

Title:

Redd Surveys in the Lower Yakima River

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Summary of Presentation:

In 2002, the Washington Department of Fish & Wildlife (WDFW) continued the fall chinook carcass and redd survey initiated in 1998 on the lower Yakima River to estimate escapement. This season we were assisted by the Yakama Nation (YN). They supplied one of the vehicles and one technician. This season's survey would not have been completed without YN's assistance.

Project staff collected data used to determine the age and sex distribution of the natural and hatchery supplementation spawning population of fall chinook on the lower 74 kilometers of the Yakima River. The lower Yakima River was broken into five strata, with the upper four strata being floated each week. The lowest strata was sampled twice during the season.

Staff collected fork length, sex, and scales from every fish except in the upper most section where carcasses were so numerous that only one in four carcasses were sampled. Staff recorded the number of redds, and live and dead fish to furnish alternative methods to estimate the spawning population. By applying an area under the curve model, using redd counts, we estimated 5039 fall chinook spawned in the lower Yakima River.

Spawner escapement in the lower Yakima River was up by 389.7% from the Year 2001 escapement of 1293. This number is enhanced by the increase in harvest of fall chinook in the sport fishery from 942 chinook adults in the year 2001 to 2,300 in the year 2002. Much of the increase in sport harvest may be attributable to the loss of spawning habitat between Benton City and Horn Rapids Dam. There were more than 300 redds in this area in the year 2000 while only 17 redds were found in the same area in the year 2001 and 106 redds in 2002. We believe that this shift out of this area was due to low water and heavy vegetation. We believe that the fish that would have spawned below Benton City proceeded to the tailrace area of Prosser Dam were they were susceptible to sport fishing pressure.

The combination of sport harvest and spawning escapement brings the total number of fall chinook accounted for in the lower Yakima River to > 7,300 fish. When the Prosser Dam escapement is added the total 2002 Yakima River fall chinook return is > 13,500.

