

**Title:**

Yakima River Fall Chinook Supplementation Study

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**Summary of Presentation:**

In 2002, the Yakama Nation released approximately 143,079 in-basin fall chinook and an additional 1.7 million from the Little White Salmon National Fish Hatchery. There were two experimental treatment groups included in these releases. The Yakima Basin brood fall chinook were reared in two separate treatment groups, thermally accelerated, and ambient river water (conventional). Approximately, 82,985 were accelerated and 62,094 were reared on ambient river water. In addition, approximately 4,000 Marion Drain stock juvenile fall chinook were released into Marion Drain on April 1<sup>st</sup> and 2<sup>nd</sup>. The two treatment groups, accelerated and conventional were released on April 16, and May 17 respectively.

Statistical analysis on survival to McNary found no significant differences between accelerated and conventional treatments, 22% and 23% respectively (Neeley 2002). Marion Drain juvenile fall Chinook survival was 30%. In 2001, there were no significant differences; although in 2000, conventionally reared juvenile fall chinook survival exceeded that of both accelerated and conventional releases.

Adult returns in 2002 were estimated to be 7,093 below Prosser Dam and 6,129 above Prosser Dam. The total escapement to the Yakima River mouth was approximately 13,222. Thermally accelerated and conventionally reared adult fall chinook contributed to the spawning population. Approximately, 435 thermally accelerated adults and 52 conventional adults contributed to the lower Yakima River (below Prosser Dam) escapement. The contributions above Prosser Dam were considerably less, accelerated adults were estimated at 145 and conventional adults were estimated at 14. These numbers reflect the location of Prosser Hatchery and the releases.

Redd surveys were performed from October 1, 2002 through December 1, 2002. A total of 374 redds were located. The vast majority of redds were located from Toppenish to Mabton, however, redds were found through Union Gap and into the Naches River.

