Hatchery Update

Spring Creek National Fish Hatchery

Introduction

The U.S. Fish and Wildlife Service (USFWS) operates 12 National Fish Hatcheries (NFH), one Fish Health Center, and one Fish Technology Center in the Columbia River basin. The Columbia River Fisheries Program Office (CRFPO) works with 6 of these facilities to help evaluate release programs and conduct special studies. The CRFPO maintains the Service's hatchery database as well.

About Spring Creek National Fish Hatchery

The hatchery is located on the Columbia River in Underwood, Washington, 167 river miles from the ocean. Spring Creek has raised tule fall Chinook salmon since 1901. These fish are native to the White Salmon River, located less than one mile from the hatchery. The hatchery is funded by the U.S. Army Corps of Engineers and the Mitchell Act, which is administered by the National Oceanic and Atmospheric Administration - Fisheries Division.

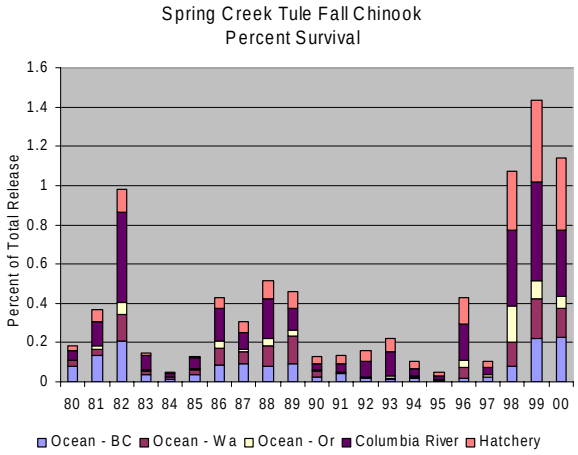
Spring Creek NFH has the capacity to incubate 60 million eggs and rear 15 to 16 million smolts in 44 rearing ponds. Subyearling fish are released during March, April, and May.

Adult Escapement Goal

A return of 10,000 adults is necessary to ensure a minimum of the 7,000 spawning adults needed to achieve our collection goal of 19 million eggs and release target of 15.1 million subyearling smolts.

Hatchery Goal

Spring Creek NFH was first established to supplement commercial fisheries harvest. Today the USFWS operates this hatchery to mitigate for lost habitat, provide for commercial and sport harvest, meet tribal treaty and trust responsibilities, and to conserve this unique stock of salmon for future reintroduction to its native habitat. One of Spring Creek's most important goals is to maintain the genetic integrity of this stock to ensure that it will remain unique among all other populations of tule fall Chinook, maximizing the potential for successful reintroduction efforts.

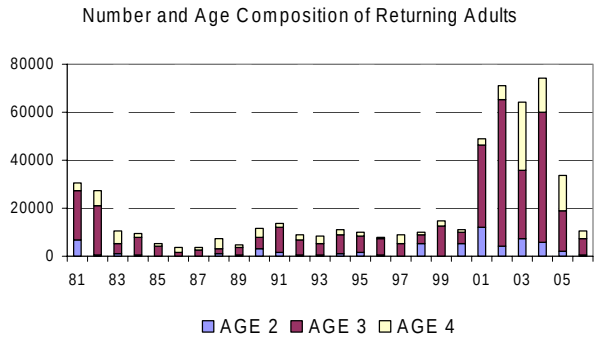


Sampling of Returning Fish

A proportion of returning adults are sampled at the hatchery. Sex and length are recorded and scales are collected so that age can be determined. 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. On average, since 1981, 12% of Spring Creek's adults return as two year olds, 65% return as three year olds, 23% are four years old, and less than 1% return as five year olds. In 2006, over 10,700 adults returned to the hatchery.

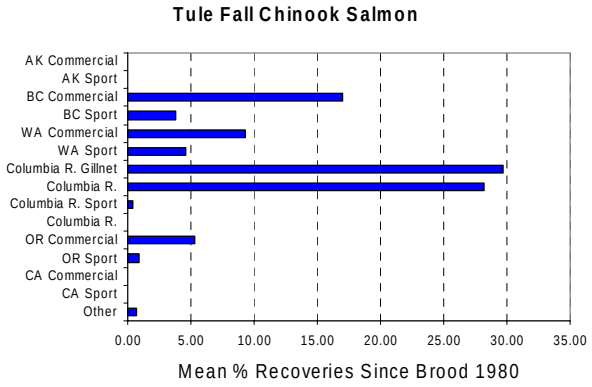
The number of fish returning from a hatchery release is influenced by early rearing at the hatchery,

downstream migration, ocean conditions, and the harvest rate in the various fisheries.



Contribution

The coded-wire tag marking program has made it possible to determine survival rates and contribution to fisheries. About 75% of the adult recoveries are from ocean or Columbia River fisheries. Spring Creek tule fall Chinook serve as an index stock for estimating ocean exploitation rates for the Pacific Salmon Commission's treaty between Canada and the United States. Information recovered from the tules marked each year with coded wire tags provides harvest managers with information about the condition of the tules and other stocks of salmon that migrate in the same area of the Pacific Ocean.



Mass Marking

In 2004, funding was provided to the Columbia River Fisheries Program Office to contract with Northwest Marine Technology for the construction of three automated marking trailers. Fiscal year 2005 operation and maintenance funding provided field operational costs for Columbia River fall Chinook mass marking and related coordination, monitoring, and reporting.

A substantial level of planning and coordination was conducted in order to prepare for the implementation of the recent Congressional mandate to mass mark all federally funded hatchery fish produced for harvest. This effort initiated the largest marking operation ever attempted by the USFWS.
At Spring Creek NFH, the 15.1 million tule fall Chinook salmon raised to mitigate for losses from dams in accordance with *U.S. v. Oregon* release goals were mass marked. The operation required 57 - 16 hour days, January 18 until April 8, 2005, to complete, compared to the previous tagging program of 450,000 fish that required only 14 eight hour days. Of the 15.1 million fish marked this year, 900,000 also received a coded wire tag.

Ecological Interactions

Recently, the hatchery had a Scientific Support Program request fulfilled by the U.S. Geological Survey. That request was to estimate the natural production of juvenile salmonids, specifically Chinook salmon, in the White Salmon River. The White Salmon River is where the hatchery stock originated and information regarding Chinook salmon production would benefit hatchery operations and future planning.

Outlook for the Future

Like wild salmon, the Spring Creek stock is dependent on healthy aquatic habitat and favorable environmental conditions. With an emphasis being placed on habitat protection and restoration, we believe the hatchery program can help rebuild this stock to its historic numbers.

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