

Hatchery Update

Warm Springs National Fish Hatchery

About Warm Springs National Fish Hatchery

The hatchery is located at Rkm 16 of the Warm Springs River, within the Warm Springs Reservation of Oregon. The Warm Springs River is one of two rivers in the Deschutes River subbasin that supports natural production of spring Chinook salmon (*Oncorhynchus tshawytscha*). Construction of the hatchery was authorized by an Act of Congress in 1966 and fish production began in 1978. Production from the hatchery is considered pivotal for the enhancement of spring Chinook salmon populations and meeting tribal trust responsibilities.



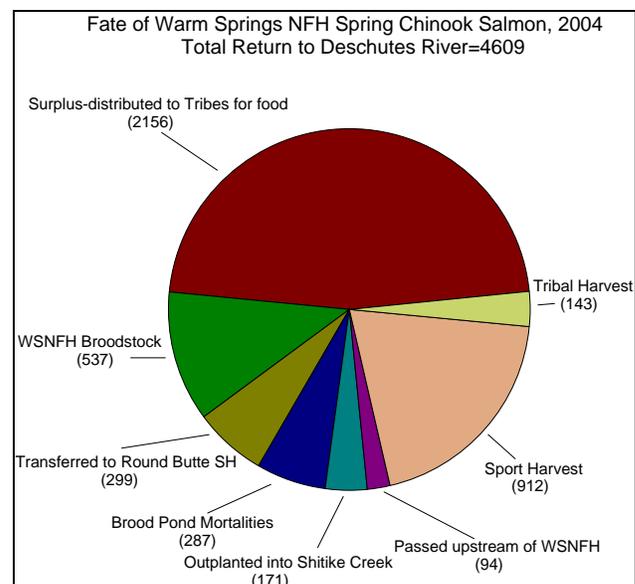
Tribal fisherman at Sherars Falls on the Deschutes River.

Goal

The Service and the Confederated Tribes of the Warm Springs Reservation of Oregon cooperatively manage the hatchery in a manner that will provide tribal and sport harvest opportunities, enhance the anadromous fish runs in Reservation waters, and meet the future needs of the resource as well as those of the Tribes while protecting wild fish populations. The Service and Tribes have taken an integrated approach to the management of the hatchery that focuses not only on producing fish but also on determining what effects hatchery fish have on the ecosystem into which they are released.

Objectives of the Hatchery

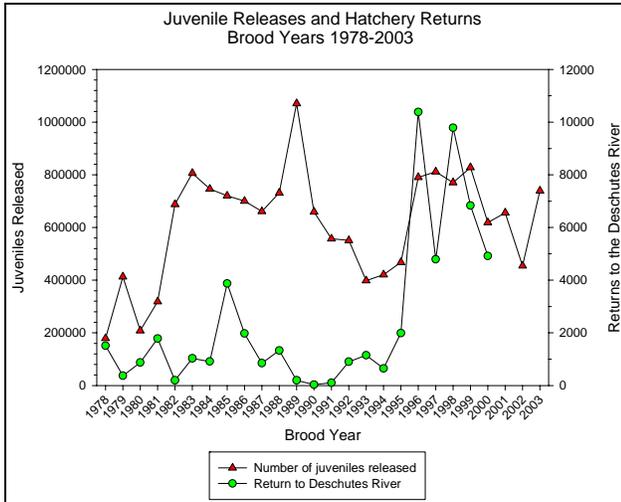
- Produce fish for tribal and sport harvest
- Maintain wild fish traits in the hatchery program
- Minimize impacts to wild fish populations
- Develop and implement a hatchery operation plan to conserve Warm Springs River fish populations



Hatchery Evaluations

All fish released from the hatchery are marked with a coded-wire tag and a fin-clip to distinguish them from wild fish. Adult returns to the hatchery and samples from both Tribal and sport fisheries in the Deschutes River are monitored to determine the survival rates and contribution to fisheries. The Service, Tribes, and their partners work together to evaluate hatchery rearing and release practices in order to determine the best way to meet hatchery production and return goals. One such evaluation looks at the effects of using a medicated fish feed on the survival, growth, and physiology of juveniles during hatchery rearing and on survival to adulthood. Results of the study indicate that medicated feed increases the juvenile to adult survival rate of hatchery fish.

