The Resources Agency

Memorandum

YFG-71-01

REF 905912

To : Don Weidlein, Associate Fishery Biologist Date: May 20, 1971

From : Department of Fish and Game - Region 1

Subject: Wooley Creek Survey - 1970

The 1970 Wooley Creek survey is completed. This survey consisted of an adult summer salmonid inventory from the confluence of the South Fork to the mouth of Wooley Creek and an estimate of angler pressure and fish harvest from voluntarily completed angler report cards.

As in the past three years, angling report cards were left beside the Wooley Creek Trail, one mile from the Salmon River, in a covered metal box. A poster beside the box asked anglers to complete the cards relating their angling experiences. A properly completed card showed the date fished, area of Wooley Creek or its tributaries fished and number and size of fish released and/or killed.

Anglers reported fishing 183 hours on the mainstem catching 320 juvenile rainbow trout-steelhead of which 191 were released, and catching and killing three adult summer salmonids. Anglers reported fishing only two tributaries, Haypress Creek and Bridge Creek, for 17 hours and catching 78 rainbow trout of which 30 were released (Tables 1 and 2).

Wooley Creek was divided into four geographical areas for purposes of data presentation. These areas were:

Area 1 - Mouth to Deer Lick Creek	2.0 miles
Area 2 - Deer Lick Creek to Haypress Creek	4.0 "
Area 3 - Haypress Creek to Hancock Creek	5.3 "
Area 4 - Above Hancock Creek - 5.3 miles to Big Meadows Creek; 7.5 miles to South Fork	

Thirty-four report cards were completed by anglers leaving Wooley Creek this year. Fifteen lacked one or more basic pieces of information, either the date or the location fished (Table 3).

KLT-VI

TABLE 1

Total Reported Angler Pressure - Wooley Creek - 1970 - By Month

Month	Hours Fished	Number Salmonids Released -14"	Number Salmonids Released 14"+	Number Salmonids Killed -14"	Number Salmonids Killed 14"+
May	26	7	0	4	0
June	8	3	0	0	0
July	5	2	0	4	0
August	14	13	0	31	0
September	67	82	0	15	3
October	0	0	0	0	0
November	0	0	0	0	0
Unknown	63	84	0	75	0
Total	183	191	0	129	3

TABLE 2

Total Reported Angler Pressure - Wooley Creek and Tributaries
1970 - by Area

Area	Hours Fished	Number Salmonids Released -14"	Number Salmonids Released 14"+	Number Salmonids Killed -14"	Number Salmonids Killed 14"+
1	9	7	0	3	0
2	48	50	0	32	0
3	81	92	0	72	3
4	25	24	0	10	0
Unknown	20	18	0	12	0
Subtotal	183	191	0	129	3
Tributaries	17	48*	0	30*	0
Total	200	239	0	159	3

*Because it is impossible for steelhead to ascend past the sheer falls located near the mouths of Haypress Creek and Bridge Creek, and because this angling activity was reported as occurring above these two falls, these fish are presumed to be resident rainbow trout.

TABLE 3

Number of Completed Cards Lacking Basic Information

Year	Total Completed Cards	Number Lacking Basic Information
1967	20	16
1968	20	15
1969	22	5
1970	34	15

To account for probable non-response to completing the report cards, the actual reported data were divided by .75, assuming that of every four anglers leaving Wooley Creek, three would complete a card. This same assumption was made in the 1967, 1968, and 1969 surveys.

The 1970 data, including hours fished and salmonids caught and killed, were very similar to data reported during the prior three surveys. However, the number of salmonids caught and released was much lower in 1970 than in the past three years (Tables 4, 5, 6, and 7).

TABLE 4

Actual Reported Data - Wooley Creek Mainstem - 1967 through 1970.

Year	Hours Fished	Number Salmonids Released		Number Salmonids Killed	
		-14"	14"+	-14"	14"+
1967	219	486	1	105	8
1968	77	466	0	75	0
1969	145	455	0	130	3
1970	183	191	0	129	3

TABLE 5

Expanded Data (ARD/.75)-Wooley Creek Mainstem - 1967 through 1970

1967	292	648	1	140	11
1968	103	621	0	100	0
1969	194	606	0	174	4
1970	244	255	0	172	4

TABLE 6

Actual Reported Data -Wooley Creek Tributaries - 1967 through 1970

1967	14	15	0	6	0
1968	6	9	0	44	0
1969	3	4	0	3	0
1970	17	48	0	30	0

TABLE 7

Expanded Data (ARD/.75) - Wooley Creek Tributaries - 1969 through 1970

1967	19	20	0	8	0
1968	8	12	0	59	0
1969	4	5	0	4	0
1970	23	64	0	40	0

Both groups, released and killed, of juvenile rainbow trout-steelhead were reported to range between 3" and 12" (Table 8).

