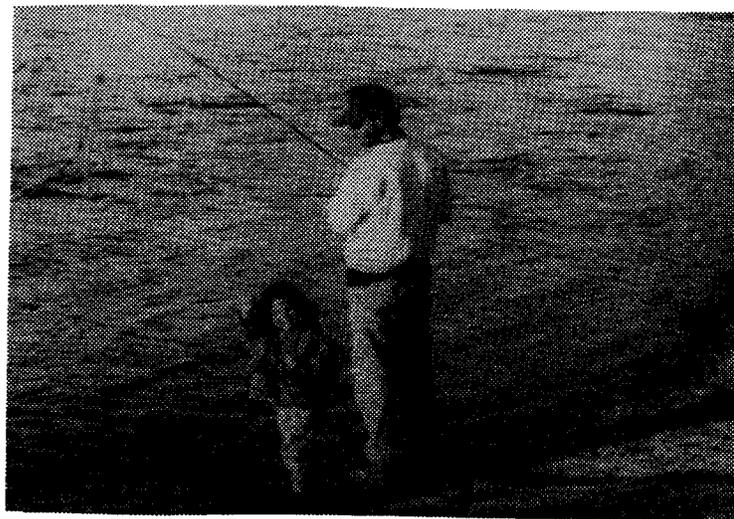




LOWER SNAKE RIVER  
COMPENSATION PLAN  
*Hatchery Program*

EVALUATION OF THE HATCHERY-WILD COMPOSITION  
OF IDAHO SALMON AND STEELHEAD HARVEST

October 1, 1992 to December 31, 1993



By:

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## ABSTRACT

Steelhead trout *Oncorhynchus mykiss* and chinook salmon *O. tshawytscha* fisheries in Idaho are monitored to assess hatchery contribution, distribution, and return rates. Coded wire tags (CWTs) are retrieved from fish harvested by anglers, and harvest rates are calculated by month and river section.

During the fall 1992 and spring 1993 steelhead seasons, 27,532 anglers were interviewed and 5,178 adult steelhead examined, which was 12.3% of the total steelhead harvest. We retrieved 377 CWTs from 74 different mark groups. The total estimated harvest for the 1992-93 season was 42,221 hatchery and 22 wild-natural fish, of which an estimated 9,814 (23%) were produced by the Lower Snake River *Compensation* Plan (LSRCP). An additional 3,088 LSRCP-reared fish returned to hatchery racks or to off-site release locations.

The estimated total return of A-strain adults from 1,499,856 smolts released at Sawtooth Hatchery in 1990 was 9,125 (0.61%), and 82% of the return was harvested. An estimated 1,009 (0.10%) B-strain adults returned after two ocean-years from 988,350 smolts released into the East Fork Salmon River in 1990; this group was harvested at 88%.

We surveyed 18 upper Salmon River tributaries with electrofishing gear in April to document the occurrence and distribution of adult hatchery steelhead. We handled 13 wild/natural adults and retrieved 34 CWTs from 218 hatchery steelhead.

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## INTRODUCTION

Chinook salmon *Oncorhynchus tshawytscha* and steelhead trout *O. mykiss* are raised in Idaho hatcheries to mitigate for losses caused by the construction of hydroelectric dams. Adults returning to hatcheries in the Salmon and Clearwater River basins commingle with each other and with wild stocks. In the Snake River, fish destined for Idaho also commingle with adults returning to Oregon and Washington streams.

The main purpose of this project is to determine the composition of the anadromous fish harvest in the Idaho fishery and to estimate the adult harvest contribution from juveniles produced in Lower Snake River Compensation Plan (LSRCP) hatcheries. Contribution to the Idaho fishery is one of the measures of performance of LSRCP fish. However, there are also steelhead raised by Idaho Power Company (IPC) that are released in the Salmon River drainage. Although the harvest contribution of these fish is not included in this report, they are incorporated in the section on tributary straying. For some release groups, coded wire tagged (CWT) fish from the IPC program provide the basis for LSRCP evaluation.

Harvest management of steelhead in Idaho is directed toward harvest of hatchery fish and protection of wild and naturally-produced fish. Currently, wild stocks are below escapement goals, and protection is necessary to perpetuate these fish. Beginning in 1984, all hatchery-produced steelhead smolts released in Idaho rivers and streams had their adipose fins excised before release so returning adults could be selectively harvested.

During the fall 1992 and spring 1993 seasons, all age groups of hatchery steelhead returning to Idaho were marked by adipose fin clips, and regulations stated that "only steelhead with a missing adipose fin (as evidenced by a healed scar) may be kept." Consequently, the harvest of any wild (unmarked) steelhead was illegal. Table 1 lists the fall and spring regulations.

Representative groups of steelhead are marked with CWTs prior to release. Anglers are interviewed and fish snouts are retrieved in all major harvest areas to recover these tags from the fishery. Information is collected and used to estimate timing, straying, exploitation, harvest distribution, and relative abundance of wild and hatchery stocks. Total harvested numbers are estimated by a statewide harvest survey, and the harvest contribution for each hatchery program is derived from tag recoveries. Releasing steelhead smolts directly into the upper Salmon River is being used as a tool for spreading harvest and increasing returns. This report documents some of the behavior and distribution of these returning adults.

