUTGOING TRAINS PER DAY** OUT OF BOARDMAN, OREGON

LENGTH OF TRAINS CARRYING COAL **ALONG THE COLUMBIA RIVER**

**1.5 miles**

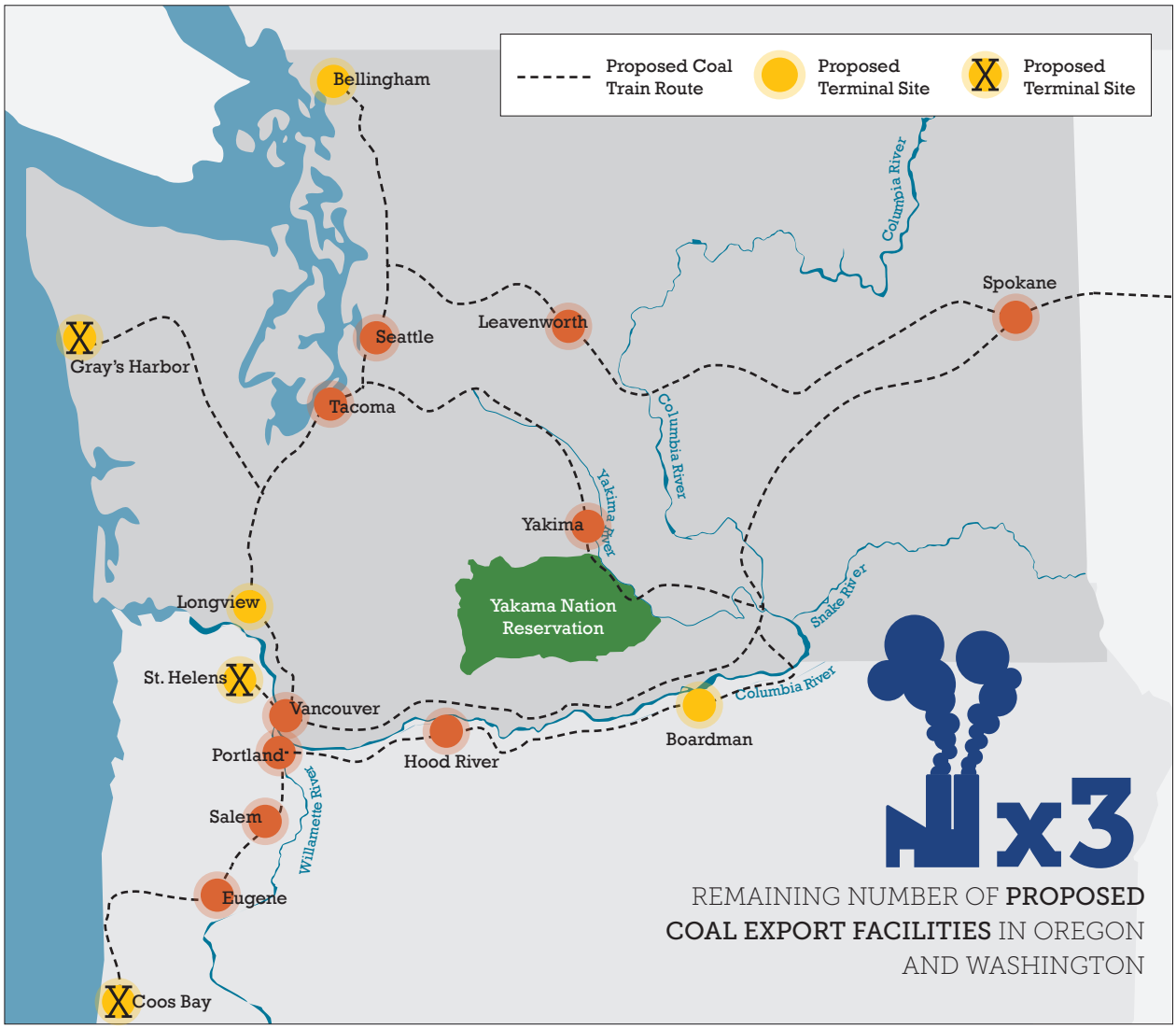
**9 million tons**

AMOUNT OF **COAL THAT WOULD BE EXPORTED** OUT OF BOARDMAN, OREGON PER YEAR

# YAKAMA NATION
## COAL FACT SHEET

## Coal export in the Pacific Northwest

The fight against coal extends beyond Boardman, Oregon. There are many proposed terminal sites throughout the Pacific Northwest, and all would have a catastrophic impact on our communities and environments. Partnerships with other tribal nations, as well as local, state and federal governments, are important to the protection of tribal treaty rights.