TABLE 8

Size Range (Inches) of Juvenile* RT-SH, Released and Killed

Year	Released	Killed
1967	3-9	5-14
1968	3-12	3-12
1969	2-10	5-13
1970	3-12	3-12

*These RT-SH less than 14" reported length.

The three adult salmonids (14" or greater in reported length) caught and killed were all reported in weights. From their reported weights, it was assumed all were 14" or longer. These fish included one king salmon (2.75 lbs) and two steelhead (2.0 lbs and 1.0 lb). Their estimated lengths were KS-18", SH-17" and 16". The possibility exists that these three adult salmonids, caught in early September were actually fall run fish and not true summer salmonids.

The 1970 summer salmonid inventory was conducted from July 13 through July 16, and included that part of Wooley Creek between its mouth and the mouth of the South Fork, a distance of about 20 miles. The following adult salmonids were observed:

Area	Steelhead	King salmon	Unidentified
1	0	0	0
2	0	0	0
3	2	3	0
4*	18	19	16
Total	20	22	16

*Hancock Creek to South Fork (7.5 miles)

It was estimated by the four 1970 observers that possibly half the total adults present were observed. Observations were made by floating through all larger pools and a few of the smaller pools and deeper riffles using face masks and snorkling gear.

Assuming we observed half the adults then 116 adult salmonids were present, of which approximately 56 were steelhead and 60 were king salmon. It appears the estimated harvest of four of these fish (Table 4) is not large enough to significantly reduce their numbers in Wooley Creek. Comparisons with inventories made in other years are presented in Table 9.

TABLE 9

Numbers of King Salmon and Steelhead
Wooley Creek
1967 - 1970

Year	Actually Observed		Expanded Estimate	
	SH	KS	SH	KS
1967*	--	--	--	--
1968	33	16	124	69
1969*	--	--	--	--
1970	20	22	56	60

*Significant portions of stream not inventoried due to (1967) observers not familiar with stream and (1969) injuries to observer.

As in the past three years, even when it was closed to angling in 1968, Area 3 remained the most popular area in 1970. It received almost one half the mainstem angling pressure (Table 10) and yielded about one half of the fish released and killed.

TABLE 10

Angler Pressure - Area 3

Year	Number Reported Angler Hours	Percent of Total Mainstem Pressure	Open to Fishing?
1967	134	61	Yes
1968	39	51	No
1969	71	49	Yes
1970	81	44	Yes

Similarly, no great difference appears in the reported popularity of Area 4 during the period 1967-1970, even though it was closed to angling in 1969 (Table 11).

TABLE 11

Angler Pressure - Area 4

Year	Number Reported Angler Hours	Percent of Total Mainstem Pressure	Open to Fishing?
1967	26	13	Yes
1968	23	30	Yes
1969	13	9	No
1970	25	9	Yes

The data shown in Tables 10 and 11 indicate angling closures of sections of Wooley Creek do not significantly reduce angler pressure on these closed areas.

During the period 1967 through 1970, although complete inventories were not made in 1967 and 1969, it appears the populations of adult summer steelhead and adult spring run king salmon have remained relatively constant each year, probably between 100 and 200 combined individuals. If the data represented by the voluntarily completed angler report cards even approximates the true nature of angler activities occurring on Wooley Creek, then the small angler harvest of adult summer salmonids cannot have an effect on the size of those fish populations, and an angling closure would serve no purpose. My experience with Wooley Creek leads me to believe the angler harvest of adult summer salmonids was generally as pictured by the data from the angling report cards. The adult salmonids I have observed did not seem vulnerable to angling. They were well scattered over many miles of stream, were extremely wary, and were never hooked by anyone on my survey parties. During our week long survey trip each year, we have observed no one actually fishing, and saw only three parties of hiker-fishermen.

Populations of adult summer steelhead and spring run king salmon during the period 1967 through 1970 appear to be much lower than prior to 1965, according to several Department employees, although no estimates were provided for population size prior to 1965.

I find it difficult to explain the apparent sudden decrease in adult summer salmonid populations in Wooley Creek after 1964.

Roger Lanse
Assistant Fishery Biologist

RL:dh

cc: Anadromous Fisheries Branch
Captain Chipman
R. Lanse