In recent years, harvest opportunity for chinook salmon has been limited to hatchery stocks. Harvest is allowed when returning adult numbers exceed hatchery escapement needs. No harvest was allowed for spring chinook salmon produced by LSRCP facilities in Idaho this year, so this report pertains only to steelhead.

## OBJECTIVES

Identify in the Idaho sport fishery the number and proportion of the harvest that is produced by LSRCP hatcheries.

Determine the spawning escapement of LSRCP stocks in Idaho.

Document the occurrence and distribution of adult hatchery steelhead in upper Salmon River tributaries.

Table 1. Steelhead season dates, bag limits and special restrictions for the Clearwater, Salmon and Snake rivers, 1992-93.

River and Sections	Fall Season Dates	Bag Limits <sup>a</sup>
Snake River (01)	Sept 1 - Dec 31	2, 4, 10
Clearwater River (03) <sup>b</sup>		
Clearwater River (03 - 07) <sup>cd</sup>	Oct 15 - Dec 31	
Salmon River (10 - 20)	Sept 1 - Dec 31	2, 4, 6

River and Sections	Spring Season Dates	Bag Limits <sup>a</sup>
Snake River (01)	Jan 1 - Apr 30	2, 4, 10
Clearwater River (03 - 07)		
Salmon River (10 - 14)	Jan 1 - Mar 31	
Salmon River (15 - 19)	Jan 1 - Apr 30	
Salmon River (20)		

<sup>a</sup> Bag limits denotes daily, possession, and season totals.

<sup>b</sup> Section 03 includes only that portion from its mouth upstream to Memorial Bridge of Highway 12 at Lewiston.

<sup>c</sup> Section 03 includes that portion from Memorial Bridge upstream to Clear Creek.

<sup>d</sup> Catch and release fishery from September 1 through October 14.

## DESCRIPTION OF STUDY AREA

There are three major river systems in Idaho where steelhead are harvested: the Snake, Clearwater, and Salmon rivers (Figure 1; Table 2). All of Idaho's steelhead harvest areas are included in this study, except the upper Snake (section 02) and the Boise River (section 28). These two sections are excluded because no steelhead produced by the LSRCP are harvested there. Steelhead are blocked from reaching the Boise River by dams on the Snake River. However, a portion of the fish returning to Hells Canyon Dam are transplanted and released there for harvest through the IPC mitigation program.

## METHODS

### Creel Survey

Angler interviews were conducted at check stations and from jet boats and roving vehicles. Angler interview schedules and intensity were designed to observe maximum numbers of harvested fish. Techniques were tailored to sportsman access and harvest methods. For example, on the Clearwater River, a major portion of the fall and winter harvest was taken by boat fishermen, so survey efforts concentrated on interviewing boat anglers. In late spring, the density of boats in a small area became so high that it was prohibitive to interview anglers on the water; therefore, survey efforts were divided between major boat ramps. In the roadless area of the Salmon River, almost all of the angler access was by boat, but most of the fishing effort was from shore. Anglers were contacted by census clerks in jet boats or at check stations located at major egress points.

During angler interviews, data collection included the number of anglers and hours fished, number of fish kept or released, wild or hatchery origin of fish kept or released, fork length of fish kept, and date and river section where fish were caught. Observed fish were inspected for tags and fin clips. Snouts were removed for CWT retrieval from all fish with abnormalities of their left ventral fins, except when anglers desired to keep their fish intact.

Water conditions during the fall season are usually conducive to harvest and the interview schedule can be followed. During the spring season, high, turbid flows can reduce harvest to near zero. Anglers were not interviewed during periods of very low harvest.

### **Interview Schedule**

**Lower Snake River (01)** - by jet boat with Washington Department of Wildlife personnel and at boat ramps on alternating weekends for ten weekends during the fall and six weekends during the spring season.

**Lower Clearwater and North Fork Clearwater River (03 and 05)** - by roving vehicle one day each week and by jet boat three days each week for 15 weeks in the fall and 10 weeks in the spring season. Interviews were conducted from boat ramps for the last six weeks of the spring season.

**Upper Clearwater (including the Middle Fork) and South Fork Clearwater River (04 and 07)** - by roving vehicle on the Upper Clearwater in the fall and on both rivers in the spring, two weekend days per week, for eight weeks in the fall and ten weeks in the spring.

