



Hatchery Update

Little White Salmon National Fish Hatchery



Introduction

The Little White Salmon National Fish Hatchery (NFH) was established in 1896 and is the oldest federal hatchery on the Columbia River. Congressional authorization was based on the intent to supplement the commercial fishing industry and to address the decline of tule fall Chinook, the native salmon stock that returned to the Little White Salmon River. The completion of Bonneville Dam in 1938 was probably the most significant event that occurred in the first 42 years of operation. Not only was the hatchery flooded by the rising Bonneville Pool, but the average annual egg take of tule fall Chinook declined by 44%. The natural spawning grounds of this fish were lost as habitat at the mouth of the river was inundated by the Bonneville pool. The original mouth of the Little White Salmon River extended nearly an additional half mile out and downstream of its current location on the Columbia River. This prime spawning habitat essential to the survival of naturally spawning tule fall Chinook was permanently lost following the completion of Bonneville Dam in 1938. It was during this time that the hatchery became part of the Mitchell Act program, producing fish to mitigate for lost habitat that resulted from the construction and operation of the fledgling Columbia River hydropower system.

Reimbursable funds from other agencies accounted for a majority of the operational budget at the Little White Salmon NFH with most of these funds coming

from NOAA - Fisheries Mitchell Act appropriation, U.S. Army Corps of Engineers John Day mitigation program, and the Grant County PUD-funded White River Recovery program.

The hatchery is located in south-central Washington on the Little White Salmon River approximately one mile upstream from the Columbia River. The Little White Salmon River joins the Columbia River at river mile 162 and is located approximately 12 miles east of Stevenson, Washington. Drano Lake, a natural impoundment at the mouth of the river, is a popular sport and tribal fishing area. The hatchery is located on 432 acres of land including easements.

Current Fish Production Program

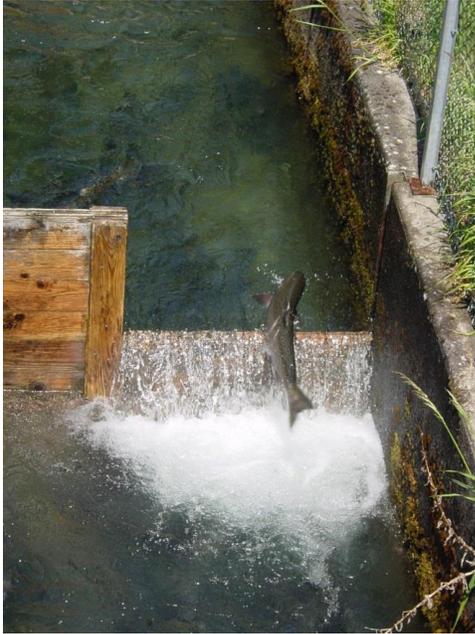
The current Complex production program is guided by specific fish production goals identified in the recently negotiated 2008-2017 *United States v. Oregon* Management Agreement. The purpose of the Management Agreement is to provide a framework within which the Parties (the State of Washington, the State of Oregon, the State of Idaho, the United States, the Shoshone Bannock Tribes, the Confederated Tribes of the Warm Springs Reservation of Oregon, the Confederated Tribes of the Umatilla Indian Reservation, the Nez Perce Tribe, and the Confederated Tribes and Bands of the Yakama Nation) may exercise sovereign powers in a coordinated and systematic manner in order to protect, rebuild, and enhance upper Columbia River fish runs while providing harvests for both treaty Indian and non-treaty fisheries. The primary goals of the Parties are to rebuild weak runs to full productivity and fairly share the harvest of upper river runs between treaty and non-treaty fisheries in the ocean and Columbia River Basin. As a means to accomplish this purpose, the Parties intend to use habitat protection authorities, enhancement efforts, and artificial production techniques as well as harvest management to ensure that Columbia River fish runs continue to provide a broad range of benefits in perpetuity.

Fish production goals specific to the hatchery and agreed to by the Parties include:

- 900,000 yearling spring Chinook salmon released on site.
- 150,000 endangered White River spring

Chinook pre-smolts for transfer, acclimation, and release into the White River, Washington.

- 4,500,000 sub-yearling upriver bright (URB) fall Chinook released on site.
- 1,700,000 sub-yearling URB fall Chinook released off site on the Yakima Indian Reservation as mitigation for John Day Dam.
- 5,000,000 million URB fall Chinook eggs for transfer to the Yakama Nation Klickitat Hatchery.
- 1 year class of endangered White River spring Chinook captive brood stock for spawning, second generation juvenile production, and to prevent the extinction of this population of fish.



