



**1998 SPRING CHINOOK SALMON *Oncorhynchus tshawytscha* SPORT HARVEST REPORT
FOR THE CLEARWATER RIVER, IDAHO**

By

Larry Barrett
Senior Fishery Technician
Idaho Department of Fish and Game
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ABSTRACT

A series of weekend spring chinook salmon *Oncorhynchus tshawytscha* sport fishing seasons were held from May 29 through June 19, 1998 on portions of the North Fork and mainstem Clearwater rivers. The seasons were held to harvest a projected small surplus of hatchery salmon returning to Dworshak National Fish Hatchery (DNFH) in the Clearwater River drainage. During these seasons, Idaho Department of Fish and Game (Department) operated mandatory check stations to enumerate total angler effort and harvest. A total of 1,332 anglers spent 7,227 hours to catch 135 chinook of which 99 were harvested. Of the 36 chinook released, 17 were naturally produced as determined by the presence of an adipose fin. Average catch rate for the season was 54 hours per fish. Coded wire tags (CWTs) recovered during the season showed that 64% of harvested fish were from brood year 1993 (age-five), and 36% were from brood year 1994 (age-four).

INTRODUCTION

A limited spring chinook salmon *Oncorhynchus tshawytscha* sport harvest fishery was held in late-May and early-June 1998 on 1.2 miles of the North Fork Clearwater River below Dworshak Dam, and 6.7 miles of the mainstem Clearwater River. Boundaries on the mainstem Clearwater River were from one-half mile downstream (west) of the Clearwater/Nez Perce county line (river mile [RM] 37.9) upstream to the Orofino Bridge (RM 44.6). This fishery was held to harvest a projected small surplus of adult spring chinook salmon originating primarily from Dworshak National Fish Hatchery (DNFH). Chinook production at this hatchery is funded by the Lower Snake River Compensation Plan (LSRCP). Early predictions by the US Fish and Wildlife Service (USFWS) and the Idaho Department of Fish and Game (Department) indicated a relatively strong age-five (three-ocean) component to return to the Clearwater in 1998. These fish were the final component of the brood year 1993 (BY93) cohort to return from the relatively large smolt outmigration in 1995.

The dates for the seasons were set by the IDFG Commission for Friday May 29 through Monday June 1, 1998 with a harvest goal of 100 fish. Two additional Friday through Monday seasons, June 5-June 8, June 12-June 15, as well as Friday June 19 were opened by the Commission in order to reach the harvest goal.

Only hatchery-origin fish, marked with an adipose fin-clip, could be harvested. A daily bag limit of one adult chinook, including jacks, and a season limit of two adult chinook was set. Barbless hooks were required. All harvested salmon were required to be checked daily at one of the check stations operated by the Department. Because of harvest monitoring and enforcement concerns, fishing hours were limited to 5:00 am to 9:00 pm, Pacific Standard Time.

METHODS

We monitored the fishery on the North Fork and mainstem Clearwater rivers based on the following objectives:

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

We used check stations at the upper Ahsahka and Pinkhouse boat ramps as tools to accomplish these objectives. Angler interviews were conducted at both check stations. Angler interview data included: boat or bank angler, number of anglers in a party or boat, number of hours fished that day, number of adipose fin-clipped fish kept, number of adipose fin-clipped fish released, number of non-adipose fin-clipped fish released, and trip completion status. Because of low use, the Pinkhouse check station was closed after the first weekend season. The check

stations were operated from 6:00 am to 10:00 pm each day the season was open. Both successful and unsuccessful salmon anglers were required to stop at the check stations.

All fish were examined for external marks; measured for fork length to the nearest centimeter; sexed either visually or through dissection; and scanned with CWT and PIT tag detectors. Age composition by length was assigned as follows (Burge et al. 1997):

- <57cm = one-ocean jacks or age-three
- 57-81cm = two-ocean adults or age-four
- >81 cm = three-ocean adults or age-five

We removed the snouts from fish with positive CWT detections and took them to the CWT recovery lab in Lewiston, Idaho for tag retrieval and reading.

RESULTS

During the season on the mainstem and North Fork Clearwater Rivers, 1,332 anglers spent 7,227 hours to catch 135 adult spring chinook (Table 1). Of these, 99 spring chinook were harvested, and 36 were released. Of those released, 17 spring chinook were not adipose fin-clipped. The average catch rate for all fish harvested during the season was 73 hours/fish and for all fish caught was 54 hours/fish. Boat anglers fished 4,265 hours and caught 78 fish for a catch rate of 55 hours/fish and bank anglers fished 2,962 hours and caught 57 fish for a catch rate of 52 hours/fish (Table 2).

Table 1. Season totals of angling effort, catch, and harvest during the May 29-June 19, 1998 spring chinook salmon season on the mainstem and North Fork Clearwater rivers, Idaho.

