CLEARWATER RIVER, IDAHO

SPRING CHINOOK SALMON
ONCHORHYNCHUS TSHAWYTSCHA

1997
SPORT HARVEST REPORT

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ABSTRACT

A spring chinook salmon *Onchorhyncus tshawytscha* sport fishing season was held from May 17 through June 15 on portions of the North Fork, South Fork, and mainstem Clearwater Rivers, and from July 16 through August 3 on the Lochsa River, North Fork and South Fork Clearwater Rivers, Idaho. The season was held to harvest a projected surplus of hatchery salmon returning to Lower Snake River Compensation Plan (LSRCP) programs in the Clearwater Drainage. We conducted a roving creel survey and operated a check station to estimate total angler effort and harvest. During the early (May 17-June 15) season, we estimated anglers spent 12,909 hours to catch 874 chinook, of which 738 hatchery chinook were harvested. We estimated 87 non-adipose fin-clipped chinook, which were naturally produced, were caught and released. The season average catch rate was 16 hours per fish. During the late (July 16-Aug. 3) season, we estimated anglers fished 1585 hours and caught no fish.

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INTRODUCTION

A spring chinook salmon *(Onchorhynchus tshawytscha)* sport harvest fishery was held on the North Fork Clearwater River below Dworshak Dam, the South Fork Clearwater River from the mouth upstream to the Hungry Ridge Road Bridge (River Mile (RM) 33), and the mainstem Clearwater River from the Cherrylane Bridge (RM 21) upstream to the Orofino Bridge (RM 44.6) in May and June 1997. This fishery was held to harvest a projected surplus of spring chinook salmon originating from Dworshak National Fish Hatchery (DNFH), Kooskia National Fish Hatchery (KNFH), and Clearwater Anadromous Hatchery (CLWH), which are Lower Snake River Compensation Plan (LSRCP) programs. Early predictions by the U.S. Fish and Wildlife Service (USFWS) and the Idaho Department of Fish and Game (IDFG) indicated that a strong four year old (two ocean) component was projected to return to the Clearwater drainage. The dates for a sport season were set by the Idaho Department of Fish and Game Commission for May 17 through July 6, 1997, or until a harvest quota of 650 fish, to be shared equally with Nez Perce tribal fishers, was reached. The tribal fishery will not be discussed in this report. Only hatchery origin fish, marked with an adipose fin clip, could be harvested. A daily bag limit of two adult chinook, including jacks, and a season limit of four adult chinook was set. Barbless hooks were required.

Because of harvest monitoring and enforcement concerns, fishing hours were limited to 5:00 a.m. to 9:00 p.m. Pacific Daylight Time (PDT) daily. The fishery was initially closed on June 15 at the end of the fishing day after an estimated 738 salmon had been harvested.

An additional sport harvest fishery was held on the North Fork Clearwater River below Dworshak Dam, the South Fork Clearwater River from the mouth upstream to the Rainy Day Bridge (RM 47), and the Lochsa River from the mouth upstream to the Warm Springs pack bridge (RM 57) from July 16 through August 3, 1997. This fishery was held after the adult escapement goals of DNFH and CLWH had been met and there were additional fish available for harvest. To promote harvest of these surplus fish, 470 adult chinook were outplanted from DNFH into the South Fork Clearwater at river miles 4, 11, and 31 from July 16 to July 25.

METHODS

We developed the plan to monitor the chinook fishery in the Clearwater drainage based on the following five objectives:

1. Estimate the angler effort for each river.
2. Estimate the harvest of hatchery chinook for each river (+1- 10%).
3. Estimate the number of hatchery and non-hatchery fish released.
4. Assess the age composition of the harvest.
5. Determine the origin of harvested hatchery fish by coded wire tag (CWT) and Passive Integrated Transponder (PIT) tag recoveries.

We used a stratified random creel survey and a check station at the upper Ahsahka boat ramp as the primary tools to accomplish these objectives. Angler counts and interviews were conducted by vehicle, jet boat, and check station. Creel clerks conducted three angler counts each sample day as described below, and between counts they conducted angler interviews for catch rate information. Angler interview data included: boat or bank angler, number of anglers in a party

or boat, number hours fished that day, number of ad-clipped fish kept, number of ad-clipped fish released, number of non ad-clipped fish released, and trip completion status.

We divided the early (May 17-July 6) season into three intervals, based on anticipated levels of effort and fishing conditions. From May 17 to May 30, we anticipated relatively low angler effort and success, and used only a roving creel survey. From May 31 to June 13, we anticipated more effort and success and operated a check station at the upper Ahsahka boat ramp in addition to the roving creel survey. From June 14 to July 6, when we anticipated reduced effort and success, we only used the roving creel survey. The late (July 16 August 3) fishery on the Lochsa, South and North Fork Clearwater Rivers was treated as one interval, and we employed only a roving creel survey.

