

Title: 2003-04 Yakima River Fall Chinook Redd Surveys and Juvenile Migration Survival

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SUMMARY

There are two stocks of Fall Chinook (FCK) in the Yakima Basin, the Yakima River mainstem and the Marion Drain stock. The goal for the Yakima FCK salmon program is to supplement and enhance these stocks. Three major projects were conducted in 2003-04 to better understand the behavior of these stocks.

Fall Chinook redd surveys above Prosser Dam were conducted September-November 2003. A total of 1,271 redds were found in the Yakima River mainstem, 90.3% between RM 70 and RM 93. The Marion Drain yielded 86 redds. The peak counts were observed during the last week of October.

To try and better understand survival and migration timing, two rearing treatments were compared using 256,000 FCK collected from local broodstock in 2002 at Prosser Hatchery. These fish were split into two groups and reared at the hatchery. One group was treated using an “accelerated” treatment, the use of warmer well water to accelerate growth. The other group experienced “conventional” methods, ambient river temperature incubation and rearing profiles. A portion of fish were marked with PIT tags for detection at McNary Dam during the out-migration period following release. The accelerated group released on 5/1/03 had a higher survival index (SI) = 0.30 vs. the conventional group SI= 0.09, released on 5/20/03.

In the spring 2004, a beach seine effort was implemented in attempt to PIT tag wild FCK to better understand survival rates and movement of FCK smolts leaving the system. Various sites were sampled below Horn Rapids, Granger and Union Gap. The number of FCK PIT tagged at each site were 166, 127 and 45, respectively. If we are to reach the supplementation goals for the Yakima River Fall Chinook salmon program, understanding smolt-smolt timing and survival are key elements.