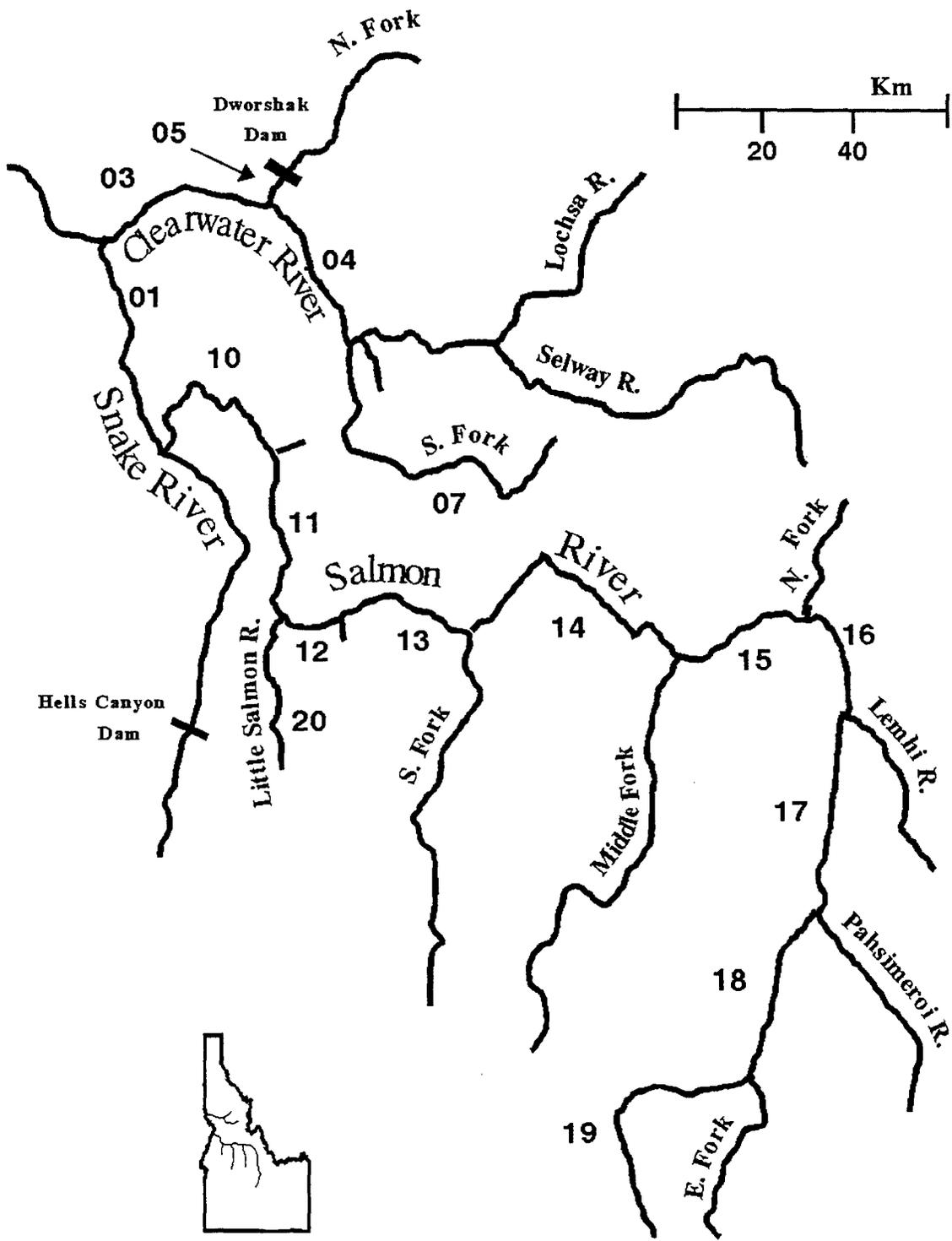


Figure 1. Map of steelhead harvest areas in Idaho.

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River Section	Location Code
Snake River, below Salmon River	01
Snake River, above Salmon River	02
Clearwater River, below Orofino Bridge	03
Clearwater River, above Orofino Bridge	04
North Fork Clearwater River	05
Middle Fork Clearwater River	06
South Fork Clearwater River	07
Selway River	08
Lochsa River	09
Salmon River, below Whitebird Creek	10
Salmon River, Whitebird Creek to Little Salmon	11
Salmon River, Little Salmon to Vinegar Creek	12
Salmon River, Vinegar Creek to South Fork	13
Salmon River, South Fork to Middle Fork	14
Salmon River, Middle Fork to North Fork	15
Salmon River, North Fork to Lemhi River	16
Salmon River, Lemhi River to Pahsimeroi River	17
Salmon River, Pahsimeroi River to East Fork	18
Salmon River, above East Fork	19
Little Salmon River	20
South Fork Salmon River	21
Middle Fork Salmon River	22
North Fork Salmon River	23
Lemhi River	24
Pahsimeroi River	25
East Fork Salmon River	26
Snake River, Oxbow	27
Boise River	28

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## Salmon River

**Section 10** - by jet boat six weekends in the fall and five weekends in the spring season.

**Section 11** - by roving vehicle two weekdays and two weekend days for ten weeks in the fall and eight weeks in the spring season.

**Sections 12 and 13** - by a check station at the old lumber mill site near Riggins for ten weekends in the fall and eight weekends in the spring season.

**Sections 14 and 15** - by a check station near North Fork for ten weekends in the fall and eight weekends in the spring season.

**Section 16** - by roving vehicle for six weekends in the fall and six weekends in the spring season.

**Section 17** - by roving vehicle for six weekends in the fall and six weekends in the spring season.

**Sections 17 and 18** - by a check station near Challis for three weekends in the spring season.

**Section 18** - by roving vehicle for six weekends in the spring season.

**Section 19** - by roving vehicle for six weekends in the spring season.

**Section 20** - by roving vehicle for six weekends in the spring season.

## Data Analysis

Harvest estimates for each river section were obtained from statewide telephone survey results (Appendix A). Beginning with the fall 1990 season, that portion of the Clearwater River up to the Memorial Bridge of Highway 12 at Lewiston was designated river section 03 during the September 1 to October 15 harvest period. Previously, harvest from this section of the Clearwater River had been included with river section 01 (Ball 1992a).

The number of fish checked for marks from each river section, divided by the harvest estimate, yields the sampling rate for each river section by month. Harvested fish that were not seen during the interviews were not included when expressing the proportion of the estimated harvest that was marked.