Other hatchery evaluations include determining the effect of varying rearing densities on fish health and survival, evaluating the effectiveness of a volitional release of juvenile fish in both the fall and the spring, evaluating the effect of raceway color on the coloration and survival of juvenile releases, and developing an automated fish passage system to allow wild, unmarked fish upstream of the hatchery without being handled.

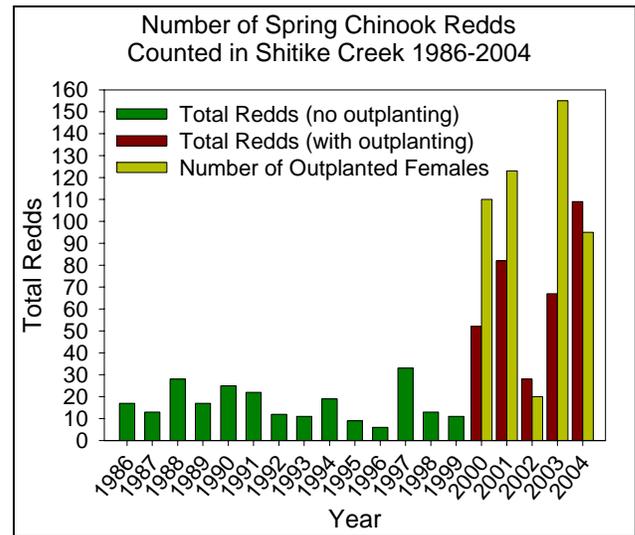


Hatchery and Wild Fish Interactions

The Service and the Tribes have also developed monitoring and evaluation programs to determine the extent of ecological interactions between fish released from the hatchery and wild fish populations in the Deschutes River subbasin. For example, the habitat use and migration timing of hatchery juveniles released volitionally in the fall was determined using radio-telemetry. In addition, the Tribes have begun using surplus adult hatchery returns to supplement the spring Chinook salmon population in Shitike Creek, a tributary of the Deschutes River located on the Warm Springs Reservation. Adult hatchery fish are transported from the hatchery, released into the creek, and allowed to spawn naturally. A monitoring program is in place to (1) determine the movement and behavior of adult hatchery fish using radio telemetry; (2) estimate the reproductive success and contribution to smolt production of hatchery fish using genetic analyses; and (3) evaluate the habitat use and ecological interactions between different juvenile fish species in the stream using underwater observation techniques. Early results of the monitoring program show that at least some of the adult hatchery fish constructed redds and produced smolts that migrated down the Deschutes River.

Reports of the hatchery evaluations and monitoring programs can be found on the web at:

<http://www.fws.gov/pacific/columbiariver/>



Outlook for the Future

The Service and the Tribes use the information gathered from the evaluation programs to update the hatchery operations and implementation plan every five years. Results of the evaluations also guide the hatchery in the production of hatchery fish that mimic the wild population in the Warm Springs River, minimize negative interactions with native fish populations, and meet the harvest and resource needs of the region.

For more information, please contact:

David Hand
Columbia River Fisheries Program Office
1211 SE Cardinal Court, Suite 100
Vancouver, WA 98683
360-604-2500, david_hand@fws.gov

Mike Paiya, Hatchery Manager
Warm Springs National Fish Hatchery
P.O. Box 790, Warm Springs, OR 97761
541-553-1692, mike_paiya@fws.gov

Geoff FitzGerald
Confederated Tribes of the Warm Springs
Reservation of Oregon
P.O. Box C, Warm Springs, OR 97761
541-553-2042, gfitzgerald@wstribes.org



*Produced by Donna Allard
Database maintained by Stephen Pastor*