

# IDAHO

## FISH & GAME DEPARTMENT

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FEDERAL AID IN FISH AND WILDLIFE RESTORATION

ANNUAL COMPLETION REPORT

STATEWIDE FISHING HARVEST SURVEY

PROJECT F-18-R-18



Job 1. Annual Survey of the Salmon and Steelhead Sport Fishery Harvest  
in Idaho

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Job 3. Check Station Surveillance of Chinook Salmon Fisheries  
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Job 3. Check Station Surveillance of Steelhead Trout Fisheries  
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Period Covered: March 1, 1971 - February 29, 1972

Boise, Idaho  
August, 1972

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# JOB COMPLETION REPORT

## Research Project Statement

State of Idaho Name: ANNUAL SURVEY OF THE SALMON AND  
STEELHEAD SPORT FISHERY HARVEST  
IN IDAHO

Project No. F-18-R-18

Job No. 1 Title: Estimates of the 1971 Harvest  
of Salmon and Steelhead (Survey)

Period Covered: March 1, 1971 to February 28, 1972

### ABSTRACT:

Separate salmon and steelhead permits were again required during 1971. A total of 6,079 salmon permits and 20,174 steelhead permits were sold during the year.

Approximately 84 percent of the salmon permit holders indicated that they had fished but only 30 percent caught chinook. Steelhead anglers fared slightly better with 82 percent of the permittees fishing and 37 percent catching steelhead.

Approximately 80 percent of the steelhead anglers were Idaho residents and harvested about 78 percent of the total catch. A breakdown of salmon data, by state, was not made.

The 1971 salmon harvest of 3,500 was the lowest recorded catch in a year in which salmon fishing was permitted. The steelhead catch of 17,500 was below average for recent years.

Submitted by:

Jerry Mallet  
Anadromous Fishery Supervisor

RECOMMENDATIONS:

Continue the annual survey of salmon and steelhead harvests.

Place more emphasis on angler contacts on the Snake River, lower Salmon River, and upper Clearwater River to insure equitable recording of stream sections in all sections.

OBJECTIVES:

To estimate the 1971 salmon and steelhead harvest in Idaho.

TECHNIQUES USED:

Survey techniques used compared with those of past years; however, as in 1970, we made two separate surveys. The chinook survey started immediately after chinook fishing ceased in August. The steelhead census letters went out after January 1, 1972, inasmuch as anglers fish through the winter months.

We sent letters to 5,061 randomly selected holders of chinook permits, 83 percent of the 6,079 sold in 1971, and to 4,730 (23 percent) of 20,174 steelhead permit holders. Follow-up letters, again requesting the return of their permit, were sent to nonrespondees after a one-month waiting period.

Anglers either returned their original permits or filled in a duplicate permit printed on the reverse side of the survey letter.

We asked chinook anglers to record the number of days they fished and the number of jack chinook taken. Jacks less than 20 inches fork length need not be recorded on the permit.

Steelhead anglers were asked to record their estimate of the number of days fished in each of the major drainages, the Snake, Salmon, and Clearwater rivers.

The survey letters, with accompanying maps, requested that anglers accurately record the river section from which each fish was taken. Field personnel also emphasized accurate recording of catch areas to anglers during the season.

Incoming data, including residence of anglers, days fished, jack catch, adult catch, stream sections fished and dates of catches were coded on permits prior to tabulation by keypunch operators for data processing.

Various combinations of tabular summaries of catch by date, stream, residency, etc., were compiled by machine sorting. I expanded sample summaries to total catch estimates using direct proportion ratios.

FINDINGS:

Separate salmon and steelhead permits were required again during 1971.

A total of 6,079 salmon permits and 20,174 steelhead permits were sold during the year. Approximately 84 percent of the salmon permit holders indicated that they had fished but only 30 percent caught chinook (Table 1). Steelhead anglers fared slightly better with 82 percent of the permittees fishing and 37 percent catching steelhead (Table 2).

The average 1971 season's catch for all salmon anglers who fished was 0.58 salmon while successful anglers caught 2.33 fish (Table 3). All steelhead anglers averaged 1.07 steelhead for the season while successful anglers averaged 2.85 fish (Table 4).

Salmon anglers were allowed to catch ten fish in 1971. Only 2 percent of the salmon anglers caught more than five salmon for the season (Table 5). However, the sixth to tenth fish on their cards made up 18 percent of the total salmon catch. Steelhead anglers were limited to 20 fish for the 1971 season. Only 1 percent of the steelhead anglers caught more than ten fish during 1971 (Table 6). However, the eleventh through twentieth fish on their cards made up 13 percent of the total steelhead catch.

Salmon anglers in the random sample reported catching 2,229 chinook salmon and only 104 of these were not recorded by exact stream section (Table 7). The unknown catches were prorated and the data expanded by stream and by month. An estimated 1,463 salmon were caught from the Main Salmon River (69 percent in section 8), and 2,085 were taken in Salmon River tributaries in a state total of 3,563 (Table 8).

Steelhead anglers caught an estimated 17,661 fish in 1970. This catch as in past years, is reported on a calendar year basis and includes portions of two fish runs. Steelhead anglers in the random sample reported catching 3,282 steelhead of which 777 were not recorded by exact stream section (Table 9). Anglers caught 10,167 steelhead in the Main Salmon River of which 97 percent were taken in river sections 1 to 5 (mouth to Salmon City). The main stem Clearwater River and Snake River catches were estimated at 3,912 and 2,953 steelhead, respectively (Table 10).

Salmon anglers (3,050 responding) caught an average of 0.6 jacks (Table 11) that were not recorded on permits and are not included in the harvest estimates. A rough estimate of the statewide jack harvest can be computed by multiplying the total number of salmon fishermen (6,079) by the average jack harvest (0.6). Utilizing this method, we calculated that 3,647 jacks were harvested by salmon anglers during 1971. Specific jack harvest information by stream is generally not available but it is evident that a large percentage of the jacks were taken in the Little Salmon River and in the upper Salmon River drainage. Reingold (1972) reports that 23 percent of the salmon examined at his check station on the upper Salmon River were jacks. Anglers continued to heavily harvest the jacks returning to Rapid River Hatchery in the Little Salmon River.

Approximately 80 percent of the steelhead anglers were Idaho residents (Table 12) and harvested about 78 percent of the total catch (Table 13). A breakdown of salmon data, by state, was not made. Reingold (1972) calculated that residents made up 82 percent of the salmon anglers and caught 74 percent of the fish observed at check stations.

Salmon anglers reported fishing an average of 5.3 days each (Table 14) while steelhead anglers reported 6.0 days each (Table 15).

Salmon raw data catch reports are recorded by day and stream for June and July for major streams in Table 16, and similar steelhead data is shown in Table 17. This data indicates that little salmon fishing occurred in June, 1971, and that pressure was continued and heavy once fishing picked up around July 10 with weekends receiving slightly more pressure.

Approximately 59 percent of the steelhead harvest was taken from the Salmon River drainage, 24 percent from the Clearwater River and 17 percent from the Snake River. As usual, almost all of the salmon harvest occurred in the Salmon River drainage (Table 18).

The 1971 salmon harvest of 3,500 was the lowest recorded catch in a year in which salmon fishing was permitted (Table 19). The steelhead catch of 17,500 was below average for recent years.

Table 20 lists steelhead harvest by fish year for those years that such a breakdown is available. Breakdown by river section is available only for the last two fish years.

Submitted by:

Jerry Mallet  
Anadromous Fishery Supervisor

Table 1. Basic random sample return data used to compute chinook salmon catch estimates in 1971.

- 
- (1) 6,079 permits were sold (as of October 31, 1971).
  - (2) 5,061 random sample requests were mailed.
  - (3) 3,828 random sample permits were returned (as of October 31, 1971).
  - (4) 3,806 of these contained usable information.
  - (5) 22 contained no information.
  - (6) Estimates and sample size.

<u>Category</u>	<u>Usable Sample</u>	<u>Percent of Total</u>	<u>Estimate</u>
Did not fish	618	16.2	987
Fished for chinook	3,188	83.8	5,092
a. Did not catch	2,231	70.0	3,563
a. Caught chinook	<u>957</u>	<u>30.0</u>	<u>1,529</u>
Total Replies	3,806	N.A.	6,079
Chinook caught	2,229		3,560
Chinook per successful angler:	2.33		

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Notes: The Post Office returned 175 undeliverable letters.

: 78 percent of delivered request were returned by permittees.

Ratio estimate: Sample = 1.5992; 1.0000

Table 2. Basic random sample return data used to compute Idaho steelhead catch estimates in 1971.

- (1) 20,174 permits were issued.
- (2) 4,730 random sample requests were mailed.
- (3) 3,830 random sample permits were returned.
- (4) 3,749 of these contained usable information.
- (5) 81 contained no information.
- (6) Estimates and sample size.

<u>Category</u>	<u>Usable Sample</u>	<u>Percent of Total</u>	<u>Estimate</u>
Did not fish	670	17.9	3,605
Fished for Steelhead	3,079	82.1	16,569
a. Did not catch	1,926	62.6	10,364
b. Caught steelhead	<u>1,153</u>	<u>37.4</u>	<u>6,205</u>
Total Replies	3,749	N.A.	20,174
Steelhead caught	3,282		17,661

Note: The Post Office returned 124 undeliverable letters.

Average catch per all anglers who fished = 1.0659

Average catch per all successful anglers = 2.846

Ratio estimate: Sample = 5.3812: 1.0000

Table 3. The number and percentage (in parentheses) of anglers returning 1971 salmon permits who fished for and caught chinook salmon, did not fish for salmon, or did not indicate on permit whether they fished or not.

Type of Return	Fished and caught fish	Fished, did not catch	Did not fish	No information	Totals	Catch per		
						Chinook Caught	Successful Angler	All Anglers
<b>Permit</b>								
First and * Second Request	567 (37.9)	754 (50.4)	161 (10.8)	14 (0.9)	1,496 (100)**	1,376	2.43	0.92
<b>Sample Permit</b>								
First Request	291 (17.7)	1,043 (63.5)	306 (18.6)	2 (1.2)	1,642 (100)	615	2.11	0.37
Second Request	99 (14.3)	434 (62.9)	151 (21.9)	6 (0.9)	690 (100)	238	2.40	0.34
Total Random Sample	957 (25.0)	2,231 (58.3)	618 (16.1)	22 (0.6)	3,828 (100)	2,229	2.33	0.58

\* Includes 162 permits returned voluntarily by random sample permittees.

\*\*39.1 percent of respondees returned their original permits.

Table 4. The number and percentage (in parentheses) of anglers returning 1971 steelhead permits who fished and caught steelhead, fished but did not catch steelhead, did not fish for steelhead, or did not indicate on permit whether they fished or not.

Type of Return	Fished and caught fish	Fished, did not catch	Did not fish	No information	Totals	Catch per		
						Steelhead caught	Successful Angler	Anglers
Permit								
First and Second Request	792 (41.1)	863 (44.8)	226 (11.7)	46 (2.4)	1,927 (100.0)	2,298	2.90	1.39
Sample Permit First Request	271 (20.9)	711 (54.8)	298 (23.0)	18 (1.4)	1,298 (100.0)	739	2.73	0.75
Second Request	90 (14.9)	352 (58.2)	146 (24.1)	17 (2.8)	605 (100.0)	245	2.72	0.55
Total Random Sample	1,153 (30.1)	1,926 (50.3)	670 (17.5)	81 (2.1)	3,830 (100.0)	3,282	2.85	1.07

Table 5. Number of chinook salmon reported caught by anglers in the 1971 random sample--Idaho.