During angler interviews, hatchery-wild proportions were recorded for fish kept and for total catch, including released fish when their origin could be determined. The harvest of hatchery fish was the product of the hatchery proportion observed in anglers' creels and the estimated monthly harvest from statewide surveys. Seasonal estimates of reported hatchery fish harvest were the summation of monthly estimates. Hatchery harvest estimates for months when harvest was low and no fish were checked were calculated using the hatchery proportion calculated from the last month that data were available. These methods were applied during winter when fish movement was minimal and the proportion of hatchery fish in the harvest was constant. Harvest estimates of various CWT groups were calculated by dividing the number of tags recovered by the sampling rate expressed as a decimal and then rounded to whole numbers. Tag group harvest rates were calculated by dividing the estimated harvest of the

group by the release group size. Harvest estimates for unmarked groups were calculated using harvest rates from representative mark groups or companion groups.

Hatchery returns were classified by strain (A or B) and ocean-age using length frequencies of previous known-age CWT returns. Marked returns to hatchery racks were subtracted from total returns by strain and ocean-age. Total harvest of unmarked groups was assumed to parallel the performance of marked hatchery rack returns. Where more than one unmarked group returned to a release site, the estimates of harvest and hatchery returns were calculated on the total of the unmarked fish and assumed to apply equally to each group.

Total returns of marked groups were the summation of harvest estimates and hatchery rack returns. However, in 1992-93, returns of some marked groups were insufficient to produce viable estimates. For Sawtooth Hatchery and East Fork Salmon River releases, the average exploitation rate from all marked returns from the previous two years was assumed to approximate current exploitation. Returns from off-site releases at Shoup Bridge, Ellis Bridge, and North Fork were estimated from returns of marked fish released at Shoup Bridge or from CWT fish released by the IPC program. Exploitation was assumed to be the same for all groups. Returns from Little Salmon River and Hammer Creek releases were calculated from marked returns to the Little Salmon River.

Exploitation rates were the harvest estimates divided by the sum of the harvest estimates and the number of fish that returned to the hatchery. No attempts were made to include mortality from causes other than angler harvest nor to determine contribution to natural reproduction.

### Tributary Straying

Upper Salmon River tributary streams were visually checked near their mouths for the presence of adult fish. When fish were observed, streams were sampled with backpack electrofishing gear to capture the adult steelhead (Figure 2). The electrofishing operator was accompanied by two or three people with large mesh nylon dip nets. When netted, adult steelhead were sexed, inspected for marks, and visually assigned strain and ocean-age based on lengths of known-age CWT returns. Fish with the left ventral fin missing were collected for CWT retrieval. All other fish were released near their recovery site. Surveys usually began at or near the mouth of the streams and proceeded upstream until steelhead were too few in number to continue the survey.

## **RESULTS**

During the fall 1992 and spring 1993 seasons, we interviewed 27,532 anglers that had harvested 5,564 hatchery and 3 wild fish (Tables 3-17). We physically examined 5,178 hatchery fish for marks, which represented 12.3% of the total steelhead harvest (Table 18). We removed 596 snouts from fish with clipped left ventral fins for CWT retrieval.

The composition of the hatchery steelhead harvest by river section and season was compiled in Table 19. All river sections were included except 02 and 28 (Table 2). Total harvest for the river sections listed was 42,243 steelhead, of which an estimated 22 fish were of wild-natural origin and were illegally possessed.

From anglers' creels, we recovered 377 CWTs. The overall proportion of tags recovered from the number of fish checked for marks was 7.3% (Table 18). Coded wire tags were recovered from 74 mark groups (Appendix B). The number of

