

Title: Overview of Fisheries Research in the Yakima Fisheries Project

Authors:

David Fast^{1*}, Joe Blodgett¹, Bill Bosch¹, Ray Brunson², Craig Busack³, Andy Dittman⁴, Joel Hubble¹, Mark Johnston¹, Curt Knudsen⁵, Don Larsen⁴, Steve Schroder³, Todd Pearsons³, Doug Neeley⁶, Bruce Watson⁷,

^{1*}Yakama Nation, YKFP Nelson Springs Research Office, 771 Pence Road,

Yakima, WA, 98902, 509-945-1206, Fast@Yakama.com.

² U. S. Fish and Wildlife Service, ³ Washington Department of Fish and Wildlife,

⁴ NOAA Fisheries, ⁵ Oncorh Consulting, ⁶ IntSTATS Consulting, ⁷ Mobrand Biometrics

The Yakima/Klickitat Fisheries Program (YKFP) has designed a supplementation program to enhance the Spring Chinook salmon (*Oncorhynchus tshawytscha*) in the Yakima Basin. The purpose of the YKFP is to test the assumption that new artificial production can be used to increase harvest and natural production while maintaining the long-term genetic fitness of the fish population being supplemented and keeping adverse genetic and ecological interactions with non-target species or stocks within acceptable limits.

Monitoring efforts are directed at evaluation of the performance of supplementation fish in each of the following categories, and comparison with the performance of naturally reared fish.

1. The post-release survival of supplementation fish (both outmigrating smolts and returning adults).
2. The homing and reproductive success of supplemented populations.
3. The long-term fitness of supplemented populations.
4. The inter-and intra-specific interactions (including competition, predation and genetic effects) between supplemented and unsupplemented populations.

Research programs for reintroduction of Coho salmon, supplementation of Fall Chinook salmon, and reconditioning of ESA listed Steelhead kelts are also being conducted in the Yakima system. Other research programs are monitoring the status of the Bull Trout, another ESA listed species that occurs in the Yakima watershed.

Habitat enhancement programs have also been implemented as part of the YKFP, and monitoring procedures are being developed to evaluate their success.