# LARGE WOOD HABITAT IN THE WENATCHEE AND ENTIAT

## STRENGTHENING OUR WATERSHEDS

### WHAT IS LARGE WOOD HABITAT?

Large wood habitat is the natural construction of trees, shrubs and boulders along the edges of streams and rivers to increase water flow, and create habitat for coverage for fish and other species.

## SOLVING A 200 YEAR OLD PROBLEM

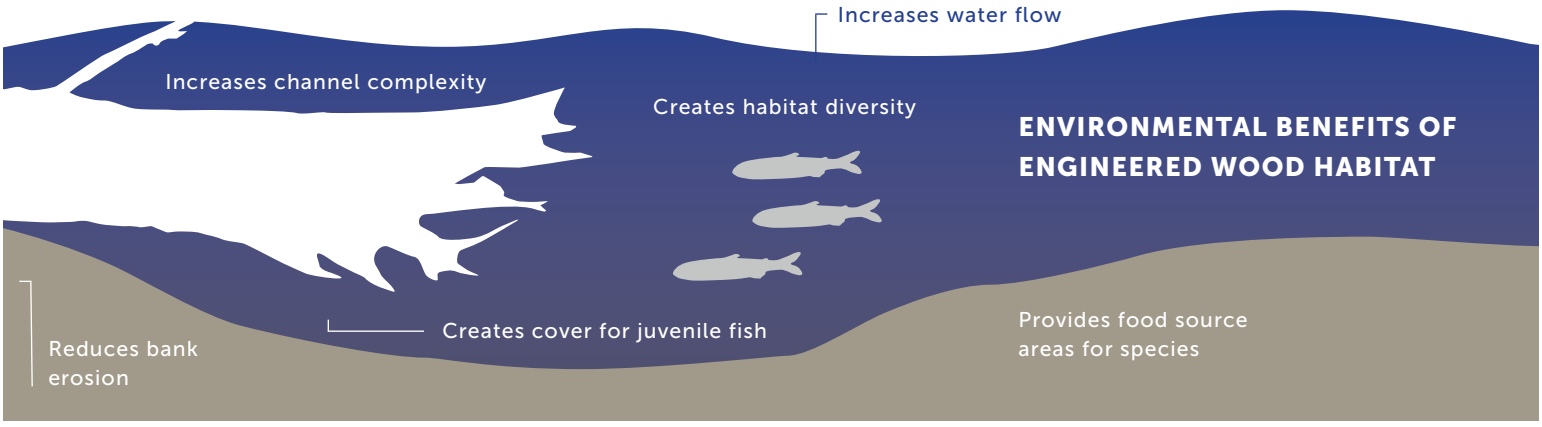
Stream, riparian and watershed land uses have severely impaired the natural process of wood to aquatic habitat.

## CREATING A SOLUTION

The use of engineered large wood habitats is a common component of many restoration efforts. In many cases, constructing large wood habitat is a necessary means in order to restore an area's habitat.

**LEFT**: Historically, large wood habitat was created naturally, which created a fast river flow, and habitat for fish and species

**RIGHT**: Today, large wood habitat is less because rivers have suffered from riparian clearing, log drives and channel alterations



# PLANNING AND SAFETY

## PROJECT PLANNING

**1 IDENTIFY PROBLEM**
A restoration area is identified based on overall goals, objectives and recommended restoration strategies.

**2 ANALYZE PROJECT AREA**
Assessments are completed to identify habitat limiting factors, physical process impairments, and physical and social constraints to habitat recovery.

**3 IDENTIFY RESTORATION STRATEGIES**
The restoration strategies are developed using scientific methods and past research.

**4 PROJECT DESIGN**
Construction plans are created and carried out by a team of various scientists, engineers and constructors.

## PROJECT SAFETY

**RECREATIONAL USE STUDIES**

**TAILOR-MADE PROJECT DESIGNS**

**SAFETY SIGNAGE**

**>100x**

The difference in the amount of large wood in some historical streams compared to today

**46%**

The "at risk" percentage of riparian trees available for streams in the Wenatchee, Entiat and Methow Basins according to REI metrics

**24%**

The percentage of "unacceptable" impairment to channel migration processes in the Wenatchee, Entiat and Methow Basins according to REI metrics

### THE BOTTOM LINE

A lack of large wood habitat in the Upper Columbia tributaries has resulted in channel simplification and a reduction in the quantity and quality of aquatic habitats. It is important to restore these watersheds for future generations of river users.

### PARTNERS

Partner One Tribe
Partner Two Association
Partner Three Organization
Partner Four Community

Partner One Tribe
Partner Two Association
Partner Three Organization
Partner Four Community