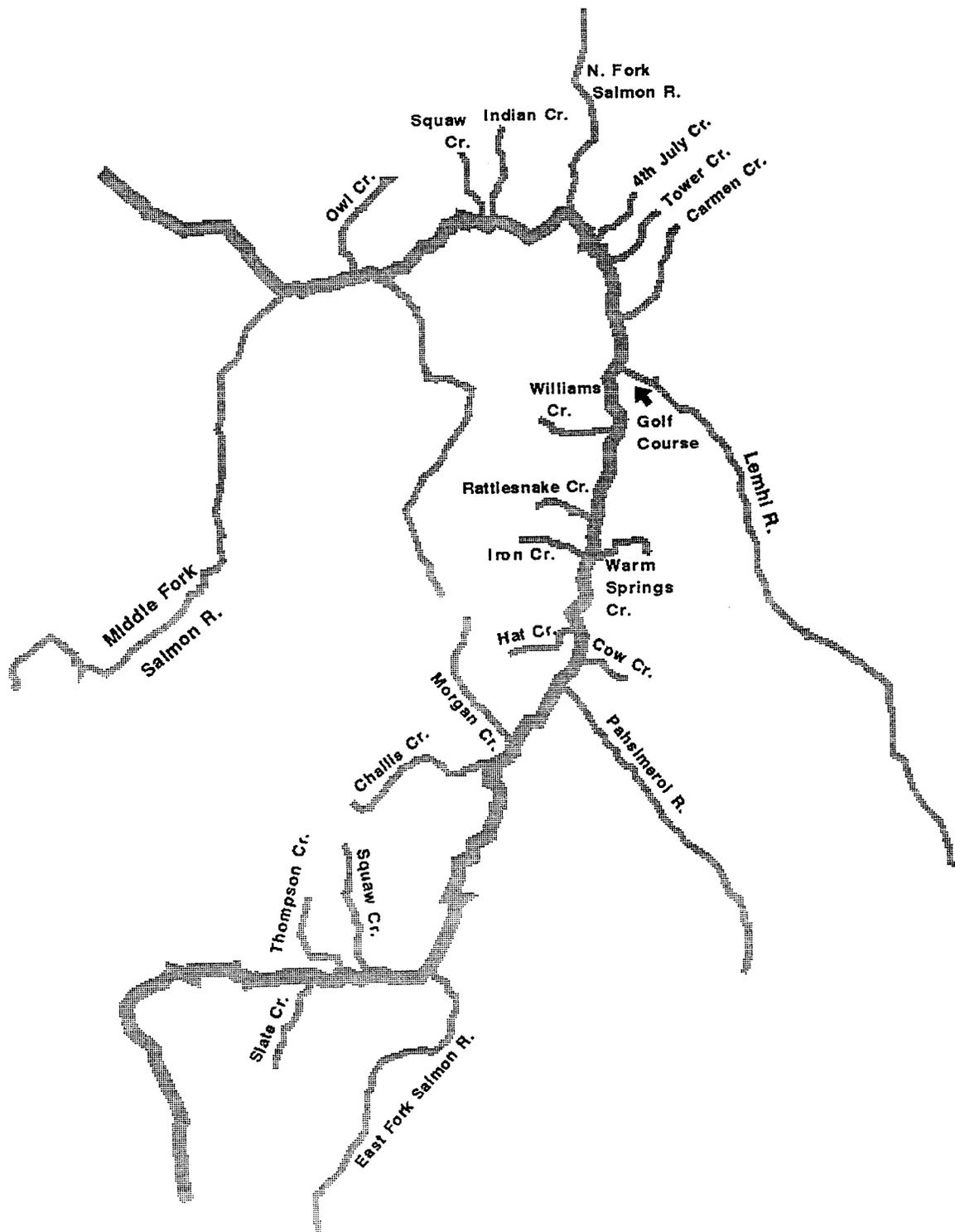


Figure 2. Map of upper Salmon River tributaries.

Table 3. Steelhead fishery interview data (unexpanded) from lower Snake River (01), September - December 1992.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
September	419	1,885	47	0	6	18	71	27	75
October	900	3,454	104	0	16	29	149	23	81
November	899	3,504	116	0	13	21	150	23	86
December	277	940	36	0	2	7	45	21	84
Fall total	2,495	9,783	303	0	37	75	415		
Average								24	82

Table 4. Steelhead fishery interview data (unexpanded) from lower Clearwater River (03) and North Fork Clearwater River (05), September 1992 - April 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
September	162	816	12	0	7	9	28	29	68
October	1,554	6,658	247	0	57	107	411	16	74
November	1,857	8,587	271	0	16	67	354	24	81
December	674	2,541	96	0	4	13	113	22	88
Fall total	4,247	18,602	626	0	84	196	906		
Average								21	78
January	593	2,087	96	0	9	15	120	17	88
February	1,872	7,827	244	1	57	91	393	20	77
March	1,538	7,849	257	0	150	47	454	17	90
April	223	1,040	30	0	9	0	39	27	100
Spring total	4,226	18,803	627	1	225	153	1,006		
Average								19	85
Total	8,473	37,405	1,253	1	309	349	1,912		
Average								20	82

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Table 5. Steelhead fishery interview data (unexpanded) from upper Clearwater and Middle Fork Clearwater rivers (04), October 1992 - April 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	32	118	6	0	1	3	10	12	70
November	257	1,113	29	0	1	25	55	20	98
Fall total	289	1,231	35	0	2	28	65		
Average								19	57
February	52	99	3	0	0	2	5	20	60
March	481	1,481	60	0	15	37	112	13	67
April	42	111	2	0	0	2	4	28	50
Spring total	575	1,691	65	0	15	41	121		
Average								26	66
Total	864	2,922	100	0	17	69	186		
Average								16	63

Table 6. Steelhead fishery interview data (unexpanded) from South Fork Clearwater River (07), February - April 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
February	9	12	0	0	0	0	0	0	0
March	157	348	24	0	0	12	36	10	67
April	352	1,194	65	0	22	17	104	11	84
Spring total	518	1,554	89	0	22	29	140		
Average								11	79

Table 7. Steelhead fishery interview data (unexpanded) from Salmon River Section 10, September 1992 - March 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
September	11	16	0	0	0	0	0	0	0
October	243	1,096	24	0	0	4	28	39	86
November	119	468	13	0	2	3	18	26	83
Fall total	379	1,587	37	0	2	7	46		
Average								35	85
February	6	4	0	0	0	0	0	0	0
March	12	9	0	0	0	0	0	0	0
Spring total	18	13	0	0	0	0	0		
Average								0	0
Total	397	1,600	37	0	2	7	46		
Average								35	85

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Table 8. Steelhead fishery interview data (unexpanded) from Salmon River Section 11, September 1992 - March 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
September	23	51	1	0	0	0	1	51	100
October	594	2,732	96	0	46	58	200	14	71
November	685	3,024	117	0	39	59	215	14	73
December	30	69	0	0	0	0	0	0	0
Fall total	1,332	5,876	214	0	85	117	416		
Average								14	72
February	90	181	1	0	1	3	5	36	40
March	165	454	11	0	0	1	12	38	92
Spring total	255	635	12	0	1	4	17		
Average								37	76
Total	1,587	6,511	226	0	86	121	433		
Average								15	72