For sampling purposes, we divided each river into three sections. On the mainstem Clearwater River, the sections were from the Cherrylane Bridge upstream to Big Canyon Creek at Peck, from Big Canyon Creek upstream to the Orofino Bridge, and the North Fork Clearwater River below Dworshak Dam. On the South Fork Clearwater River during the early season, the sections were from the mouth upstream to the Nez Perce Indian Reservation boundary, the reservation boundary upstream to the Mount Idaho Bridge, and the Mount Idaho Bridge upstream to the Hungry Ridge Road Bridge. We changed these section boundaries during the late season to accommodate the larger area open to fishing. The revised sections were from the mouth upstream to the Mt. Idaho Bridge, Mt. Idaho Bridge upstream to the Hungry Ridge Road Bridge, and the Hungry Ridge Road Bridge upstream to the Rainy Day Bridge. On the Lochsa River, the sections were the mouth upstream to the Boulder Creek Pack Bridge, Boulder Creek Pack Bridge upstream to the Eagle Mountain Pack Bridge, and the Eagle Mountain Pack Bridge upstream to the Warm Springs Pack Bridge.

We sampled the early fishery on all weekend/holiday days and two randomly selected weekdays per week. We sampled the late fishery on one weekday and one weekend day per week. We divided each day into five eight-hour shifts: 0600-1400, 0800-1600, 1000-1800, 1200-2000, and 1400-2200. On each sample day, three angler counts were made for each river, with the starting times randomly chosen from these five shifts. Counts were staggered systematically throughout the day. The Ahsahka check station was operated from 0600 to 2200 PDT on May 31 through June 15 on the same days as the angler counts. We reported all catch rate and angler count data weekly to the IDFG Salmon Regional office where it was entered into a Creel Census System (Reece and Boydstun, 1992) to produce estimates of effort and harvest for the week. When the quota was approached, harvest estimates were calculated daily. We estimated the number of non adipose-clipped fish released in the fishery by multiplying the ratio of adipose-clipped to non adipose-clipped fish reported in the survey to the estimate of total fish released as generated by the creel census program.

All fish encountered were examined for external marks, measured for fork length to the nearest centimeter, sexed either visually or through dissection, and scanned with a CWT and a PIT tag detector. Age composition was assigned as follows (from Janssen, 1997):

<59cm=jacks or age three
59-85cm=age four
>85cm=age five

We removed snouts from fish, in which we detected a CWT, and took the snouts to the CWT recovery lab in Lewiston, ID, for tag retrieval and code identification.

RESULTS

During the early (May 17-July 6) season on the mainstem and North Fork Clearwater Rivers we estimated (+/-95% C.I.) anglers spent 12,909 (+/-1211) angler hours to catch 874 (+/-185) adult spring chinook (Table 1). We estimated that 738 (+/-161) of these were harvested, and 136 (+/-17) were released. Of those released, we estimated that 87 (64%) were non-adipose clipped. The average catch rate for all fish harvested during the season was 20 hours/fish and for all fish caught was 16 hours/fish. Boat anglers fished an estimated 8,911 (+/-1211) hours and bank anglers fished 3998 (+/- 698) hours (Table 2). On the South Fork Clearwater River, we estimated anglers fished 462 hours and caught no fish. The sport season quota of 650 fish was exceeded during the weekend of June 14-15, and the season was ended by a Director s order on June 15.

Table 1. Season totals of estimated angling effort, catch, and harvest during the May 17-June 15 1997 spring chinook salmon season on the mainstem and North Fork Clearwater Rivers, Idaho.

				TOTAL SALMON			
						# FISH	RELEASED
	# WEEK DAYS	# WEEKEND DAYS	TOTAL HOURS FISHED	# FISH CAUGHT	# FISH KEPT	UNCLIPPED	CLIPPED
SEASON TOTALS	**20**	**10**	**12,909**	**874**	**738**	**87**	**49**

Table 2. Total fishing pressure, catch, and harvest estimates for the May 17-June 15 spring chinook salmon fishery on the mainstem and North Fork Clearwater Rivers, 1997.

DATE	BOAT ANGLER HOURS (+/-) 95% C.I.	BANK ANGLER HOURS (+/-) 95%C.I.	# SALMON KEPT (+/-) 95%C.I.	# SALMON RELEASED (+/-) 95%C.1.	HOURSIFISH CAUGHT
5-1715-30	**1677 (489)**	**1225 (409)**	**150 (74)**	**14 (4)**	**16**
5-31/6-6	**2718 (531)**	**920 (420)**	**149 (65)**	**21 (3)**	**23**
6-7/6-13	**3056 (749)**	**1285 (354)**	**346 (124)**	**81 (15)**	**12**
6-1416-15	**1460 (620)**	**568 (133)**	**93 (29)**	**20 (6)**	**18**
TOTALS	**8911 (1211)**	**3998 (698)**	**738 (161)**	**136 (17)**	**16**

We measured 229 fish during the survey, of which 45% (102) were males and 55% (127)

were females. Age class breakdown by length was 0% jacks, 96% four-year-olds, and 4% five-year-olds. We removed snouts from 61 fish, of which 12 had no CWTs. The remaining 49 snouts had CWTs and were all from brood year 1993. Of these, 46 CWTs were DNFH origin fish released at the hatchery in April, 1995, and three CWTs were KNFH origin released at Clear Creek in April, 1995. No PIT tags were encountered. Two reward jaw tags from National Marine Fisheries Service (NMFS) were recovered and returned to NMFS.