Catch Per Anglers	Number of Anglers Reporting	Total Sample Catch	Percent of Total
0	2,231	None	--
1	410	410	18.4
2	230	460	20.6
3	112	336	15.1
4	112	448	20.1
5	<u>34 (98%)</u> ( 2%)	170	<u>7.6 (82%)</u> (18%)
6	27	162	7.3
7	20	140	6.3
8	6	48	2.2
9	5	45	2.0
10	<u>1</u>	<u>10</u>	<u>0.4</u>
Totals	3,188	2,229	100

Note 957 (30 percent) of 3,188 anglers contacted, who fished, caught salmon.

Table 6. Summary of the catch of steelhead per successful angler reporting in random survey, Idaho, 1971.

Catch Per Angler	Number of Anglers Reporting	Percent	Total Catch	Subtotal Catch	Percent of Catch
0	1,926		0		--
1	441		441		
2	275		550		
3	150		450		
4	103		412		
5	<u>52</u>		260	<u>2,113</u>	<u>64</u>
		96			
6	34		204		
7	28		196		
8	16		128		
9	14		126		
10	9		90	<u>744</u>	<u>23</u>
		3			
11	12		132		
12	3		36		
13	2		26		
14	3		42		
15	4		60		
16	1		16		
17	0		0		
18	3		54		
19	1		19	<u>425</u>	<u>13</u>
20	<u>2</u>		<u>40</u>		
		1			
	3,029		3,828	3,282	100

Note 1,153 (37 percent) of 3,079 anglers contacted, who fished, caught steelhead.

Table 7. 1971 reported catch of chinook salmon by month and stream - random sample returns only.

Stream	Jan.- April	May	June	July	Aug.	Unknown	Total
Salmon - 1	0	0	1	8	0	3	12
Salmon - 2	0	1	8	15	2	2	28
Salmon - 3	4	0	2	13	1	0	20
Salmon - 4	0	0	0	1	0	0	1
Salmon - 5	0	0	0	11	0	0	11
Salmon - 6	0	0	0	3	0	0	3
Salmon - 7	0	0	1	165	7	2	175
Salmon - 8	1	0	9	540	1	12	563
Salmon Unknown	0	0	10	87	0	5	102
	<u>5</u>	<u>1</u>	<u>31</u>	<u>843</u>	<u>11</u>	<u>24</u>	<u>915</u>
S. F. Salmon	0	0	0	4	0	1	5
M. F. Salmon	0	0	5	416	2	7	430
E. F. Salmon	0	0	1	99	0	2	102
N. F. Salmon	0	0	0	0	0	0	0
Pahsimeroi	0	0	0	0	0	0	0
Little Salmon	0	0	45	285	1	24	355
Bear Valley	0	0	0	0	0	0	0
Loon Creek	0	0	2	186	0	5	193
Lemhi River	0	0	0	113	0	1	114
Marsh Creek	0	0	0	10	2	0	12
Big Creek	0	0	0	41	0	0	41
Valley Creek	0	0	0	31	0	0	31
Camas Creek	0	0	0	22	0	0	22
Salmon R. Tributaries Total	<u>0</u>	<u>0</u>	<u>53</u>	<u>1,207</u>	<u>5</u>	<u>40</u>	<u>1,305</u>
Lower Snake	0	0	0	0	0	1	1
Upper Snake	0	0	4	1	0	0	5
Snake Unknown	0	0	0	0	0	0	0
Snake Total	<u>0</u>	<u>0</u>	<u>4</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>6</u>
Lower Clearwater	0	0	0	0	0	1	1
Unknown Stream	0	0	0	2	0	0	2
Total State	5	1	88	2,053	16	66	2,229

Table 8. 1971 estimated total catch of chinook salmon by month and stream, Idaho.

Stream	Jan.- April	May	June	July	Aug.	Total
Salmon - 1	0	0	2	19	0	21
Salmon - 2	0	2	19	30	3	54
Salmon - 3	6	0	5	24	2	37
Salmon - 4	0	0	0	2	0	2
Salmon - 5	0	0	0	19	0	19
Salmon - 6	0	0	0	5	0	5
Salmon - 7	0	0	2	299	11	312
Salmon - 8	<u>2</u>	<u>0</u>	<u>22</u>	<u>987</u>	<u>2</u>	<u>1,013</u>
Salmon Total	8	2	50	1,385	18	1,463
M. F. Salmon	0	0	8	676	3	687
E. F. Salmon	0	0	2	161	0	163
S. F. Salmon	0	0	0	8	0	8
Little Salmon	0	0	77	489	2	568
Loon Creek	0	0	3	305	0	308
Lemhi River	0	0	0	182	0	182
Marsh Creek	0	0	0	16	3	19
Big Creek	0	0	0	65	0	65
Valley Creek	0	0	0	50	0	50
Camas Creek	<u>0</u>	<u>0</u>	<u>0</u>	<u>35</u>	<u>0</u>	<u>35</u>
Salmon R. Tributaries Total	0	0	90	1,987	8	2,085
Lower Snake	0	0	2	0	0	2
Upper Snake	<u>0</u>	<u>0</u>	<u>6</u>	<u>2</u>	<u>0</u>	<u>8</u>
Snake Total	0	0	8	2	0	10
Lower Clearwater	0	0	2	0	0	2
Unknown Stream	0	0	0	32	0	3
Total State	8	2	150	3,377	26	3,563

\*January to April salmon catch recordings probably errors on permits. These may be steelhead.

Table 9. 1971 reported catch of steelhead by month and stream - random sample raw data returns only.

Stream	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Unk.	Total
Salmon - 1	10	9	13	3				3	54	122	50	13	8	285
Salmon - 2	9	15	14	1		1		1	16	43	49	13	23	185
Salmon - 3	2	35	44	2	1		1		1	87	51	2	3	229
Salmon - 4	3	20	40	41			2		5	186	69	3		369
Salmon - 5	3	15	50	18	1				10	166	158	14		435
Salmon - 6			4	4						8	11	3	2	32
Salmon - 7			2							4				6
Salmon - 8				4						2				6
Salmon Unknown	<u>13</u>	<u>18</u>	<u>27</u>	<u>8</u>	<u>2</u>	<u>1</u>	<u>3</u>	<u>2</u>	<u>36</u>	<u>139</u>	<u>85</u>	<u>10</u>	<u>2</u>	<u>342</u>
	40	112	194	81	4	1	3	6	122	757	473	58	38	1,889
S. F. Salmon			1									1		2
M. F. Salmon		1	11	3					2	1			2	20
E. F. Salmon														
N. F. Salmon			2		1					3				6
Little Salmon						11								11
Big Creek				3										3
Salmon Trib.														
Subtotal	<u>0</u>	<u>1</u>	<u>14</u>	<u>6</u>	<u>1</u>	<u>11</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>4</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>42</u>
Lower Clearwater	10	18	13						51	188	125	65	22	492
Upper Clearwater		9	15	4					2	18	7	5		60
Clearwater Unk.	<u>1</u>	<u>8</u>	<u>13</u>	<u>1</u>					<u>19</u>	<u>84</u>	<u>27</u>	<u>20</u>	<u>2</u>	<u>175</u>
Clearwater Total	11	35	41	5					72	290	159	90	24	727
N. F. Clearwater		4		4										8
M. F. Clearwater	5	3	5							2	1			16
Selway		3	19	8										30
Lochsa		3	1	1										5
Clearwater Trib.														
Subtotal	<u>5</u>	<u>13</u>	<u>25</u>	<u>13</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>59</u>
Lower Snake	2		3						12	99	80	42	19	257
Upper Snake	3	2						2	1	15	12	10	3	48
SNAKE Unk.	<u>9</u>	<u>2</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>25</u>	<u>109</u>	<u>65</u>	<u>31</u>	<u>3</u>	<u>244</u>
SNAKE Total	14	2	6	0	0	0	0	4	38	223	157	83	22	549
Unknown Streams						1				5	2		8	16
State Total	70	163	280	105	5	13	3	10	234	1,281	792	232	94	3,282

Table 10. Estimated 1971 Idaho steelhead catch by stream and month, prorated.

Estimated catch in:

Month	Estimated catch in:										Total	
	Jan.	Feb.	Mar.	Apr.	May -*	June	July -	Aug.	Sept.	Oct.		Nov.
Stream section												
Salmon 1	81	59	81	16			22	425	829	339	86	1,938
2	81	108	102	5	11	5	134	323	371	97	1,237	
3	16	221	280	11	11	5	5	581	339	11	1,480	
4	22	129	248	248			16	38	1,227	452	22	2,402
5	22	97	312	113	5			75	1,092	1,033	91	2,840
6			27	22					59	75	16	199
7			11						27			38
8				22					11			33
Salmon Total	222	614	1,061	437	27	48	677	4,149	2,609	323	10,167	
S. F. Salmon			5							5	10	
M. F. Salmon		5	70	16			11	5			107	
Other Salmon Tribs.			11	16	64			16			107	
Lower Clearwater	59	135	108					382	1,485	845	468	3,482
Upper Clearwater		59	118	27				16	135	43	32	430
Total Clearwater	59	194	226	27				398	1,620	888	500	3,912
N. F. Clearwater		22		22								44
M. F. Clearwater	27	16	27						11	5		86
Other Clearwater		32	108	48								188
Lower Snake	32		32					194	1,135	764	377	2,534
Upper Snake	43	11					22	16	118	118	91	419
Snake River Total	75	11	32				22	210	1,253	882	468	2,953
Unknown Streams					11				54	22		87
State Total	383	894	1,540	566	102	70	1,296	7,108	4,406	1,296	17,661	

\* Fish taken prior to July 1 are from fish year 1970-71 run, those taken after July 1 are 1971-72 fish.

Table 11. Summary of the number of jack salmon reported caught by random sample anglers responding to our questionnaire in 1971.

Number of Jacks Caught	Number of Anglers Reporting	Total Jacks Caught
Zero	2,517	0
1	180	180
2	133	266
3	71	213
4	38	152
5	35	175
6	15	90
7	8	56
8	12	96
9	5	45
10	12	120
11	5	55
12	5	60
13	1	13
14	2	28
15	1	15
16	1	16
17	1	17
20	1	20
23	1	23
24	1	24
25	1	25
27	1	27
29	1	29
33	1	33
40	1	40
Total	3,050	1,818

Average jacks per respondee: 0.60

Table 12. Number and percent of anglers in steelhead permit sample responding from each state and days fished, Idaho, 1971.

Rank	State	Anglers per State		Man Days Fished		Days Fished Per Man
		Number	Percent	Number	Percent of Total	
1	Idaho	2,477	80.5	13,214	84.0	5.3
2	Montana	156	5.1	880	5.6	5.6
3	Washington	159	5.2	651	4.1	4.1
4	California	109	3.5	335	2.1	3.1
5	Utah	51	1.6	162	1.0	3.2
6	Oregon	32	1.0	136	0.9	4.2
7	Nevada	12	0.4	31	0.2	2.6
8	Wyoming	9	0.3	77	0.5	8.6
9	Others	<u>73</u>	<u>2.4</u>	<u>246</u>	<u>1.6</u>	<u>3.4</u>
		3,078	100.0	15,732	100.0	5.1

Note: 3,078 includes responses on request letters - 418 respondees did not indicate how many days they fished.

Table 13. A. - Estimated total catch of steelhead by residence of anglers for selected streams and, B. - Reported catch for all streams from 1971 random sample returns, Idaho.