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Table 9. Steelhead fishery interview data (unexpanded) from Salmon River Section 12, September 1992 - March 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
September	5	13	0	0	0	0	0	0	0
October	520	4,057	102	1	38	71	212	19	66
November	823	5,407	108	0	18	32	158	34	80
December	7	11	1	0	0	0	1	11	100
Fall total	1,355	9,488	211	1	56	103	371		
Average								26	72
February	18	64	1	0	0	0	1	64	100
March	551	2,645	22	0	7	10	39	68	74
Spring total	569	2,709	23	0	7	10	40		
Average								68	75
Total	1,924	12,197	234	1	63	113	411		
Average								30	72

Table 10. Steelhead fishery interview data (unexpanded) from Salmon River Section 13, October 1992 - March 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	71	1,515	33	0	0	41	74	20	45
November	69	959	42	0	0	30	72	13	58
Fall total	140	2,474	75	0	0	71	146		
Average								17	51
March	52	724	14	0	0	12	26	28	54
Spring total	52	724	14	0	0	12	26		
Average								28	54
Total	192	3,198	89	0	0	83	172		
Average								19	52

Table 11. Steelhead fishery interview data (unexpanded) from Salmon River Section 14, October 1992 - March 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	265	4,103	140	0	68	147	355	12	59
November	376	9,246	346	0	127	122	595	16	79
Fall total	641	13,349	486	0	195	269	950		
Average								14	72
March	354	4,781	24	0	18	65	107	45	39
Spring total	354	4,781	24	0	18	65	107		
Average								45	39
Total	995	18,130	510	0	213	334	1,057		
Average								17	68

Table 12. Steelhead fishery interview data (unexpanded) from Salmon River Section 15, October 1992 - April 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	1,416	15,227	621	0	351	213	1,185	13	82
November	1,322	13,490	585	0	221	125	931	14	87
Fall total	2,738	28,717	1,206	0	572	338	2,116		
Average								14	84
March	1,912	18,531	455	1	335	58	849	22	93
April	89	561	40	0	9	5	54	10	91
Spring total	2,001	19,092	495	1	344	63	903		
Average								21	93
Total	4,739	47,809	1,701	1	916	401	3,019		
Average								16	87

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Table 13. Steelhead fishery interview data (unexpanded) from Salmon River Section 16, October 1992 - April 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	245	1,124	52	0	7	10	69	16	86
November	182	742	41	0	9	4	54	14	93
Fall total	427	1,866	93	0	16	14	123		
Average								15	89
March	422	2,018	34	0	5	10	49	41	80
April	97	493	6	0	3	4	13	38	69
Spring total	519	2,511	40	0	8	14	62		
Average								41	77
Total	946	4,377	133	0	24	28	185		
Average								24	85

Table 14. Steelhead fishery interview data (unexpanded) from Salmon River Section 17, October 1992 - April 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	16	47	1	0	0	1	2	24	50
November	32	65	4	0	0	0	4	16	100
Fall total	48	112	5	0	0	1	6		
Average								19	83
February	54	80	0	0	0	0	0	0	
March	871	3,546	27	0	1	6	34	104	82
April	604	5,298	249	0	87	16	352	15	95
Spring total	1,529	8,924	276	0	88	22	386		
Average								23	94
Total	1,577	9,036	281	0	88	23	392		
Average								23	94

Table 15. Steelhead fishery interview data (unexpanded) from Salmon River Section 18, February - April 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
February	16	42	0	0	0	0	0	0	0
March	213	722	6	0	2	2	10	72	80
April	698	4,096	162	0	213	34	409	10	92
Spring total	927	4,860	168	0	215	36	419		
Average								12	91

Table 16. Steelhead fishery interview data (unexpanded) from Salmon River Section 19, April 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
April	846	4,622	244	0	210	37	491	9	92
Spring total	846	4,622	244	0	210	37	491		
Average								9	92

Table 17. Steelhead fishery interview data (unexpanded) from Salmon River Section 20, November 1992 - April 1993.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Total	Hours/Fish	Percent Hatchery
			Hatchery	Wild	Hatchery	Wild			
November	19	23	4	0	1	0	5	5	80
Fall total	19	23	4	0	1	0	5		
Average								5	80
February	26	75	0	0	0	1	1	75	0
March	213	431	8	0	0	0	8	54	100
April	794	2,540	184	0	133	49	366	7	87
Spring total	1,033	3,046	192	0	133	50	375		
Average								8	87
Total	1,052	3,069	196	0	134	50	380		
Average								8	87

Table 18. Proportion of estimated harvest by river section that was examined for marks, 1992-93.

River Section	No. Fish Checked	Estimated Harvest <sup>a</sup>	Sample Rate (%)
01	289	4,061	7.1
03 & 05	1,183	16,485	7.2
04	96	2,167	4.4
07	86	699	12.3
10	32	2,068	1.6
11	197	1,947	10.1
12	213	1,229	17.3
13	84	421	20.0
14	468	1,927	24.3
15	1,587	5,676	28.0
16	126	978	12.9
17	258	1,237	20.9
18	159	858	18.5
19	208	1,268	16.4
20	192	1,222	15.7
Total	5,178	42,243	
Average			12.3

<sup>a</sup> Data from statewide telephone survey (McArthur 1993).

