

1992
LITTLE SALMON RIVER, IDAHO
SPRING CHINOOK (ONCHORHYNCUS TSHAWYTSCHA)
SPORT HARVEST REPORT

By

Paul Janssen

ABSTRACT

A spring chinook salmon (Onchorhynchus tshawytscha) sport harvest was held from May 16 through May 24, 1992, on the Little Salmon River, Idaho. A harvest quota of 500 fish was set prior to the season. We used a roving creel survey using a stratified sampling design to estimate daily angler effort and harvest. The length of a fishing day was 13 hrs. (0500 hrs. to 1800 hrs.). For the creel survey, we divided each fishing day into three - 3 hour periods (strata) within which angler counts and interviews were conducted. The 3 hour periods were from 0500 to 0800 hrs., 1000 to 1300 hrs., and 1500 to 1800 hrs. Count and interview periods were conducted during two of the three - 3 hour strata each day. We made angler counts at the beginning and end of each stratum, with angler interviews conducted between the counts in each stratum. During the 9 day, 1992 chinook salmon season we estimated that 499 fish were harvested. In the five weekdays of the season we estimated 3,662 hours were spent to harvest 203 chinook. In the four weekend days of the season we estimated 6,029 hours were spent to harvest 296 fish. An estimated 52.5% of the fish harvested were females and 47.5% males. A total of 53 fish were measured to determine age. Of those measured, 83% were four year olds, 17% were five year olds. No "jacks" were encountered.

INTRODUCTION

A spring chinook (*Onchorhynchus tshawytscha*) sport harvest season was held in 1992, on the Little Salmon River (LSR) and ran from May 16 through May 24. The fish harvested were the product of the Rapid River Fish Hatchery. A description of this hatchery program is given in a previous report (Hassemer, 1991). A harvest quota of 500 fish was set prior to the season. The quota was based on a harvestable surplus of the predicted run to the Rapid River Hatchery and harvest sharing with the Nez Perce Tribe. The fishery was limited to a 3.5 mile section of the LSR from the mouth of Rapid River downstream to the Salmon River Road Bridge, approximately 0.5 mile upstream of the mouth of the LSR. Daily fishing hours were 0500 hrs. to 1800 hrs. MDT.

CREEL SURVEY METHODS

We used a roving creel survey (Neuhold and Lu, 1957) using a stratified sampling design to estimate daily angler effort and harvest. The length of a fishing day was 13 hrs. (0500 hrs. to 1800 hrs.).

For the creel survey, we divided each fishing day into three - 3 hour periods (strata) within which angler counts and interviews were conducted. The 3 hour periods were from 0500 to 0800 hrs., 1000 to 1300 hrs., and 1500 to 1800 hrs. Count and interview periods were conducted during two of the three - 3 hour strata each day. We made angler counts at the beginning and end of each stratum, with angler interviews conducted between the counts in each stratum. All angler counts were completed within one hour and were considered to be instantaneous counts. The two strata to be sampled on the first day of the fishing season were randomly chosen. On the second and subsequent survey days, the one strata not sampled on the previous survey day was automatically selected to be sampled on that survey day. The second strata to be sampled on a survey day was randomly selected from the other two remaining strata. All weekend days and three weekday days were sampled in a given week.

Data collected from daily angler interviews included: Number of anglers in a party, total fishing time, and catch. Angler interview data were then used to estimate fishing effort, catch and harvest rates and total harvest. Due to increased angler effort on weekends, estimates of effort, catch rates, and harvest were stratified by weekend and weekday periods, with holidays considered as weekend days. Total effort and harvest for the season were obtained by summing the weekend and weekday effort and harvest estimates.

Angler interviews were conducted to contact 25% of the anglers in each survey strata. Survey personnel interviewed every fourth angler encountered during the survey. Using this interview scheme the number of interviews conducted was proportional to the amount of effort expended in each survey strata (Neuhold and LU, 1957).

Sex of fish encountered was determined only in cases where the angler in possession allowed the creel person to internally examine the gonads of the fish. Chinook not sexed were listed as "unknown" in relation to sex. Creel clerks also examined fish for an adipose fin clip, which indicated the presence of a coded wire tag in the snout of the fish. When a clip was encountered the snout was removed, if the angler allowed, and preserved for future tag removal.

Each fish encountered was measured to the nearest cm and then assigned an age according to the following classification system described by Hassemer (1991). Spring chinook 54 cm and less were classified as "jacks" or 3- year olds (one year in the ocean), 55 cm to 79 cm fish were 4 year olds (two years in the ocean), and those 80 cm and greater fish were 5 year olds (three years in the ocean).

Methods described in this report and the formulas used to calculate angler hours, mean catch rates, and harvest are the same as those described for the 1986 creel survey by Hassemer (1991).

RESULTS

During the 9 day, 1992 chinook salmon season we estimated that a total of 499 fish were harvested. In the five weekdays of the season we estimated a total of 3,662 hours were spent to harvest 203 chinook (Table 1.). In the four weekend days of the season we estimated that a total of 6,029 hours were spent to harvest 179 fish (Table 1). Catch rates were estimated at 0.049 and 0.055 (fish/hour) for weekend days and weekdays respectively.

Table 1. Estimates of total fishing pressure, harvest, and catch rates for the 1992 Little Salmon River spring chinook sport fishing season, May 16 through May 24 (\pm 95% confidence intervals).

	# of days	# of Interviews	Total estimated hours fished	Total estimated fish harvested	Harv. rate (fish/hr)	Hours/fish
Weekend	4	179	6,029	296	0.049	20
Weekday	5	85	3,662	203	0.055	18
Total	9	264	9,691 (2,517)	499 (321)	0.051	19.6

A total of 101 chinook salmon were encountered and sexed in the creel survey. Of these fish, 56% were males and 44% were females. A total of 53 fish were measured for age class determination. Age class breakdowns for those fish were: 0 (0%) "jacks" or three year old fish, 83% four year olds, and 17% five year olds.

DISCUSSION

The interest in fishing for 500 hatchery produced spring chinook salmon was very high. Angler hours/day were 1.9 and 2.0 times greater for weekend and weekdays, respectively in 1992 than that reported for the 1990 season (Hassemer 1991). The increase in angler hours/day was probably a result of the lack of a season in 1991 and the uncertainty of any seasons in the future.

LITERATURE CITED

- Hassemer, P. 1991. Little Salmon River Spring Chinook (Onchorhynchus tshawytscha) Sport Harvest, 1986-1990. Idaho Dept of Fish and Game and Idaho Power.
- Neuhold, J.M. and K.H. Lu. 1957. Creel Census Methods. Utah State Dept. of Fish and Game Publication 8. Salt Lake City, Utah.