Stream Section	A. - Estimated Steelhead Catch By Angler From:									
	Idaho	Wash.	Ore.	Calif.	Nev.	Utah	Wyo.	Mont.	Other	Total
Lower Snake River	1,006	226	22	48		16		54	11	1,383
Upper Snake River	161	38	32	5					16	257
Lower Clearwater River	2,249	215		65			16	86	16	2,647
Upper Clearwater River	215	16		5				86		322
Salmon - 1	1,184	129	27	70				59	65	1,534
Salmon - 2	872	16	38	38	5			27		996
Salmon - 3	952	43	32	70		48	32	32	16	1,231
Salmon - 4	1,195		48	145	27	113	54	377	27	1,986
Salmon - 5	1,883			135		65	32	178	48	2,341
B. - Raw data, random sample catch by state - all streams										
N (Sample)	2,546	190	46	126	10	56	28	217	63	3,282
Percent of Total	77.6	5.8	1.4	3.8	0.3	1.7	0.9	6.6	1.9	100%

Table 14. Summary of the number of days fished in Idaho by chinook salmon anglers reporting on random sample letters, 1971.

Number of Days Fished	Number of Anglers Reporting	Total Days Fished
1	387	387
2	595	1,190
3	408	1,224
4	286	1,144
5	291	1,455
6	142	852
7	147	1,029
8	80	640
9	36	324
10	167	1,670
11	23	253
12	41	492
13	7	91
14	39	546
15	51	765
16	7	112
17	5	85
18	3	54
19	2	38
20	20	400
21	13	273
22	1	22
23	2	46
24	2	48
25	4	100
26	2	52
28	3	84
30	18	540
31	2	62
35	2	70
40	1	40
45	2	90
50	4	200
60	2	120
90	1	90
	2,796	14,688

Note: The 2,796 anglers reporting fished an average of 5.3 days each.

Table 15. Summary of the number of days fished by steelhead anglers reporting in random sample, Idaho, 1971.

Range in Days Fished	Number of Days Fished	Number of Anglers Reporting	Total Days Fished
	0	176	0
1-10	1	370	370
	2	515	1,030
	3	327	981
	4	260	1,040
	5	221	1,105
	6	136	816
	7	92	644
	8	65	520
	9	24	216
	10	120	1,200
11-20	11	27	297
	12	43	516
	13	15	195
	14	27	378
	15	39	585
	16	13	208
	17	9	153
	18	10	180
	19	4	76
	20	41	820
21-30	21	13	273
	22	8	176
	23	7	161
	24	4	96
	25	13	325
	26	4	104
	27	2	54
	28	5	140
	29	1	29
	30	19	570
31-40	Number per day summary	25	889
41-50	Number per day summary	10	615
51-60	Number per day summary	7	407
61-70	Number per day summary	3	195
71-80	Number per day summary	1	80
81-90	Number per day summary	1	85
91-100	Number per day summary	1	95
101-110	Number per day summary	1	102
121-130	Number per day summary	1	130
Totals		2,660	15,856

Note: 418 anglers gave no information. The 2,660 anglers reporting fished an average 6.0 days each.

Table 16 (Cont.) Reported catch (raw data) of chinook salmon by day, by section, Idaho, 1971.

July	Salmon River			Little Salmon	Middle Fork	Camas Creek	Loon Cr.	Marsh Creek	Lemhi River	East Fork	Valley Creek	Total
	Sec. 7	Sec. 8	Sec. 9									
1	1	2		3	1							7
2		2		12	1							15
3*		5	2	12				1		1		21*
4*		3	1	8	1			1	1			15*
5*		4	3	12	1			5				25*
6	3	5		8	1			4				21
7		2		15	2	1		5				25
8		8	2	12	1	2		5	2			32
9		7		12	3							22
10*		13		11	4	2	2	10	3			45*
11*		9	1	28	4	1		6				49*
12	1	11	6	21	9	5	1	8	2			64
13		6	1	18	5		3	3				36
14		11	4	8	10	5	2	6	1	1		48
15	1	15	4	15	12	2	4	6	1			60
16	1	9	1	8	16		5	3				43
17*	2	17		12	19		4	1	3			58*
18*	1	15		11	20		3	5	2			58*
19	1	12	3	10	16		1	9	3			55*
20	5	18	3	3	15		6	3	1	2		56
21	2	13		4	19		8	5	5	1		57
22	2	16	4	5	26		7	6	7	2		75
23	4	18	9	9	27		7	3	1	6	1	85
24*	7	25	1	2	48		18	4	11	1		117*
25*	13	29	4	3	21		25	1	4	4	2	106*
26	12	34	6	1	15		13	1	3	4	1	90
27	12	27	9	4	19		14	1		8	1	95
28	11	52	9		24		15		5	6	1	123
29	27	35	3	1	13	2	15			7	7	110
30	28	55	7	7	29	2	13		3	10	7	161
31*	28	54	4	5	21		19	3	1	9	3	147*
99 UK	3	5	5	5	13		1			3		35
Sub- Total	165	537	92	285	416	22	186	10	113	99	31	1,956

\* Weekend and holiday

Table 17. Summary of the average reported catch by type of day, of steelhead from 1971, Idaho, random sample returns (spring months).

Spring Months	Number of Days	Average Steelhead Catch Per Day				Average Total**
		Snake River	Clearwater River	Salmon River		
				Lower*	Upper*	
January						
Holiday	1	2.0	3.0	4.0	0	10.0
Weekend	2	2.5	1.5	0.5	0	4.5
Weekday	5	0.4	0.0	0.6	0	1.0
Weekend	2	1.0	1.0	0	0	2.0
Weekday	5	0.2	0	0.4	0	1.2
Weekend	2	0.5	0	0.5	0	3.0
Weekday	5	0.2	0	0.6	0	1.2
Weekend	2	0	1.5	1.5	1.0	4.0
Weekday	5	0	0.2	0.6	0.2	1.4
Weekend	2	0	0	0.5	1.5	2.5
February						
Weekday	5	0	0.2	0.8	0.4	2.2
Weekend	2	0	2.0	0	0	2.5
Weekday	5	0	0.6	0.4	0.4	2.0
Weekend	2	0	0	2.5	0	4.5
Holiday	1	0	0	4.0	0	4.0
Weekday	4	0	0	0.2	0.2	0.6
Weekend	2	0	3.5	7.0	5.5	16.0
Weekday	5	0	1.4	3.2	2.8	7.8
Weekend	2	0	6.0	4.5	2.0	14.0
March						
Weekday	5	0	1.4	2.6	2.0	6.8
Weekend	2	0.5	5.0	7.0	6.0	18.5
Weekday	5	0.2	0.4	2.4	1.6	5.2
Weekend	2	0	1.0	2.0	6.0	11.5
Weekday	5	0.8	1.4	2.6	3.8	8.8
Weekend	2	0	3.5	4.5	5.5	17.0
Weekday	5	0	0.8	0.8	2.4	4.4
Weekend	2	0	0.5	0	0	2.0
Weekday	3	0	3.3	0	1.3	5.3

\* Lower Salmon includes areas 41, 42, 43; Upper includes 44 and 45.

\*\* Includes unknown Salmon River catches.

Table 17 (Cont.) Summary of the average reported catch by type of day, of steelhead from 1971, Idaho, random sample returns (spring months).

Spring Months	Number of Days	Average Steelhead Catch Per Day				Average Total**
		Snake River	Clearwater River	Salmon River		
				Lower*	Upper*	
<b>September</b>						
Weekday	3	0.7	0.3	0	0	1.0
Weekend	2	0	0	1.0	0	3.0
Holiday	1	0	0	2.0	0	2.0
Weekday	4	0	0	0.5	0	0.5
Weekend	2	0	0	3.5	1.0	4.5
Weekday	5	0.8	1.0	0.4	0.2	2.4
Weekend	2	2.5	2.5	5.5	1.0	12.5
Weekday	5	2.0	3.4	3.0	0.8	10.8
Weekend	2	3.0	8.0	5.0	0	24.0
Weekday	4	2.8	7.0	4.2	1.5	17.0
<b>October</b>						
Weekday	1	5.0	14.0	5.0	0	28.0
Weekend	2	7.5	15.0	6.0	5.0	36.0
Weekday	5	5.0	5.0	5.4	2.8	19.6
Weekend	2	6.5	12.0	5.5	9.5	40.5
Holiday	1	5.0	8.0	2.0	7.0	26.0
Weekday	4	4.0	9.5	5.8	8.8	32.6
Weekend	2	17.0	18.0	16.5	19.0	80.0
Weekday	5	7.2	7.2	9.4	13.8	43.4
Weekend	2	13.5	17.5	6.5	27.0	71.5
Holiday	1	8.0	7.0	14.0	19.0	52.0
Weekday	4	4.2	4.8	5.5	9.2	26.7
Weekend	2	8.0	6.5	11.0	20.5	50.5
<b>November</b>						
Weekday	5	4.6	5.0	6.6	8.8	30.2
Weekend	2	8.0	7.5	7.0	13.0	39.0
Weekday	5	4.8	5.8	4.4	6.8	25.0
Weekend	2	7.0	7.5	4.5	16.5	38.0
Weekday	5	3.0	4.2	2.8	5.8	18.0
Weekend	2	8.5	11.0	11.0	9.0	46.5
Weekday	3	3.3	2.3	3.0	3.3	13.7
Holiday	1	6.0	6.0	4.0	4.0	23.0
Weekday	1	6.0	2.0	8.0	5.0	23.0
Weekend	2	8.0	6.0	4.5	7.0	6.0
Weekday	2	5.0	2.0	1.5	4.5	15.0
<b>December</b>						
Weekday	3	2.7	4.7	3.0	0.3	11.4
Weekend	2	2.0	7.0	0.0	2.0	11.0
Weekday	5	1.2	2.0	0.6	1.0	5.0
Weekend	2	5.5	4.0	0.5	1.0	12.0
Weekday	5	2.0	3.5	1.0	0	6.5
Weekend	2	3.5	4.5	2.5	2.0	14.5
Weekday	5	2.6	2.6	0.2	0.2	5.6
Holiday	1	5.0	5.0	0	1.0	11.0
Weekend	1	4.0	0	1.0	0	5.0
Weekday	5	2.6	1.6	1.0	0.2	5.6

Table 18. Estimated total catch of chinook salmon and steelhead trout in Idaho, 1971, from random sample returns of permits.

Stream or Section	Chinook Salmon		Steelhead Trout	
	Sample Size	Estimated Catch	Sample Size	Estimated Catch
Salmon - 1	12	21	285	1,938
Salmon - 2	28	54	185	1,237
Salmon - 3	20	37	229	1,480
Salmon - 4	1	2	369	2,402
Salmon - 5	11	19	435	2,840
Salmon - 6	3	5	32	199
Salmon - 7	175	312	6	38
Salmon - 8	563	1,013	6	33
Salmon Unk.	<u>102</u>	<u>(163)*</u>	<u>342</u>	<u>(2,586)*</u>
Subtotal	915	1,463	1,889	10,167
S. F. Salmon	5	8	2	10
M. F. Salmon	430	687	20	107
E. F. Salmon	102	163	--	--
N. F. Salmon	0	0	6	32
Little Salmon	355	568	11	59
Lemhi River	114	182	--	--
Pahsimeroi	0	0	--	--
Valley Creek	31	50	--	--
Big Creek	41	65	3	16
Camas Creek	22	35	--	--
Loon Creek	193	308 Tributary	--	--Tributary
Marsh Creek	12	19 Subtotal	--	--Subtotal
Bear Valley Creek	0//1,305	0//2,085	--//42	--//224
Lower Clearwater	1	2	492	3,482
Upper Clearwater			60	430
Clearwater Unk.			<u>175</u>	<u>(942)*</u>
Subtotal			727	3,912
N. F. Clearwater			8	44
M. F. Clearwater			16	86
S. F. Clearwater			--	--
Selway River			30	161
Lochsa River			5//59	27//318
Lower Snake River	1	2	257	2,534
Upper Snake River	5	8	48	419
Snake River Unk.	<u>0</u>	<u>0</u>	<u>244</u>	<u>(1,313)*</u>
Subtotal	6	10	549	2,953
Unknown Streams	2	3	16	87
State Total	<u>2,229</u>	<u>3,563</u>	<u>3,282</u>	<u>17,661</u>

Notes: I computed factors of 1.5972 for chinook and 5.3812 for steelhead by dividing the total reported catch into total estimated catch from tables.