Cultural Values

The Columbia River Treaty Tribes (Yakama Nation, Confederated Tribes of the Warm Springs Reservation of Oregon, Nez Perce, and Confederated Tribes of the Umatilla Indian Reservation) share the in-river harvest of spring Chinook, URB fall Chinook, and coho returning to the Little White Salmon NFH. The cultural significance of these fish to the tribes is best characterized by the following quotation:

“Salmon was presented to me and my family through our religion as our brother. The same with the deer. And our sisters are the roots and berries. And you would treat them as such. Their life to you is just as important as another person would be.”

Margaret Saluskin, Yakama Nation, Columbia River Inter-Tribal Fish Commission.

Coded-Wire Tag Marking Program

Marking of fish using an adipose fin clip and/or coded-wire tagging technology makes determining survival rates and contribution of salmon to the various fisheries in and out of the Columbia River possible. At present all spring Chinook salmon are fin clipped with 75,000 being coded-wire tagged.

This mass marking of spring Chinook complies with selective fisheries management practices now instituted for hatchery releases into the Columbia River.

All spring and URB fall Chinook salmon released from the hatchery are 100% adipose fin clipped and a portion are additionally coded-wire tagged to access survival and fisheries contribution. This change from past Chinook salmon releases represents an effort to mark all hatchery salmon reared and released into the Columbia River. This marking effort is dependent on annual funding and equipment availability.

PIT Tagging Program

Both spring and fall Chinook salmon released on station include a representative PIT (passive integrated transponder) tag to provide real-time harvest management in the Columbia River and Drano Lake. A total of 15,000 spring Chinook salmon and 15,000 URB fall Chinook salmon received PIT tags during 2013.

Sampling of Returning Fish

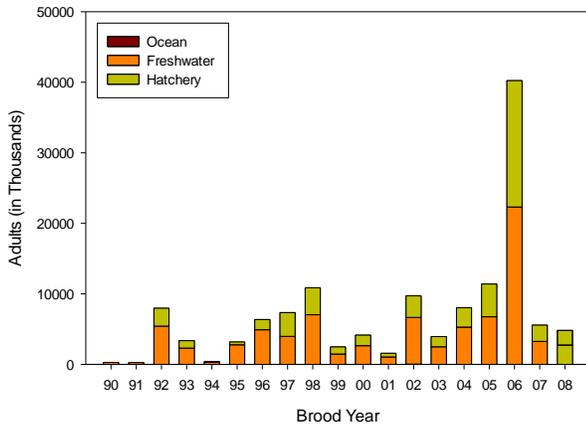
A proportion of returning adults are sampled at each hatchery. Sex and length are recorded and scales are collected to determine age. By using sample information and the number of returning fish, it is possible to calculate the number of returning fish for each age group and, consequently, the number of fish returning from each brood year or release year.

Spring Chinook Salmon



Most returning adult spring Chinook salmon return as 4 year olds. Almost all spring Chinook are harvested in fresh water in the Columbia River. The majority are harvested in the sport fishery in Drano Lake, just below the hatchery.

Total Adult Production of Spring Chinook Salmon by Brood Year



Mitigation Production – Producing Fish for Tribal Harvest

Producing fish for tribal harvest is an important goal of the hatchery mitigation program. To help minimize excess fish at the hatchery, the Yakama Nation schedules a fall tribal gillnet fishery in Drano Lake targeting fish returning to Little White Salmon NFH. The Service has encouraged the Yakama Nation to hold these Drano Lake lottery gillnet fisheries to help reduce the number of fish that are excess to hatchery escapement goals. In addition, terminal area fisheries similar to the Drano Lake spring and fall tribal fisheries emphasize the harvest of hatchery fish while avoiding the potential impacts on wild and endangered fishes that occurs in mainstem Columbia River mixed stock fisheries. The Yakama Nation lottery fishery occurs one day per week May and October (Tuesday night thru Wednesday noon) coincident with a one day sport fishing closure. The number of fisherman as well as net limitations are set by tribal fisheries managers.

In addition, 10,954 spring Chinook, fall Chinook and coho salmon carcasses were donated to the Yakama Nation, Confederated Tribes of the Warm

Springs Reservation, and Northwest Harvest Food Bank.