We interviewed 827 anglers who fished 4430 hours to harvest 210 fish on the North Fork Clearwater River and 107 anglers who fished 556 hours to harvest 35 fish on the mainstem Clearwater River. Anglers reported releasing 58 fish, of which 37 were not adipose fin-clipped. On the South Fork Clearwater River, we interviewed 46 anglers who fished 113 hours and caught no fish. Bank anglers accounted for all of the effort on the South Fork.

We estimated anglers fished 660(+/-338) hours on the Lochsa River and 825(+/-424) hours on the South Fork Clearwater River during the late (July 16-Aug. 3) season. We interviewed 25 anglers who fished 66 hours on the South Fork and 12 anglers who fished 22 hours on the Lochsa. No fish were checked on either river and the harvest estimate for this season was zero.

DISCUSSION

There is no recent tradition of spring chinook salmon fishing in the Clearwater drainage. There have only been two other chinook seasons in the last decade, with the last one held in 1992. This, combined with the uncertainty of preseason run predictions, made it difficult for most prospective anglers to plan for the season. Consequently, fishing pressure and success during the early season was low until anglers learned there was a season, and also learned how to catch spring chinook salmon in the Clearwater River. Fishing pressure increased as the season progressed. Many anglers reported that they were just learning how to catch spring chinook when the season closed. A large majority of the effort and the harvest (87% of actual interviews) occurred on the North Fork Clearwater River, and most of that effort was concentrated in a relatively small area between the confluence with the mainstem Clearwater River and the no-fishing line approximately 150 yards upstream. This was primarily a boat fishery, with more than twice as much effort coming from boat anglers as shore anglers.

A fishery on the South Fork Clearwater River did not materialize. There were over 700 chinook redds counted in the drainage for 1997 (Jody Brostrom, IDFG, pers. comm.), and fishing conditions were good during the season. There should have been ample opportunity for a successful fishery. Perhaps most salmon anglers in the region heard that the fishing was good on the North Fork Clearwater and decided to fish there instead of trying the South Fork.

As predicted, the catch was dominated by four-year-old fish. The age and sex breakdown almost mirrors that reported by Janssen (1997) for the Little Salmon River sport harvest season in 1997. The age structure of the catch was also confirmed by CWT recoveries, which were all four-year old fish. The majority (94%) of CWTs recovered were from spring chinook released from DNFH into the North Fork Clearwater River, with the other 6% coming from KNFH fish released into Clear Creek. Assuming a 10% hooking mortality rate (Sharon Kiefer IDFG, pers. comm.), we estimated that nine of the 87 non-adipose fin-clipped chinook caught and released were incidentally killed during the season.

The late (July 16-Aug. 3) season on the Lochsa, South and North Fork Clearwater Rivers generated little angler effort or success. On the North Fork, high water from summer migrant augmentation flows made fishing conditions very poor. On the Lochsa River, CAFH personnel noted that most of the fish were already upstream of the Warm Springs Pack Bridge when the season was re-opened. On the South Fork, fishing conditions were generally good and that, plus the outplanting of 470 adults from DNFH, should have generated more effort and success than what we saw. Our creel survey was not structured to provide accurate information with such low angler effort. Although there were no fish detected during the survey, IDFG personnel did receive reports of anglers harvesting chinook during the season (Sharon Kiefer, IDFG, pers. comm.).

Compliance with the regulations was generally good. Clearwater Regional enforcement personnel made over 1500 license checks and issued 23 citations and 36 written warnings during both seasons (Dave Cadwallader, IDFG, pers. comm.). Most of the anglers who participated in the fishery were also steelhead anglers, and therefore familiar with many of the key regulations applicable to the chinook fishery: barbless hooks are required, non adipose fin-clipped fish must be released immediately, and any fish harvested must immediately be recorded on the salmon fishing permit.

Overall, the early season on the North Fork and mainstem Clearwater Rivers was a success. It generated a lot of interest and gave people a taste of what spring chinook sport fishing could be in the Clearwater River. With the exception of the error bounds on our harvest estimate exceeding +1- 10%, we met our harvest monitoring objectives.

LITERATURE CITED

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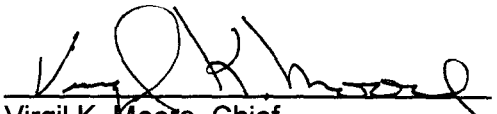

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