I multiplied each stream sample by the factor to estimate individual catches.

\* The unknown Salmon, Clearwater, and Snake River catches are prorated and included in the catch from known sections.

Table 19. Idaho salmon and steelhead catch estimates, 1954-1971.

Year	Chinook Salmon		Year	Steelhead Trout	
	Catch	Estimate		Catch	Estimate
1954	15,000		1954	12,000	
1955	19,000		1955	13,000	
1956	21,000		1956	8,000	
1957	39,000		1957	20,000	
1958	24,000		1958	30,000	
1959	20,000		1959	31,000	
1960	21,000		1960	30,000	
1961	13,000		1961	25,000	
1962	12,000		1962	19,000	
1963	12,000		1963	26,000	
1964	8,000		1964	18,000	
1965	SALMON SEASON CLOSED		1965	20,000	
1966	8,500		1966	20,000	
1967	7,500	(6,500)*	1967	24,500	(22,500)*
1968	11,500	(10,000)	1968	24,500	(23,000)
1969	13,000	(11,500)	1969	17,000	(15,500)
1970	5,500		1970	20,500	
1971	3,500		1971	17,500	

\*Estimates in parentheses are calculated assuming that "no information" returns indicate that no fish were caught, and are more representative for trend purposes since the pre-1967 estimates were made using this assumption. The 1970-1971 returns include very few "no information" returns and are therefore comparable. The original 1967-1969 estimates shown were calculated without the "no information" returns.

Table 20. Estimated steelhead harvest in Idaho, by fish year, 1964-1971.

Stream or Section	'70-'71	'69-'70	'68-'69	'67-'68	'66-'67	'65-'66	'64-'65
Salmon 1	1,824	2,180	--	--	--	--	--
Salmon 2	1,163	1,990	--	--	--	--	--
Salmon 3	1,509	1,711	--	--	--	--	--
Salmon 4	1,459	2,302	--	--	--	--	--
Salmon 5	1,848	1,620	--	--	--	--	--
Salmon 6	49	194	--	--	--	--	--
Salmon 7	20	149	--	--	--	--	--
Salmon 8	74	54	--	--	--	--	--
Salmon Total	7,946	10,200	9,040	9,432	11,348	9,059	7,546
S. F. Salmon	5	165	45	280	436	235	75
M. F. Salmon	156	270	317	502	525	292	288
Other Salmon Trib.	107	266	236	110	274	727	389
Lower Clearwater	3,790	3,507	--	--	--	--	--
Upper Clearwater	978	921	--	--	--	--	--
Clearwater Total	4,768	4,428	7,933	7,813	6,263	6,365	3,617
N. F. Clearwater	50	172	183	515	333	51	--
M. F. Clearwater	291	461	290	176	44	--	--
Other Clearwater Trib.	200	170	94	387	89	424	511
Lower Snake	2,395	2,108	--	--	--	--	--
Upper Snake	600	731	--	--	--	--	--
Snake Total	2,995	2,839	3,322	3,441	3,972	2,268	1,676
Unknown Streams	62	192	156	292	403	327	129
State Total	16,580	19,163	21,616	22,948	23,687	19,748	14,231

JOB COMPLETION REPORT

Research Project Statement

State of Idaho Name: STATEWIDE FISHING HARVEST SURVEY  
Project No. F-18-R-18 Title: Check Station Surveillance of  
Job No. 3 Major Salmon and Steelhead  
Fisheries in Idaho (Salmon Only)

ABSTRACT :

In 1971, we operated three check stations on the upper Salmon River to provide management with timely and usable chinook salmon catch data. Between July 8 and August 1, check station operators interviewed 1,137 anglers who fished 18,428 hours to catch 706 salmon; 26 hours per fish. Nonresidents comprised 18 percent of the salmon anglers and spent 26 percent of the total hours fished to catch 26 percent of the harvest recorded at our stations.

Anglers also reported catching 160 jack salmon, 23 percent of the total salmon catch.

We recorded 3,864 man-days spent fishing for 706 adult salmon, or 5.5 man-days per fish.

From random returns of permit cards marked at the stations, I estimated that 2,067 salmon over 20 inches entered the anglers creel from the various streams and river sections covered by our stations. The statewide estimate for these same stream sections computed by the random sample of permit holders was 2,557 fish as reported in Job 1, F-18-R-18 (Mallet).

Submitted by:

Melvin Reingold  
Senior Fishery Research Biologist

## TECHNIQUES USED:

As in 1970, we set up three check stations at major egress points through which a high percentage of Idaho's chinook anglers return to their homes. The Banner Summit and Frenchman Creek station locations remained the same as shown in the 1970 report (Reingold, 1971). The Challis station was moved upstream approximately five miles to the mouth of Malm Gulch. We leveled and filled the approaches to all three stations for safety reasons.

We collected the following information: dates, number of resident and nonresident anglers, days fished, hours fished, adult salmon caught, jack salmon caught and stream or river section fished. When available (55 percent of the time), we inspected fish for marks, clipped fins and sex, and measured fork length to the nearest inch (Table 8).

Station personnel inspected the salmon permit card of each angler and marked the permit with a conductor's punch to the right of each salmon appearing on the permit, regardless of when caught.

Operators also explained to uninformed anglers the newly developed system of recording catches by sub-sections of major rivers. They completed permits as needed and issued informational maps and instructions.

Each Monday morning, check station operators summarized the previous weeks' records and telephoned the information to the Salmon regional office. Regional personnel compiled the data and forwarded it to Boise headquarters.

Biological aides, college students on summer employment, operated the check stations alone on weekdays and received assistance from locally hired labor and Fish and Game Personnel, ranging from Conservation Officers to Boise headquarters staff, on weekends. Travel trailers provided housing. We operated each station from 12 noon to 8 p.m. Thursdays through Mondays with only one or two minor variations (Tables 9, 10, 11, 12).

## FINDINGS:

During the 1971 chinook salmon season, check station operators conducted 1,137 angler interviews. These anglers reported fishing 18,428 hours to catch 706 adult salmon, an average rate of 26 hours per fish (Table 1). Hours per fish ranged from 103.5 hours on the Middle Fork of the Salmon in early July to 4.8 hours on Valley Creek in late July, (Table 6). For 1971, the number of salmon recorded at the stations represented approximately 34 percent of the estimated total harvest.

In 1971, we also questioned anglers on the number of jack salmon caught and kept. In Idaho, a jack salmon (one-year ocean males) twenty inches fork length or less is classified as a trout and may be included in the angler's bag of trout. Anglers are not required to record jack salmon on their salmon permit cards. We recorded 160 jack salmon reported caught by anglers stopping at our stations. Added to the total catch of salmon, the jacks comprised 23 percent of the total salmon reported at our stations (Table 2).

In 1971, nonresident anglers comprised 18 percent of the salmon fishermen that stopped at our check stations as compared to 15 percent in 1970. The nonresident anglers spent 26 percent of the total hours fished and 20 percent of the total man-days expended to catch 26 percent of the total chinook salmon recorded at our stations (Table 3). As in 1970, the data indicates that the out-of-state fisherman spends slightly more time fishing than the resident angler and proportionately realizes a slightly increased catch. Fifty percent of the nonresident pressure occurred in Salmon River section 8 as compared to 65 percent in 1970. Loon Creek, which was largely ignored by nonresident anglers in 1970, (2 percent) received 16 percent of the nonresident pressure in 1971, and 27 percent of the total 1971 nonresident harvest recorded at our stations came from this stream (Table 4). Nonresident pressure on the other streams remained fairly close to 1970 figures.

The ratio of punched to unpunched salmon permits returned to Boise headquarters at the end of 1971 indicated the percent of harvest from the various streams and river sections checked at our stations. This allowed me to expand the check station data proportionately and arrive at an estimate of total harvest for those areas covered by our stations (Table 5).

Boise headquarters received permits with 96 salmon recorded as caught from the Salmon River but with no section designation. From the permits returned with section designations, I was able to determine the percent of salmon caught from each section and apply these percentages to the undesignated permits and place them in a Salmon River section at those ratios. I included these fish in computing the expanded harvest estimates presented in Table 5.

It appears that for 1971 we realized the smallest chinook salmon sport harvest on record other than 1965 when the season was closed in Idaho. The spring chinook salmon count over Ice Harbor Dam was 3.3 percent above the last six year average. However, despite these two factors, annual redd counts were some 38 percent below the 1960-1968 average for the upper Salmon River. Reports of premature deaths of unspawned females in lower river areas and incidence of nitrogen bubble disease as high as 40 percent at our counting weirs indicate a probable high pre-spawning mortality from this cause.

Angling success for chinook salmon in the upper Salmon River depends almost directly on water conditions (Table 6). The first chinook generally enter the angler's creel the latter part of May, usually near the city of Salmon, Idaho. Spring runoff usually curtails salmon angling from the end of May to the latter part of June. In 1971, however, the Salmon River ran high and turbid from early May through June and into mid-July. Angling did not become good until after mid-July, and in effect most anglers had primarily two Saturdays and one Sunday (July 24 and 25, and July 31) of good salmon fishing. Over 62 percent of the total recorded catch was checked through our stations on those two weekends (Table 7).

Normally, the long holiday weekend of July 4 provides fair to good salmon fishing. In 1971, we made a roving field reconnaissance on July 3 and 4. We drove the Salmon River from Challis to the headwaters in Sawtooth Valley, about 75 miles, and found only 27 anglers on the water. We inspected four fish; all caught at Sunbeam Dam in section 8. We also

drove to the Dagger Falls campground on the Middle Fork of the Salmon River and walked down the trail to several of the popular salmon fishing holes. We contacted 25 anglers with no salmon. Most anglers were not fishing but morosely staring at a river much higher and dirtier than they had expected to find that time of year.

We set the check stations up July 8 and 9, but, as shown on Table 7, did not record any significant numbers of salmon through until the weekend of July 24-25. The area above Redfish Lake Creek (Decker Flat) which closed July 15, and usually provides considerable sport harvest, provided very few salmon to the bag in 1971.

The figure of 1,137 angler interviews conducted in 1971 compared with 3,512 interviews conducted through the 1970 salmon season indicates a 66 percent decrease. It appears that most fishermen were aware of the high extended runoff in 1971 and didn't attempt to fish until after mid-July.

Because the signs directing traffic into the check stations referred to all "fishermen", we also interviewed all trout anglers stopping at our stations. During the course of the four weeks we operated, we interviewed 3,004 trout fishermen that spent 22,379 hours to catch 15,777 trout (Table 14). Nonresidents comprised 24 percent of the trout anglers stopping at our stations, and they fished 29 percent of the total hours recorded and caught 27 percent of the total trout harvest.

For 1971, we inspected the trout in the creel when available and attempted to define wild rainbow trout versus hatchery reared rainbow catchables on the basis of fin deformation. Of 1,337 rainbow trout inspected, check station operators recorded 615 as wild trout (46 percent), 665 as hatchery trout (50 percent), and 57 trout as unknown (4 percent). The Idaho Fish and Game Department conducts an extensive hatchery catchable trout planting program in the lakes and streams of the upper Salmon River area. It appears, that during the period our check stations operated, about half the trout harvest consisted of these fish.

From July 8 through August 1, we interviewed a total of 4,141 fishermen: both trout and salmon, resident and nonresident. Of this total, 27.5 percent fished for salmon and 72.5 percent for trout.