Drano Lake Tribal Platform Fishery

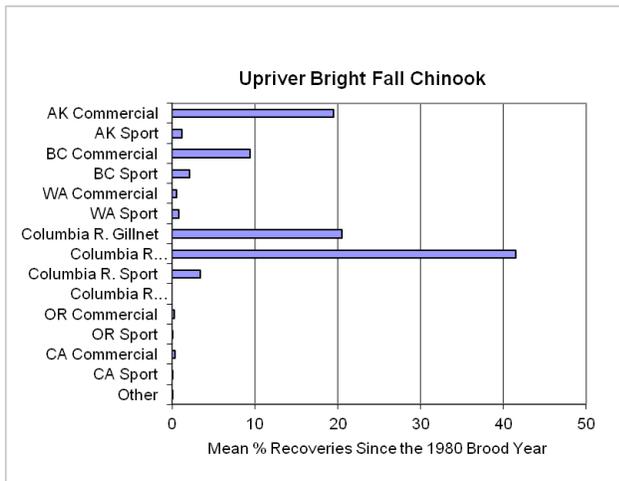
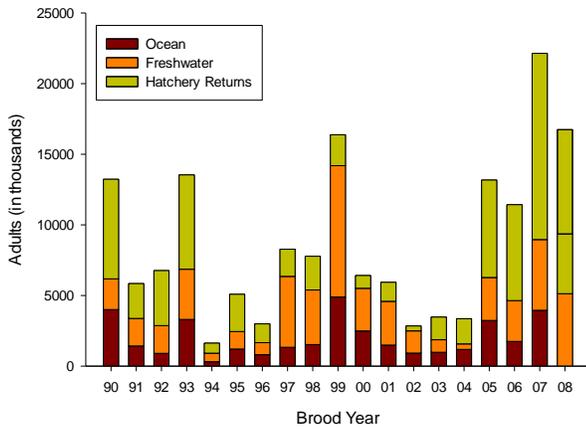
The U.S. District Court reaffirmed Native American fishing rights as reserved under the Treaty of 1855 to fish in "usual and accustomed" places along the Columbia River. Drano Lake, located downstream of the Little White Salmon NFH, is one of those areas. The Yakama Nation Tribal Council opened Drano Lake for a year round tribal platform and hook and line fishery. Focusing on the harvest of fish returning to Little White Salmon NFH, this fishery is an integral component of the Service's tribal trust responsibility that focuses on cooperation with Native Americans. As a result the Drano Lake platform fishery is an appropriate use of Service-owned land. The consistently strong returns of Chinook salmon to the hatchery provide plenty of harvestable fish for all users in this shared fishery.

Upriver Bright Fall Chinook

Most URB fall Chinook salmon return and are harvested at age four. These fish have contributed to commercial and sport fisheries along the west coast of the U.S. and Canada from Alaska to California. Commercial fisheries in Alaska, British Columbia and gillnet fisheries in the Columbia River harvest the majority of the fish. Little White Salmon NFH production annually contributes significantly to the sport fisheries in the U.S. and Canada.



Total Adult Production for Bright Fall Chinook Salmon



Offering Visitors a New Look at Fish Culture and the History of Little White Salmon NFH
 As of 2013, Little White Salmon NFH has been producing Pacific Northwest salmon for 117 years. The goal of our effort has been to rebuild weak runs to full productivity, allowing for the equitable sharing of the harvest of upper river salmon runs between treaty and non-treaty fisheries in the ocean and Columbia River Basin.

To better relate the history of the salmon, the hatchery, and the story of the Little White Salmon River, the Visitor Center was completely renovated during the summer of 2013.

Open daily from 7:30 am to 4:00 pm, visitors are welcome to explore the colorful history of the Little White Salmon River through the use of two interactive iPads. In short digital “books” visitors learn about the historical abundance and quick decline of the Pacific salmon runs in the Columbia River, the other major industries and economical forces that shaped the lower Columbia River gorge, and salmon culture technology past, present, and future. Visitors can view a replica of the Broughton Lumber Company log flume that once spanned across the landscape from Willard, down to Drano Lake, and eastward to the lumber mill in Underwood, WA. Visitors are also introduced to Lois Willard and her roan red horse, whose autobiographical accounts of being one of the first Western European homesteading families to settle in the area contributed significantly to what we now know about the area, the wildlife, and the Native American people who lived here more than 100 years ago.



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