Table 19. Estimated number of hatchery steelhead harvested in the lower Snake, Clearwater and Salmon rivers during the 1992-93 seasons.

River Section	Fall Season - 1992			Spring Season - 1993			Total Harvest
	Estimated Harvest <sup>a</sup>	Percent Hatchery	No. Hatchery Fish	Estimated Harvest	Percent Hatchery	No. Hatchery Fish	No. Hatchery Fish
Snake 01	3,356	100	3,356	705	-- <sup>b</sup>	705	4,061
<u>Clearwater</u>							
03 & 05	9,059	100	9,059	7,426	99.8	7,411	16,470
04	779	100	779	1,388	100	1,388	2,167
07	62	--	62 <sup>b</sup>	637	100	637	699
Clwtr. Total	9,900		9,900	9,451		9,436	19,336
Average		100			99.8		
<u>Salmon River</u>							
10	1,488	100	1,488	580	0	580 <sup>b</sup>	2,068
11	1,151	100	1,151	796	100	796	1,947
12	797	99.5	793	432	100	432	1,225
13	319	100	319	102	100	102	421
14	1,665	100	1,665	262	100	262	1,927
15	4,231	100	4,231	1,445	99.8	1,442	5,673
16	682	100	682	296	100	296	978
17	213	100	213	1,024	100	1,024	1,237
18	62	--	62 <sup>b</sup>	796	100	796	858
19	97	--	97 <sup>b</sup>	1,171	100	1,171	1,268
20	142	100	142	1,080	100	1,080	1,222
Salmon Total	10,847		10,843	7,984		7,981	18,824
Average		100			100		
1992-93	24,103		24,099	18,140		18,122	42,221

<sup>a</sup> From statewide surveys.

<sup>b</sup> Assumed to be of hatchery origin.

tags recovered, the estimated harvest of tag code groups by month and river section, and the total estimated harvest of tag code groups for the fall and spring seasons are also listed in Appendix B. Of the 74 mark groups that yielded CWTs, 49 were from releases in Idaho (Appendices B, C, and D). There were 103 additional CWTs from 22 tag groups that returned to hatchery racks, but were not recovered from the fishery.

Coded wire tags were also recovered from 18 Washington tag groups and 7 Oregon tag groups (Appendices B and E). Eight Washington tag groups were from releases on the Touchet River, six from the Tucannon River, two at Lyons Ferry Hatchery, and two from Asotin Creek. Six Oregon tag groups were from releases at Wallowa Hatchery and one from Little Sheep Creek.

Estimates of total returns of LSRCP-reared fish were summarized in Table 20. All Idaho returns from the LSRCP program that returned in 1992-93 were from releases in the Salmon River drainage. However, they were also recovered from the fishery in the Snake and Clearwater rivers. The total estimated return of adult steelhead to Idaho in 1992-93 from the LSRCP program, which includes harvest by Idaho anglers, hatchery returns, and off-site escapement, was 12,902 fish. The LSRCP contribution to Idaho's hatchery steelhead harvest (except sections 02 and 28) in 1992-93 was 9,814. This number does not include estimated harvest of 583 LSRCP-reared fish from Oregon and Washington (Appendix B). Additionally, other LSRCP-reared fish released in Idaho, but caught by Oregon and Washington anglers, were not included in this report.

Adult steelhead returning to Sawtooth Hatchery in 1992-93 were exploited at 80%. East Fork Salmon River returns were exploited at 90%. In the Little Salmon River, and for off-site releases at Hammer Creek, exploitation was not quantified but was estimated to be 50% (Table 20).

Between April 6 and April 27, 1993, 18 tributary streams between Owl and Slate creeks in the upper Salmon River drainage were sampled with electrofishing gear to document the occurrence and distribution of adult hatchery steelhead (Table 21). Five additional streams (Colson Creek, Hughes Creek, Kid's Creek, Sheep Creek, and the North Fork Salmon River) were also checked, but no hatchery steelhead were observed. In streams containing adult fish, at least 1 and as many as 38 hatchery steelhead adults were handled per tributary. We classified 218 adult hatchery fish and 13 wild-natural fish in the 18 tributaries identified. The hatchery fish were 56% male and 97% A-strain origin. Of the 211 A-strain fish, 74% were one-ocean.

We recovered 34 CWTs from tributary fish (Table 22). Tagged fish were from hatchery releases at Sawtooth, Pahsimeroi, and the East Fork, as well as off-site releases at the North Fork of the Salmon River and Ellis Bridge. There were 2 two-ocean fish (B-strain) from releases in the East Fork and 1 two-ocean fish released from Sawtooth Hatchery in addition to 31 one-ocean (A-strain) recoveries.

From 67,494 smolts released with CWTs at Ellis Bridge, 13 adults were recovered in tributaries and 18 entered the adult trap at the Pahsimeroi Hatchery (Table 22). Only two CWTs were recovered from tributaries upstream of the release site. From 67,631 marked fish released in the Salmon River at North Fork, 6 were recovered from tributaries and 4 entered the trap at Pahsimeroi Hatchery. All of the tributary recoveries were upstream of the North Fork release site.