#### LITERATURE CITED:

- Mallet, Jerry, 1972. Annual survey of the salmon and steelhead sport fishery harvest in Idaho. F-18-R-18, Job 1, 1971.
- Reingold, Melvin, 1971. Check station surveillance of chinook salmon fisheries. F-18-R-18, Job 3, 1971.

Submitted by:

Melvin Reingold  
Senior Fishery Research Biologist

Table 1. Summary of data collected at the salmon harvest check stations during the 1971 Idaho salmon fishing season.

Number of Angler Interviews:	1,137	(100%)
Resident Anglers:	932	(82%)
Nonresident Anglers:	205	(18%)
Hours Fished - Nonresidents:	4,789	(26%)
Hours Fished - Residents:	13,639	(74%)
Total Hours Fished:	18,428	(100%)
Chinook Caught - Nonresidents:	185	(26%)
Chinook Caught - Residents:	521	(74%)
Total Chinook Caught:	706	(100%)
Hours per Salmon - Nonresidents:	26	
Hours per Salmon - Residents:	26	
Combined Hours per Salmon:	26	
Man-days Spent Angling - Nonresidents:	733	(20%)
Man-days Spent Angling - Residents:	3,131	(80%)
Total Man-days Spent Angling:	3,864	(100%)
Man-days per Salmon - Nonresidents:	4.0	
Man-days per Salmon - Residents:	6.0	
Combined Man-days per Salmon:	5.5	

Table 2. The number of adult and jack salmon per each river section or stream as recorded at the three salmon harvest check stations during July, 1971.

River Section or Stream	Adult Salmon Recorded	Jack Salmon Recorded	Percent Jack Salmon	Total Salmon Recorded
S.R. 8	239	47	20%	286
S.R. 7	81	5	6%	86
M. Fk.	233	80	34%	313
E. Fk.	27	7	25%	34
Marsh Cr.	8	5	63%	13
Loon Cr.	101	13	13%	114
Valley Cr.	17	3	18%	20
TOTALS:	706	160	23%	866

Table 3. Distribution of nonresident salmon fisherman pressure and harvest for each stream and river section during July, 1971.

Stream and River Sections	Total Anglers Checked	Non-Resident Anglers Checked	Total Chinook Checked	Non-Resident Chinook Harvest
Salmon River - 8	551	103 (19%)	239	71 (30%)
Middle Fork	303	42 (14%)	233	39 (17%)
Salmon River - 7	101	13 (13%)	81	13 (16%)
East Fork	31	14 (45%)	27	13 (48%)
Loon Creek	94	33 (35%)	101	49 (49%)
Marsh Creek	36	0	8	0
Bear Valley Creek	10	0	0	0
Valley Creek	11	0	17	0
TOTALS	1,137	205 (18%)	706	185 (26%)

Table 4. Distribution of nonresident salmon fisherman pressure for each stream and river section and percent of harvest compared to total (resident plus nonresident) harvest, 1971.

Stream and River Sections	Non-Resident Anglers Recorded	Percent of Non-Resident Anglers	N.-Res. Percent of Total Anglers	Percent of Non-Resident Harvest	N.-Res. Percent of Total Harvest	Percent of Total Harvest Per Area
Salmon River-8	103	50%	9.1%	38%	10.0%	34%
Middle Fork	42	20%	3.7%	21%	5.5%	33%
Salmon River-7	13	7%	1.1%	7%	1.8%	11%
East Fork	14	7%	1.2%	7%	1.8%	4%
Loon Creek	33	16%	2.9%	27%	6.9%	14%
Marsh Creek	0	0%	0.0%	0%	0.0%	1%
Bear Valley Cr.	0	0%	0.0%	0%	0.0%	0%
Valley Creek	0	0%	0.0%	0%	0.0%	3%
<b>TOTALS</b>	<b>205</b>	<b>100%</b>	<b>18.0%</b>	<b>100%</b>	<b>26.0%</b>	<b>100%</b>

Table 5. Summary of marked and unmarked permits returned by salmon anglers and expanded estimates derived from these data and from the Idaho 1971 random survey.

Stream or River Section	Tot. No. Salmon on Permits Returned to Boise	No. of Station Marks on Permits	Percent Marked at Stations	No. Salmon on Permits Marked at Stations	No. Salmon Recorded at Stations	Chinook Harvest Estimates	
						From Check Stations	From Random Survey <sup>3/</sup>
S.R. 8	460	184	40.0%	300 <sup>1/</sup>	239 <sup>2/</sup>	750	1,013
S.R. 7	136	54	39.7%	85	81	214	315
Mid. Fk.	233	90	38.6%	271	233	676	688
East Fk.	81	22	27.1%	40	27	148	163
Marsh Cr.	6	5	83.3%	8	8	10	19
Valley Cr.	21	11	52.2%	18	17	34	50
Loon Cr.	<u>151</u>	<u>70</u>	<u>46.4%</u>	<u>109</u>	<u>101</u>	<u>235</u>	<u>309</u>
Totals	1,088	436	40.1%	821	706	2,067	2,557

<sup>1/</sup> This column represents the number of salmon recorded at the stations caught on that trip and all prior trips as shown on the anglers' salmon permit card.

<sup>2/</sup> These columns represent the salmon recorded at the stations caught on that trip only. It does not include fish caught on prior trips.

<sup>3/</sup> See job 1, F-18-R-18, Mallet, 1972. The totals do not represent the total state catch, only the catch for the streams and Salmon River sections listed.

Table 6. Fish caught, hours fished and hours per fish, by area, recorded at the salmon harvest check stations in July, 1971.

JULY, 1971															
WEEK (Monday through Sunday)															
Area	5 - 11			12 - 18			19 - 25			26 - 31			Combined		
	Fish Cght.	Hours Fished	Hrs. Fish	Fish Cght.	Hours Fished	Hrs. Fish	Fish Cght.	Hours Fished	Hrs. Fish	Fish Cght.	Hours Fished	Hrs. Fish	Fish Cght.	Hours Fished	Hrs. Fish
S.R. - 8	16	1539	95.6	22	2177	98.9	47	1781	37.8	154	2955	19.1	239	8443	35.3
Middle Fk.	4	414	103.5	24	1155	48.1	127	1712	13.5	78	1478	18.9	233	4759	20.4
S.R. - 7	0	13	----	3	217	72.3	8	410	51.2	70	822	11.7	81	1462	18.0
Loon Cr.	2	46	23.0	5	190	38.0	35	850	24.3	59	902	15.3	101	1988	19.7
Marsh Cr.	0	3	----	0	32	----	4	162	40.5	4	310	77.5	8	507	63.3
Valley Cr.	0	0	----	0	36	----	0	35	----	17	82	4.8	17	153	9.0
East Fork	0	14	----	0	42	----	14	80	5.7	13	239	18.4	27	375	13.9

Table 7. Summary of salmon recorded at all check stations, by day, during July, 1971.

July, 1971					
<u>Date</u>	<u>Day</u>	<u>No. Fish</u>	<u>Date</u>	<u>Day</u>	<u>No. Fish</u>
1	Th	- <sup>1/</sup>	17	S	7
2	F	-	18	Sn	35
3	S	-	19	M	6
4	Sn	-	20	T	-
5	M	-	21	W	7
6	T	-	22	Th	32
7	W	-	23	F	15
8	Th	0 <sup>2/</sup>	24	S	27
9	F	4	25	Sn	148
10	S	5	26	M	34
11	Sn	13	27	T	-
12	M	2	28	W	-
13	T	-	29	Th	58
14	W	-	30	F	46
15	Th	8	31	S	196
16	F	3	8/1	Sn	60 <sup>3/</sup>
(TOTAL:)					(706)

<sup>1/</sup> A dash (-) indicates no stations operating that date.

<sup>2/</sup> A zero (0) indicates no salmon checked through stations.

<sup>3/</sup> The 1971 salmon season ended after 7/31. Some anglers returned home on 8/1.

Table 8. Fork length, in inches, of 390 salmon measured at the salmon harvest check stations during July, 1971.

Fork Length Inches	Males	Females
20	6	0
21	5	0
22	4	0
23	5	0
24	9	2
25	15	1
26	15	1
27	20	4
28	27	11
29	23	9
30	17	17
31	10	10
32	6	10
33	11	5
34	4	11
35	8	10
36	4	27
37	6	15
38	6	20
39	5	6
40	6	4
41	4	3
42	5	1
43	0	0
44	2	0
45	0	0
46	0	0
47	0	0
48	0	0
49	1	0
TOTALS	224(57%)	166(43%)

Table 9. Summary of salmon recorded daily at the Banner Summit check station by stream and river sections during July, 1971.

Date	Day	S.R. 8	S.R. 7	M. Fk.	E. Fk.	Marsh	Valley	Loon
8	Th	- <sup>1/</sup>	-	-	-	-	-	-
9	F	-	-	-	-	-	-	-
10	S	0 <sup>2/</sup>	0	0	0	0	0	0
11	Sn	1	0	1	0	0	0	0
12	M	0	0	1	0	0	0	0
13	T	-	-	-	-	-	-	-
14	W	-	-	-	-	-	-	-
15	Th	1	0	0	0	0	0	0
16	F	0	0	0	0	0	0	0
17	S	0	0	2	0	0	0	0
18	Sn	2	0	4	0	0	0	0
19	M	0	0	3	0	0	0	0
20	T	-	-	-	-	-	-	-
21	W	-	-	-	-	-	-	-
22	Th	0	0	9	0	0	0	0
23	F	0	0	0	0	0	0	0
24	S	4	0	6	0	0	0	0
25	Sn	0	0	16	0	3	0	0
26	M	1	0	9	0	0	0	0
27	T	-	-	-	-	-	-	-
28	W	-	-	-	-	-	-	-
29	Th	1	0	6	0	0	0	0
30	F	0	0	9	0	0	0	0
31	S	0	0	3	0	2	7	0
8/1	Sn	3	0	3	0	0	0	0
TOTALS:		13	0	72	0	5	7	0

<sup>1/</sup> A dash (-) indicates no station operating that day.

<sup>2/</sup> A zero (0) indicates no salmon checked that day.

Table 10. Summary of salmon recorded daily at the Frenchman Creek check station by stream and river sections during July, 1971.

Date	Day	S.R. 8	S.R. 7	M. Fk.	E. Fk.	Marsh	Valley	Loon
8	Th	0 <sup>1/</sup>	0	0	0	0	0	0
9	F	4	0	0	0	0	0	0
10	S	1	0	0	0	0	0	0
11	Sn	1	0	0	0	0	0	0
12	M	1	0	0	0	0	0	0
13	T	- <sup>2/</sup>	-	-	-	-	-	-
14	W	-	-	-	-	-	-	-
15	Th	2	0	0	0	0	0	0
16	F	1	0	3	0	0	0	1
17	S	0	0	0	0	0	0	0
18	Sn	1	0	10	0	0	0	3
19	M	1	0	0	0	0	0	2
20	T	-	-	-	-	-	-	-
21	W	-	-	-	-	-	-	-
22	Th	0	0	9	0	0	0	0
23	F	1	0	7	0	0	0	0
24	S	0	1	0	0	0	0	0
25	Sn	12	1	65	3	0	0	28
26	M	8	0	5	0	1	0	2
27	T	-	-	-	-	-	-	-
28	W	-	-	-	-	-	-	-
29	Th	6	0	4	0	0	0	3
30	F	12	0	0	0	0	0	0
31	S	15	3	8	0	1	2	9
8/1	Sn	11	0	14	0	0	4	2
TOTALS:		77	5	125	3	2	6	50

<sup>1/</sup> A zero (0) indicates no salmon checked that day.

