

# Yakima River Coho Re-Introduction Feasibility Study

Presented By: Todd Newsome

Yakama Nation Fish Biologist

(509) 945-5729, Tnews@Yakama.com

Smolts were released volitionally on April 5, 2005. Approximately 648,000 coho smolts were released from the four acclimation sites Boone and Holmes in the Upper Yakima River and Lost Creek and Stiles in the Naches River. Approximately, 20,000 coho were pit tagged to monitor survival. The decision was made to release our in-basin coho smolts at the upper acclimation sites, Boone and Lost Creek, and our out of basin coho in our two lower sites Holmes and Stiles. In addition to smolt releases, summer parr were released into acclimation sites to assess over winter survival.

The Yakima-brood (in-basin) smolts experienced significant mortality. Survival from Lost Creek was estimated to be 4%. Boone pond survival was even lower, 0.05%. Both survivals are extremely low compared to previous years. Fortunately, although our in-basin coho suffered low survival, the two lower sites experienced very high survival, Holmes 22% and Stiles 27%. Due to the fact that over 80% of the coho were being acclimated in the two lower ponds, there was again a significant increase in smolt passage estimated at the Chandler Juvenile Facility. In 2004, passage was estimated at 164,000 this increased to nearly 265,000 in 2005. Parr survival at the acclimation sites were expected to be lower, but fall within survival of fry to smolt survival between, .91% to 9% (Godfrey 1965). The Hanson Ponds showed excellent survival for parr at 7.2%, coho releases directly into the Yakima River adjacent to the Hanson Ponds had 3.3% survival, Holmes was 2.1% and Lost Creek was 6%.

In 2005, the Yakima River Coho escapement was increased from 2325 coho in 2004 to nearly 2850 in 2005. The smolt to adult (SAR) rates for the Hatchery Origin Returns (HOR) was 1.4% and the Natural Origin Returns (NOR) was 2.6%. Both SAR were reduced from the previous year, however, the difference in survival between wild and hatchery remains constant.

The Naches River was again a significant producer of coho redds (72) and the Upper Yakima River continued to climb from 0 in 2003, 33 in 2004 to 57 in 2005. In addition, the tributary coho redd counts were high including nearly 75 in Buck Skin Creek (Nelson Springs) and 11 in Ahtanum Creek.

Godfrey, H., 1965. Coho salmon in offshore waters, p.1-39. In: Salmon of the North Pacific Ocean. Part. IX Coho, Chinook and masu salmon in offshore waters, Int. North Pac. Fish. Comm. Bull. 16