				TOTAL SALMON			
	# WEEK DAYS	# WEEKEND Days	TOTAL HOURS FISHED	# FISH CAUGHT	# FISH KEPT	# FISH UNCLIPPED	RELEASED CLIPPED
						SEASON TOTALS	7

Table 2. Total fishing pressure, catch, and harvest for the May 29-June 19 spring chinook salmon fishery on the mainstem and North Fork Clearwater rivers, 1998.

DATE	BOAT ANGLER HOURS	BANK ANGLER HOURS	# SALMON KEPT	# SALMON RELEASED	HOURS/FISH CAUGHT
5-29/6-1	2,484	1,553	26	8	119
6-5/6-8	1,050	726	31	20	35
6-12/6-15	557	504	32	7	27
6-19	174	179	10	1	32
TOTALS	4,265	2,962	99	36	54

We checked 99 fish during the season: 48 males and 51 females. The age breakdown of the harvested fish using length criteria (Burge et al. 1997) was 26 age-four (26%), and 73 age-five (74%). We removed the snouts from 45 fish with positive CWT detections, all of which had tags. Of these, 42 CWTs were from DNFH-origin fish released at DNFH and one was from a fish reared at Clearwater Anadromous Fish Hatchery and released at Powell Pond. The origin of the other two CWTs could not be determined. The BY93 fish accounted for 28 of the 43 (65%) CWTs identified, while 15 fish (35%) were from brood year 1994 (Table 3).

Table 3. Length frequency of spring chinook salmon versus age from 42 CWT recoveries during the sport harvest fishery on the North Fork and mainstem Clearwater rivers, 1998.

Fork Length (cm)	# Fish from brood year 1993 (age-five)	# Fish from brood year 1994 (age-four)
70-74	0	8
75-81	3	5
82-84	5	1
85-89	8	1
90-94	8	0
95-99	3	0
100-105	1	0
Total	28	15

We recovered three PIT tags, two of which were implanted into spring chinook at DNFH as part of the "Comparative Survival Study" by the Department in 1996. National Marine Fisheries Service (NMFS) implanted the other PIT tag on May 14, 1996 at Lower Granite Dam (LGR) as part of a transport benefit study. This smolt was released as an in-river control. It was recaptured as an adult and jaw-tagged at LGR on May 17, 1998. We also recovered three radio tags and five visible implant (VI) tags from the University of Idaho, and two reward jaw-tags from NMFS. These tags were returned to their respective institutions (Table 4).

Table 4. List of dates recovered, fish size at recovery, tag type, and tag number of PIT and radio tags recovered from the North Fork and mainstem Clearwater River spring chinook sport fishery, 1998.

DATE RECOVERED	FISH SEX AND FORK LENGTH (CM)	TAG TYPE	TAG NUMBER
5-30-98	Female 71	PIT tag	7F7D505E46
5-30-98	Male 74	PIT tag	7F7B082F4D
6-5-98	Female 78	VI tag	RBO
6-6-98	Male 82	Radio	Ch 09 Code 128
6-12-98	Male 93	Radio VI tag	Ch 25 Code 142 NU5
6-15-98	Female 75	VI tag	REO
6-15-98	Male 95	VI tag	FE3
6-15-98	Female 78	Jaw tag PIT tag	NMFS C1039 41314D3664
6-19-98	Female 70	Radio tag VI tag	Ch 11 Code 32 M31

DISCUSSION

Because of the relatively high catch rate (16 hours per fish) during the 1997 sport harvest season on the Clearwater River, there was a great deal of anticipation for the 1998 season. The opening weekend saw more fishing pressure than the other three seasons combined. The catch rate for the opening weekend was very low (119 hour per fish), and fishing pressure decreased dramatically afterward. The catch rate rebounded as the season progressed, but never came close to the average rate experienced in 1997. The vast majority (88%) of the angler effort occurred on the North Fork Clearwater River.

As predicted, there were more age-five fish in the catch than age-four fish. The age composition estimated by length (Burge et al. 1997) and by CWT recoveries was similar, however the length-at-age from CWTs shows some overlap in the adult length classes Burge et al. used. CWT recoveries showed that the vast majority of fish harvested were of DNFH origin, which was the targeted component of the run. We estimated that two naturally-produced chinook salmon were incidentally killed during the fishery by assuming a 10% hooking mortality (Technical Advisory Committee for US vs. Oregon 1998) for the 17 naturally-produced salmon that were caught and released.

Compliance with the regulations was generally good. Clearwater Region enforcement personnel made 306 license checks and issued two citations and six written warnings in 28 man-days of enforcement effort during the season (Dave Cadwallader, Department, pers. comm.).

LITERATURE CITED

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Prepared by:

Larry Barrett
Senior Fishery Technician

Approved by:


Virgil K. Moore, Chief
Fisheries Bureau


Sharon W. Kiefer
Anadromous Fishery Coordinator