<sup>2/</sup> A dash (-) indicates no station operating that day.

Table 11. Summary of salmon recorded daily at the Challis check station by stream and river sections during July, 1971.

Date	Day	S.R. 8	S.R. 7	M. Fk.	E. Fk.	Marsh	Valley	Loon
8	Th	- <sup>1/</sup>	-	-	-	-	-	-
9	F	0 <sup>2/</sup>	0	0	0	0	0	0
10	S	1	0	3	0	0	0	0
11	Sn	8	0	0	0	0	0	2
12	M	-	-	-	-	-	-	-
13	T	-	-	-	-	-	-	-
14	W	-	-	-	-	-	-	-
15	Th	4	0	1	0	0	0	0
16	F	1	0	0	0	0	0	0
17	S	2	0	0	0	0	0	0
18	Sn	7	3	3	0	0	0	1
19	M	-	-	-	-	-	-	-
20	T	-	-	-	-	-	-	-
21	W	0	0	5	0	1	0	1
22	Th	2	0	0	0	0	0	3
23	F	7	0	0	0	0	0	0
24	S	12	2	1	0	0	0	0
25	Sn	8	4	6	11	0	0	1
26	M	1	1	0	0	0	0	6
27	T	-	-	-	-	-	-	-
28	W	-	-	-	-	-	-	-
29	Th	17	7	7	0	0	0	8
30	F	6	13	5	2	0	0	0
31	S	60	38	5	11	0	4	23
8/1	Sn	13	8	0	0	0	0	6
TOTALS:		149	76	36	24	1	4	51

<sup>1/</sup> A dash (-) indicates no station operating that day.

<sup>2/</sup> A zero (0) indicates no salmon checked that day.

Table 12. Summary of salmon recorded daily at all three check stations by stream and river sections during July, 1971.

Date	Day	S.R. 8	S.R. 7	M. Fk.	E. Fk.	Marsh	Valley	Loon
8	Th	0 <sup>1/</sup>	0	0	0	0	0	0
9	F	4	0	0	0	0	0	0
10	S	2	0	3	0	0	0	2
11	Sn	10	0	1	0	0	0	0
12	M	1	0	1	0	0	0	0
13	T	- <sup>2/</sup>	-	-	-	-	-	-
14	W	-	-	-	-	-	-	-
15	Th	7	0	1	0	0	0	0
16	F	2	0	3	0	0	0	1
17	S	2	0	2	0	0	0	0
18	Sn	10	3	17	0	0	0	4
19	M	1	0	3	0	0	0	2
20	T	-	-	-	-	-	-	-
21	W	0	0	5	0	1	0	1
22	Th	2	0	18	0	0	0	3
23	F	8	0	7	0	0	0	0
24	S	16	3	7	0	0	0	0
25	Sn	20	5	87	14	3	0	29
26	M	10	1	14	0	1	0	8
27	T	-	-	-	-	-	-	-
28	W	-	-	-	-	-	-	-
29	Th	24	7	17	0	0	0	11
30	F	18	13	14	2	0	0	0
31	S	75	41	16	11	3	13	32
8/1	Sn	27	8	17	0	0	4	8
TOTALS:		239	81	233	27	8	17	101

<sup>1/</sup> A zero (0) indicates no salmon checked that day.

<sup>2/</sup> A dash (-) indicates no station operating that day.

Table 13. Summary of salmon recorded at each check station during the 1971 salmon angling season.

Stream & River Sections	NUMBER FISH RECORDED PER STATION				
	Challis	Banner	Frenchman	Combination	Percent
Salmon River - 8	149	13	77	239	34
Salmon River - 7	76	0	5	81	11
Middle Fork	36	72	125	233	33
Loon Creek	51	5	50	101	14
Marsh Creek	1	5	2	8	1
Valley Creek	4	7	6	17	3
Bear Valley Cr.	0	0	0	0	0
East Fork	24	0	3	27	4
	341(48%)	97(14%)	268(38%)	706	100 %

Table 14. Summary of trout angler data collected at the F-18-R salmon harvest check stations during June and July, 1971.

Number of Angler Interviews:	3,004 (100%)
Resident Anglers:	2,287 (76%)
Non-Resident Anglers:	717 (24%)
Hours Fished, Non-Resident:	6,446 (29%)
Hours Fished, Resident:	15,933 (71%)
Total Hours Fished:	22,379 (100%)
Trout Caught, Non-Resident:	4,264 (27%)
Trout Caught, Resident:	11,513 (73%)
Trout Caught, Combined:	15,777 (100%)
Hours Per Trout, Non-Resident:	1.5
Hours Per Trout, Resident:	1.4
Man-days Spent Angling, Non-Res.:	2,034 (30%)
Man-days Spent Angling, Resident:	4,680 (70%)
Total Man-days Spent Angling:	6,714 (100%)
Hrs./Man-day Spent Angling, Non-Res.:	3.2
Hrs./Man-day Spent Angling, Resident:	3.4



Figure 1. Nonresident anglers comprised 18 percent of the salmon anglers compared to 15 percent in 1971. They caught 26 percent of the total catch checked through our stations.



Figure 2. Over 96 percent of the salmon catch recorded at our check stations occurred after July 15, and over 62 percent was recorded over the last two weekends of the season (July 24, 25 and 31).

JOB COMPLETION REPORT

Research Project Statement

State of Idaho

Name: ANNUAL SURVEY OF SALMON AND  
STEELHEAD SPORT FISHERY HAR-  
VEST IN IDAHO

Project No. F-18-R-18

Job No. 3

Title: Check Station Surveillance of  
Salmon and Steelhead Fisheries  
in Idaho (Steelhead Only)

Period Covered: March 1, 1971 to February 28, 1972

ABSTRACT:

Steelhead check stations operated in the major Salmon River steelhead fishing areas in the spring and fall of 1971, provided estimates of hatchery fish catch percentages and described fishing success and fish size. Submitted by:

Thomas L. Welsh  
Regional Fishery Biologist

Donald R. Corley  
Regional Fishery Biologist

#### RECOMMENDATIONS:

Steelhead check stations at North Fork and Riggins should be operated throughout the fall and spring fishing seasons each year. Operation of these check stations each weekend day throughout the season should provide adequate information.

An effort should be made to adequately check river sections 1 and 2 so that equal emphasis may be placed on recording harvest location in all sections of the river.

#### OBJECTIVES:

To collect steelhead catch statistics from selected heavily fished river sections which can be utilized to prorate harvest estimates by river section and to provide estimates of hatchery steelhead returns.

To provide timely catch information for use by department personnel and the public.

#### TECHNIQUES USED:

Personnel operate check stations covering primary egress points for Salmon River sections 3, 4, and 5 at sites above Riggins (section 3) and at North Fork (sections 4 and 5).

Prepared forms insure that catch data (date, river section, sex, size, and fin marks) are properly recorded.

#### FINDINGS:

Total steelhead catch estimates by month for the Salmon River from 1964 to 1971 are summarized from Job 1 of the Statewide Fishing Harvest Survey (Table 1). We have subdivided the catch by river sections since 1969 (Job 1).

The Salmon River was clear and fishable from late February through April, 1971.

Don Corley, Regional Fishery Biologist, Salmon, operated the North Fork check station from February 27 to April 11. The station was generally operated five days a week (Wednesday-Sunday). A total of 1,424 steelhead anglers were checked at the North Fork station who had fished 11,107 hours to catch 360 steelhead at a rate of 30.8 hours per fish (Table 2). Approximately 17.2 percent of the fish harvested were identified as hatchery fish. About 80 percent of the anglers checked, 92 percent of the hours fished, and 93 percent of the fish caught were in section 4 (Table 3). The totals for section 5 were roughly 20 percent of the anglers, 18 percent of the hours fished, and 7 percent of the fish caught.

Tom Welsh, Regional Fishery Biologist, McCall, operated the Short's Bar check station from February 17 to April 4, 1971. This station was also generally operated five days per week (Wednesday-Sunday). A total of 1,308 steelhead anglers were checked at the Short's Bar station who had fished 7,854 hours to catch 250 steelhead at a rate of 31.4 hours per fish (Table 12). Approximately 3.2 percent of the fish harvested

were of hatchery origin. The Short's Bar station censuses almost entirely anglers that have fished in river section 3. Less than one percent of the anglers checked at this station had fished in river section 2 (Table 13).

During the spring of 1971, eight marked fish were checked from section 3, 33 from section 4, and 29 from section 5 (Tables 4 and 5).

Length frequency distributions of steelhead by type of fish (marked or unmarked) in the spring of 1971 at North Fork and Short's Bar are shown in Table 6 and 14, respectively.

The Salmon River was generally clear and fishable throughout the fall season of 1971 until slush ice began flowing in late November.

Corley operated the North Fork check station during the fall of 1971 from October 9 to November 21. The station was operated two days per week (Saturday and Sunday) throughout the season. A total of 929 steelhead anglers were checked at the North Fork station who had fished 6,434 hours to catch 660 steelhead at a rate of 9.7 hours per fish. Approximately 60.6 percent of the fish harvested were identified as hatchery fish (Table 7). About 80 percent of the anglers checked, 66 percent of the hours fished, and 71 percent of the fish caught were in section 5 (Table 8). The section 4 totals were roughly 20 percent of the anglers, 34 percent of the hours, and 29 percent of the fish caught. It is interesting to note that 80 percent of the anglers checked in the spring fished section 4 while only 20 percent of the anglers checked in the fall fished this section.

By comparing weekend North Fork check station data in the fall of 1971 (mid-October to mid-November) with weekend check station data in the fall of 1969 and 1970, Corley found that the total number of steelhead caught was up 144 percent. The total angling pressure was 26 percent greater in 1971 than the mean of that in 1969 and 1970. There were 697 percent more hatchery fish caught in 1971 and 18.7 percent more wild fish caught.

Welsh operated the Short's Bar check station during the fall of 1971 from October 2 to November 21. The station was generally operated two days per week (Saturday and Sunday) throughout the season. A total of 746 steelhead anglers were checked at the Short's Bar station who had fished 5,651 hours to catch 331 steelhead at the rate of 17.1 hours per fish. Approximately 35.3 percent of the fish checked were of hatchery origin (Table 15). About two percent of the anglers checked at this station had fished in river section 2 and 98 percent in river section 3 (Table 16).

Welsh classified anglers checked at the Short's Bar station during the fall of 1971 in two categories: (1) anglers fishing with an outfitter, and (2) anglers fishing without an outfitter (private parties). This information is summarized as follows:

Type of Angler	Number Anglers	Hours	Steelhead Caught	Hours Per Fish
Outfitter	91	1,452	139	10.4
Private	655	4,199	192	21.9

Although most anglers (87.8 percent) fished without the services of outfitters, their rate of success was about one-half of that of anglers fishing with guides.

Length frequency distributions of steelhead by type of fish (marked or unmarked) in the fall of 1971 at North Fork and Short's Bar are shown in Table 11 and 19, respectively.

During the fall of 1971 2 marked fish were checked from section 2, 10 from section 3, 58 from section 4, and 298 from section 5. (Tables 9, 10, 17, and 18).

Only a limited quantity of information from river section 2 is collected at department check stations. Table 20 lists spot check data collected by Conservation Officer Boyd Thietten. This information combined with that collected at the Short's Bar station will provide a rough estimate of hatchery contributions from this section of river.

This report includes raw statistics gathered by management personnel at check stations. Detailed interpretation of these statistics will be presented in other department reports.

Submitted by:

Thomas L. Welsh, Regional Fishery Biologist  
Donald R. Corley, Regional Fishery Biologist

Table 1. Estimates of Salmon River steelhead catches 1964 to 1971 by month from statewide fishing harvest survey, Idaho.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1971	221	613	1,055	435	22	11	16	27	678	4,154	2,610	323	10,165
1970	281	1,522	1,838	748	133	--	--	9	508	3,190	1,547	331	10,107
1969	392	749	1,551	321	134	125	134	53	383	2,906	1,872	308	8,914
1968	422	885	2,018	906	175	93	93	10	257	2,780	2,090	566	10,295
1967	447	1,832	1,832	1,416	138	43	53	11	138	1,885	2,279	564	10,650
1966	390	511	1,832	669	102	65	28	--	186	2,529	2,148	837	9,298
1965	167	150	1,622	705	44	53	--	79	405	3,331	1,912	326	8,813
1964	346	768	2,237	1,700	58	10	--	10	403	2,112	1,584	384	9,602

Table 2. Summary of steelhead check station data collected at North Fork check station, Salmon River, spring, 1971.

Date	Anglers	Hours	Steelhead Caught	Marked Fish	Unmarked Fish	Hours Per Fish	Percent Hatchery
Feb. 27	19	70	1	0	1	70.0	0.0
28	56	366	19	3	16	19.3	15.8
Feb. Total	75	436	20	3	17	21.8	15.0
Mar. 3	8	101	0	0	0	---	---
4	13	220	11	0	11	20.0	0.0
6	41	273	2	0	2	136.5	0.0
7	125	972	29	4	25	33.5	13.8
10	37	275	4	0	4	68.8	0.0
11	21	283	1	1	0	283.0	100.0
12	34	343	8	5	3	42.9	62.5
13	67	438	5	2	3	87.6	40.0
14	138	994	29	9	20	34.3	31.0
17	22	247	3	0	3	82.3	0.0
18	22	135	5	0	5	27.0	0.0
19	36	203	19	5	14	10.7	26.3
20	111	669	21	4	17	31.8	19.0
21	150	1,296	35	10	25	37.0	28.0
24	16	168	10	1	9	16.8	10.0
25	12	144	4	0	4	36.0	0.0
26	27	294	11	1	10	26.7	9.1
27	23	153	4	0	4	38.2	0.0
28	79	662	16	0	16	41.4	0.0
31	9	76	6	0	6	12.7	0.0
Mar. Total	991	7,946	223	42	181	35.6	18.8

Table 2. (Cont.) Summary of steelhead check station data collected at North Fork check station, Salmon River, spring, 1971.

Date	Anglers	Hours	Steelhead Caught	Marked Fish	Unmarked Fish	Hours Per Fish	Percent Hatchery
Apr. 1	16	142	7	0	7	20.3	0.0
2	17	129	4	0	4	32.2	0.0
3	58	297	12	3	9	24.8	25.0
4	108	834	32	2	30	26.1	6.2
7	28	341	19	2	17	17.9	10.5
8	23	241	12	3	9	20.1	25.0
9	31	228	8	2	6	28.5	25.0
10	36	200	12	2	10	16.7	16.7
11	41	313	11	3	8	28.4	27.3
Apr. Total	358	2,725	117	17	100	23.3	14.5
Spring Total	1,424	11,107	360	62	298	30.8	17.2

Table 3. Summary of steelhead check station data collected at North Fork check station, spring, 1971, by river section.

Date*	Number Anglers			Hours Fished			Total Fish Caught			Hours Per Fish		
	River Section			River Section			River Section			River Section		
	4	5	M.F.	4	5	M.F.	4	5	M.F.	4	5	M.F.
Mar. 24	16	-	-	168	-	0	10	-	-	16.8	-	-
25	10	2	-	136	8	-	4	0	-	34.0	-	-
26	26	1	-	293	1	-	11	0	-	26.6	-	-
27	22	1	-	147	6	-	4	0	-	36.8	-	-
28	76	3	-	652	10	-	14	2	-	46.6	5.0	-
31	9	-	-	16	-	-	6	-	-	2.7	-	-
Apr. 1	11	5	-	116	26	-	5	2	-	23.2	13.0	-
2	13	4	-	119	10	-	4	0	-	29.8	-	-
3	18	40	-	185	134	-	9	3	-	20.6	44.7	-
4	79	29	-	714	120	-	30	2	-	23.8	60.0	-
7	21	7	-	287	54	-	17	2	-	16.9	27.0	-
8	17	6	-	228	13	-	12	0	-	19.0	-	-
9	29	2	-	217	5	-	8	0	-	27.1	-	-
10	34	2	-	196	4	-	12	0	-	16.3	-	-
11	33	8	-	272	41	-	10	1	-	27.2	41.0	-
Totals	414	108	0	3,746	432	0	156	12	0	24.0	36.0	0

\* Data from February 27 to March 21 has been omitted--checker listed sections fished only for successful anglers.

Table 4. Breakdown of marked fish (by individual mark) that were caught in river section 4 and checked at the North Fork check station during the spring of 1971.

Date*	Total Marked Fish	Deformed Dorsal	LV	LVAD	RV	RVAD	AD
Feb. 28	1	1					
Mar. 7	3	3					
11	1						1
12	4	2	2				
13	2	2					
14	3	2			1		
19	2	2					
21	1	1					
24	1	1					
26	1		1				
Apr. 3	1	1					
4	2	2					
7	2	2					
8	3	3					
9	3	2					
10	3	1	1				
11	2	2					
<b>Totals</b>	<b>33</b>	<b>27</b>	<b>4</b>		<b>1</b>		<b>1</b>

\* Entries are not made for dates on which no marked fish were checked.

Table 5. Breakdown of marked fish (by individual mark) that were caught in river section 5 and checked at the North Fork check station during the spring of 1971.

Date*	Total Marked Fish	Deformed Dorsal	LV	LVAD	RV	RVAD	AD	Other
Feb. 28	2	2						
Mar. 7	1	1						
12	1	1						
14	6	6						
19	3	3						
20	4	4						
21	9	7			1			1 RP
Apr. 3	2	2						
11	1	1						
Totals	29	27			1			1

\* Entries are not made for dates on which no marked fish were checked.

Table 6. Length frequency distribution of steelhead trout in creels examined at North Fork check station, Salmon River, spring, 1971.

Total Length (Inches)	Deformed Dorsals		Marked Fish		Unmarked Fish	
	Females	Males	Females	Males	Females	Males
21	2	-	-	-	4	-
22	5	2	1RV	-	11	6
23	8	3	1LV-1RV	-	7	6
24	4	7	1LV-1RP	-	27	7
25	7	3	-	1LV	21	26
26	5	2	1 AD	-	29	14
27	2	1	-	1LV	27	19
28	3	-	-	-	10	16
29	-	-	-	-	7	11
30	-	-	-	-	6	8
31	-	-	-	-	4	1
32	-	-	-	-	10	5
33	-	-	-	-	3	1
34	-	-	-	-	1	2
35	-	-	-	-	7	2
36	-	-	-	-	-	5
37	-	-	-	-	-	1
38	-	-	-	-	-	1

Table 7. Summary of steelhead check station data collected at North Fork check station, Salmon River, fall, 1971.

Date	Anglers	Hours	Steelhead Caught	Marked Fish	Unmarked Fish	Hours Per Fish	Percent Hatchery
Oct. 9	40	157	13	6	6	12.1	50.0
10	111	860	33	9	22	26.1	29.0
16	28	148	33	20	8	4.5	71.4
17	65	408	67	28	32	6.1	46.7
23	86	523	56	38	11	9.3	77.6
24	61	672	75	26	22	9.0	54.2
30	36	138	11	7	3	12.5	70.0
31	63	539	79	51	28	6.8	64.6
Oct. Totals	490	3,445	367	185	132	9.4	58.4
Nov. 6	48	290	30	19	11	9.7	63.3
7	126	973	81	46	27	12.0	63.0
13	46	282	36	19	16	8.5	54.2
14	110	776	80	47	20	9.7	70.1
20	43	282	30	17	12	9.4	58.6
21	66	386	36	23	13	10.7	63.8
Nov. Totals	439	2,989	293	171	99	10.2	63.3
Fall Totals	929	6,434	660	356	231	9.7	60.6

Table 8. Summary of steelhead check station data collected at North Fork check station, fall, 1971, by river section.

Date	Number Anglers			Hours Fished			Total Fish Caught			Hours Per Fish		
	River Section			River Section			River Section			River Section		
	4	5	M.F.	4	5	M.F.	4	5	M.F.	4	5	M.F.
Oct. 9	4	36	-	23	134	-	1	12	-	23.0	11.2	-
10	22	74	6	207	446	60	7	18	4	29.6	24.7	15.0
16	2	26	-	5	143	-	1	32	-	5.0	4.5	-
17*	-	-	-	-	-	-	-	-	-	-	-	-
23	7	79	-	73	450	-	3	53	-	24.3	8.5	-
24	22	38	1	426	224	14	44	25	2	9.7	9.0	7.0
30	1	35	-	6	132	-	0	11	-	-	12.0	-
31	20	43	-	208	331	-	35	44	-	5.9	7.5	-
Nov. 6	6	42	-	39	251	-	0	30	-	-	8.4	-
7	45	81	-	565	408	-	35	46	-	16.1	8.9	-
13*	-	-	-	-	-	-	-	-	-	-	-	-
14	32	78	-	288	488	-	27	53	-	10.7	9.2	-
20	1	42	-	10	272	-	2	28	-	5.0	9.7	-
21	1	65	-	14	372	-	1	35	-	14.0	10.6	-
<b>Totals</b>	<b>163</b>	<b>639</b>	<b>7</b>	<b>1,864</b>	<b>3,651</b>	<b>74</b>	<b>156</b>	<b>387</b>	<b>6</b>	<b>11.9</b>	<b>9.4</b>	<b>12.3</b>

\* Data for Oct. 17 and Nov. 13 has been omitted--checker listed sections fished only for successful anglers.

Table 9. Breakdown of marked fish (by individual mark) that were caught in river section 4 and checked at the North Fork check station during the fall of 1971.

Date*	Total Marked Fish	Deformed Dorsal	LV	LVAD	RV	RVAD	AD	Other
Oct. 17	9	9						
24	7	6			1			
31	16	16						
Nov. 7	16	12	2		2			
13	1	1						
14	6	6						
20	2	2						
21	1	1						
Totals	58	53	2		3			

\* Entries are not made for dates on which no marked fish were checked.

Table 10. Breakdown of marked fish (by individual mark) that were caught in river section 5 and checked at the North Fork check station during the fall of 1971.

Date	Total Marked Fish	Deformed						
		Dorsal	LV	LVAD	RV	RVAD	AD	Other
Oct. 9	7	7						
10	9	8				1		
16	20	17				2		1 RVLV
17	19	15			3	1		
23	38	32			3	3		
24	19	17			1	1		
30	7	6	1					
31	35	34			1			
Nov. 6	19	15			3			1 RVLV
7	30	25	2		3			
13	18	17			1			
14	40	33	1		3	3		
20	15	15						
21	22	22						
<b>Totals</b>	<b>298</b>	<b>263</b>	<b>4</b>		<b>18</b>	<b>11</b>		<b>2</b>

Table 11. Length frequency distribution of steelhead trout in creels examined at North Fork check station, Salmon River, fall, 1971.

Total Length Inches	Deformed Dorsal		Marked Fish		Unmarked Fish	
	Females	Males	Females	Males	Females	Males
20		1			1	1
21	13	4			5	
22	32	16	2 RV 1 LV 1 RVAD	1 RVAD	8	2
23	64	25	2 LV 6 RV 1 RVAD	3 RV	19	8
24	48	30	3 RV 2 LV	2 RV 1 LV	28	14
25	14	16	1 RV	2 RVAD	29	12
26	4	12	1 RV 2 RVAD	2 RV 1 RVAD	13	6
27	6	1		2 RVAD	12	5
28	1	2	1 RVAD	1 RVAD	11	4
29	1	1			6	3
30	1				6	2
31	1				6	5
32		1			8	2
33					1	1
34					2	1
35						
36						1
37						
38						
<b>Totals</b>	<b>185</b>	<b>109</b>	<b>26</b>	<b>15</b>	<b>155</b>	<b>67</b>

Table 12. Summary of steelhead check station data collected at Shorts Bar check station, Salmon River, spring, 1971.

Date	Anglers	Hours	Steelhead Caught	Marked Fish	Unmarked Fish	Hours Per Fish	Percent Hatchery
Feb. 17	8	107	0	--	--	--	--
18	8	26	0	--	--	--	--
19	14	80	3	0	3	26.7	0.0
20	41	118	12	0	12	26.7	0.0
21	68	434	34	0	34	12.8	0.0
24	13	91	0	--	--	--	--
25	21	171	31	0	31	5.5	0.0
26	20	83	11	0	11	7.5	0.0
27	43	175	5	0	5	35.0	0.0
28	59	466	17	0	17	27.4	0.0
Feb. Total	295	1,751	113	0	113	15.5	0.0
Mar. 3	19	170	20	0	20	8.5	0.0
4	20	127	4	0	4	31.8	0.0
5	23	98	7	1	6	14.0	14.3
6	78	429	7	0	7	61.3	0.0
7	96	487	9	0	9	54.1	0.0
10	27	188	6	0	6	31.3	0.0
11	28	243	5	0	5	48.6	0.0
12	17	69	0	--	--	--	--
13	41	256	12	1	11	21.3	8.3
14	68	613	12	0	12	51.1	0.0
17	25	137	4	0	4	34.2	0.0
18	51	317	9	0	9	35.2	0.0

Table 12 (Cont.) Summary of steelhead check station data collected at Shorts Bar check station, Salmon River, spring, 1971.

Date	Anglers	Hours	Steelhead Caught	Marked Fish	Unmarked Fish	Hours Per Fish	Percent Hatchery
Mar. 19	33	192	2	0	2	96.0	0.0
20	70	331	4	0	4	82.8	0.0
21	104	733	22	3	19	33.3	13.6
24	21	48	0	--	--	--	--
25	34	174	2	1	1	87.0	50.0
26	42	220	7	1	6	31.4	14.3
27	63	268	0	--	--	--	--
28	69	673	5	1	4	134.6	20.0
30	11	27	0	--	--	--	--
31	5	13	0	--	--	--	--
Mar. Total	945	5,813	137	8	129	42.4	5.8
Apr. 1	11	37	0	--	--	--	--
3	29	102	0	--	--	--	--
4	28	151	0	--	--	--	--
Apr. Total	68	290	0	--	--	--	--
Spring Total	1,308	7,854	250	8	242	31.4	3.2

Table 13. Summary of steelhead check station data collected at Shorts Bar check station, spring, 1971, by river section.

Date	Number Anglers		Hours Fished		Total Fish Caught		Hours Per Fish	
	2	3	2	3	2	3	2	3
Feb. 17	--	8	--	107	--	0	--	--
18	--	8	--	26	--	0	--	--
19	--	14	--	80	--	3	--	26.7
20	--	41	--	118	--	12	--	26.7
21	--	68	--	434	--	34	--	12.8
24	--	13	--	91	--	0	--	--
25	2	19	16	155	1	30	16.0	5.2
26	--	20	--	83	--	11	--	7.5
27	--	43	--	175	--	5	--	35.0
28	4	55	50	416	1	16	50.0	26.0
Mar. 3	--	19	--	170	--	20	--	8.5
4	--	20	--	127	--	4	--	31.8
5	--	23	--	98	--	7	--	14.0
6	--	78	--	429	--	7	--	61.3
7	--	96	--	487	--	9	--	54.1
10	--	27	--	188	--	6	--	31.3
11	--	28	--	243	--	5	--	48.6
12	--	17	--	69	--	0	--	--
13	--	41	--	256	--	12	--	21.3
14	--	68	--	613	--	12	--	51.1
17	--	25	--	137	--	4	--	34.2
18	--	51	--	317	--	9	--	35.2

Table 13. (Cont.) Summary of steelhead check station data collected at Shorts Bar check station, spring, 1971, by river section.

Date	Number Anglers River Section		Hours Fished River Section		Total Fish Caught River Section		Hours Per Fish River Section	
	2	3	2	3	2	3	2	3
Mar. 19	--	33	--	192	--	2	--	96.0
20	2	68	18	313	2	2	9.0	156.5
21	--	104	--	733	--	22	--	33.3
24	--	21	--	48	--	0	--	--
25	--	34	--	174	--	2	--	87.0
26	--	42	--	220	--	7	--	31.4
27	--	63	--	268	--	0	--	--
28	--	69	--	673	--	5	--	134.6
30	--	11	--	27	--	0	--	--
31	--	5	--	13	--	0	--	--
Apr. 1	--	11	--	37	--	0	--	--
3	--	29	--	102	--	0	--	--
4	--	28	--	151	--	0	--	--
<b>Totals</b>	<b>8</b>	<b>1,300</b>	<b>84</b>	<b>7,770</b>	<b>4</b>	<b>246</b>	<b>21.0</b>	<b>31.6</b>

Table 14. Length frequency distribution of steelhead trout in creels examined at Shorts Bar check station, Salmon River, spring, 1971.

Total Length (Inches)	Deformed Dorsal	Unmarked Fish
21	-	1
22	1	8
23	-	19
24	1	21
25	-	23
26	1	41
27	1	24
28	1	29
29	-	13
30	-	12
31	-	7
32	1	10
33	-	5
34	1	4
35	-	6
36	-	3
37	-	3
38	1	-
39	-	-
40	-	1

Table 15. Summary of steelhead check station data collected at Shorts Bar, Salmon River, fall, 1971.

Date	Anglers	Hours	Steelhead Caught	Marked Fish	Unmarked Fish	Hours Per Fish	Percent Hatchery
Oct. 2	24	116	7	5	2	16.6	71.4
3	22	56	1	0	1	56.0	0.0
10	52	579	7	2	3	82.7	40.0
16	36	120	5	1	3	24.0	25.0
17	68	774	35	11	23	22.1	32.4
23	17	143	10	5	5	14.3	50.0
24	87	869	56	22	33	15.5	40.0
25	90	723	27	4	23	26.8	14.8
30	35	218	19	1	18	11.5	5.3
31	93	787	67	25	42	11.7	37.3
Oct. Total	524	4,385	234	76	153	18.7	33.2
Nov. 6	43	123	16	6	10	7.7	37.5
7	80	631	28	16	12	22.5	57.1
20	36	131	11	4	7	8.3	36.4
21	63	381	42	10	23	11.0	30.3
Nov. Total	222	1,266	97	36	52	13.1	40.9
Fall Total	746	5,651	331	112	205	17.1	35.3

Table 16. Summary of steelhead check station data collected at Shorts Bar check station, fall, 1971, by river section.

Date	Number Anglers		Hours Fished		Total Fish Caught		Hours Per Fish	
	<u>River Section</u>							
	2	3	2	3	2	3	2	3
Oct. 2	--	24	--	116	--	7	--	16.6
3	--	22	--	56	--	1	--	56.0
10	3	49	42	537	1	6	42.0	89.5
16	--	36	--	120	--	5	--	24.0
17	2	66	7	767	2	33	3.5	23.2
23	--	17	--	143	--	10	--	14.3
24	7	80	76	793	1	55	76.0	14.4
25	--	90	--	723	--	27	--	26.8
30	--	35	--	218	--	19	--	11.5
31	2	91	10	777	1	66	10.0	11.8
Nov. 6	--	43	--	123	--	16	--	7.7
7	--	80	--	631	--	28	--	22.5
20	--	36	--	131	--	11	--	8.3
21	--	63	--	381	--	42	--	11.0
Totals	14	732	135	5,516	5	326	27.0	16.9

Table 17. Breakdown of marked fish (by individual mark) that were caught in river section 3 and checked at the Shorts Bar check station in the fall of 1971.

Date	Total		Deformed					
	Marked Fish	Dorsal	LV	LVAD	RV	RVAD	AD	Other
Oct. 2-3	4	4						
Oct. 10	2	2						
Oct. 16-17	11	10	1					
Oct. 23-25	31	26	3					2 LP
Oct. 30-31	26	26						
Nov. 6-7	22	17	1		1			1 LP-1 RP 1 LPRP
Nov. 20-21	14	13						1 LP
<b>Total</b>	<b>110</b>	<b>98</b>	<b>5</b>		<b>1</b>			<b>6</b>

Table 18, Breakdown of marked fish (by individual mark) that were caught in river section 2 and checked at the Shorts Bar check station in the fall of 1971.

Date	Total Marked Fish	Deformed Dorsal	Other Marks
Oct. 2-3	--	--	--
Oct. 9*	1	1	--
Oct. 10	--	--	--
Oct. 16-17	1	1	--
Oct. 23-25	--	--	--
Oct. 30-31	--	--	--
Nov. 6-7	--	--	--
Nov. 20-21	--	--	--
Nov. 20*	2	2	--

\* Data collected on spot check of section 2 by Conservation Officer Thietten.

Table 19. Length frequency distribution of steelhead trout in creels examined at Shorts Bar check station, Salmon River, fall, 1971.

Total Length (Inches)	Deformed Dorsal	Marked Fish	Unmarked Fish
20	--	--	2
21	4	1 LV	--
22	14	1 LP	2
23	15	2 LV-2 LP	3
24	24	1 AD-1 LPRP	20
25	15	1 LV-1 RP	27
26	17	1 RV-1 LP	26
27	4	1 AD-1 LP	13
28	3	--	20
29	1	--	16
30	2	--	15
31	--	1 LP	17
32	--	--	14
33	1	1 LV	19
34	--	--	6
35	--	--	7
36	--	--	1
37	--	--	--
38	--	--	2

Table 20. Summary of steelhead spot check data collected on Salmon River (river section 2) fall, 1971.\*

Date	Anglers	Hours	Steelhead Caught	Marked Fish	Unmarked Fish	Hours Per Fish	Percent Hatchery
Oct. 9	18	49	3	1	2	16.3	33.3
Oct. 11	4	10	0	--	--	--	--
Oct. 24	1	1	1	0	1	1.0	0.0
Oct. Total	23	60	4	1	3	15.0	25.0
Nov. 20	21	41	2	2	0	20.5	100.0
Nov. Total	21	41	2	2	0	20.5	100.0
Fall Total	44	101	6	3**	3	16.8	50.0

\* Data collected by Conservation Officer Thietten.

\*\* All marked fish were identified by eroded dorsal fins.

Submitted by:

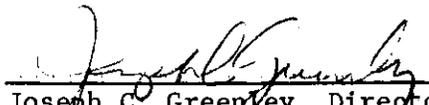
Jerry Mallet  
Anadromous Fishery Supervisor

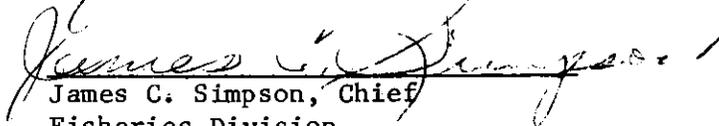
Melvin Reingold  
Senior Fishery Research Biologist

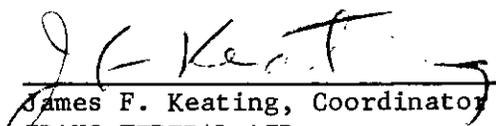
Donald Corley and Tom Welsh  
Regional Fishery Biologists

Approved by:

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