All CWT recoveries from steelhead released at upper Salmon River hatcheries were recovered downstream of their release sites. From 114,676 CWTs released at Sawtooth Hatchery in 1991, we recovered 8 tags from steelhead in tributaries, and 98 fish with tags entered the trap at Sawtooth Hatchery. From the 1990 release at Sawtooth Hatchery of 39,620 marked fish, 1 two-ocean fish with CWT 10/40/59 was recovered from Indian Creek, 253 km downstream. This A-strain fish was

Table 20. Summary of 1992-93 harvest estimates and hatchery returns of steelhead produced by LSRCP hatcheries.

Release Year	Strain and Ocean-Age	No. of Fish Released	Release Site	Hatchery Rearing	Marks	Estimated Number of Fish		
						Harvested	Hatchery Return <sup>a</sup>	Total
1991	A-I	21,050	Sawtooth	HNFB <sup>b</sup>	CWT 10/43/33	45	24	<b>69</b>
1991	A-I	20,129	Sawtooth	HNFB	CWT 10/43/34	55	27	82
1991	A-I	12,066	Sawtooth	HNFB	CWT 10/43/35	32	12	44
1991	A-I	21,775	Sawtooth	HNFB	CWT 10/43/36	55	13	68
1991	A-I	20,318	Sawtooth	HNFB	CWT 10/43/37	49	15	64
1991	A-I	19,338	Sawtooth	HNFB	CWT 10/43/38	52	19	71
1991	A-I	985	Sawtooth	HNFB	PIT	2	1	3
1991	A-I	864,138	Sawtooth	HNFB	None	2,173	682	2,855
1990	A-I	304,907	Sawtooth	HNFB	None	--		
1991	A-I	364,700	Sawtooth	MVSH <sup>d</sup>	None	916	288	1,204
1991	A-I	135,100	Pahsimeroi	MVSH	None	445	411	856
1991	A-I	97,800	Shoup Bridge	MVSH	None	214	6	220
1991	A-I	186,300	Hammer Creek	MVSH	None	116	116	232
1991	A-I	21,809	Little Salmon	MVSH	CWT 10/43/17	4	4	8
1991	A-I	22,704	Little Salmon	MVSH	CWT 10/43/18	21	21	42
1991	A-I	21,484	Little Salmon	MVSH	CWT 10/43/19	16	16	32
1991	A-I	1,600	Little Salmon	MVSH	PIT	1	1	2
1991	A-I	242,703	Little Salmon	MVSH	None	151	151	302
Subtotal		2,378,906				4,347	1,807	6,154
1990	A-II	14,597	Sawtooth	HNFB	CWT 10/42/14	12	6	18
1990	A-II	15,482	Sawtooth	HNFB	CWT 10/42/15	33	5	38
1990	A-II	15,218	Sawtooth	HNFB	CWT 10/42/16	3	0	3
1990	A-II	255,859	Sawtooth	HNFB	None	314	44	358
1990	A-II	39,620	Sawtooth	MVSH	CWT 10/40/59	53	0	53
1990	A-II	1,159,080	Sawtooth	MVSH	None	1,424	198	1,622
1990	A-II	15,528	Shoup Bridge	HNFB	CWT 10/42/27	0	0	0
1990	A-II	15,196	Shoup Bridge	HNFB	CWT 10/42/28	8	0	8
1990	A-II	15,104	Shoup Bridge	HNFB	CWT 10/42/29	9	0	9
1990	A-II	154,418	Shoup Bridge	HNFB	None	57	0	57
1990	A-II	200,295	Ellis Bridge	HNFB	None	256	24	280

Table 20. Continued.

Release Year	Strain and Ocean-Age	No. of Fish Released	Release Site	Hatchery Rearing	Marks	Estimated Number of Fish		
						Harvested	Hatchery Return <sup>a</sup>	Total
1990	A-II	199,602	North Fork	HNFH	None	250	9	259
1990	A-II	80,465	Little Salmon	HNFH	None	30	30	60
Subtotal		2,180,464				2,449	316	2,765
1991	B-I	20,498	East Fork	MVSH	CWT 10/43/14	200	1	201
1991	B-I	21,017	East Fork	MVSH	CWT 10/43/15	5	1	6
1991	B-I	20,312	East Fork	MVSH	CWT 10/43/16	0	0	0
1991	B-I	1,500	East Fork	MVSH	PIT			
1991	B-I	22,525	East Fork	MVSH	CWT 10/43/20	4	3	7
1991	B-I	22,483	East Fork	MVSH	CWT 10/43/21	0	3	3
1991	B-I	21,375	East Fork	MVSH	CWT 10/43/22	0	1	1
1991	B-I	838,090	East Fork	MVSH	None	337	46	383
1991	B-I	540,733	East Fork	HNFH	None	29	4	33
1991	B-I	19,831	Little Salmon	HNFH	CWT 10/43/32	6	6	12
1991	B-I	19,813	Little Salmon	HNFH	CWT 10/43/39	4	4	8
1991	B-I	18,877	Little Salmon	HNFH	CWT 10/43/40	3	3	6
1991	B-I	501	Little Salmon	HNFH	PIT	--	--	--
1991	B-I	398,078	Little Salmon	HNFH	None	88	88	176
1991	B-I	120,323	Little Salmon	HNFH	None	27	27	54
Subtotal		577,423				703	187	890
1990	B-II	64,150	East Fork	HNFH	None	9	1	10
1990	B-II	40,905	East Fork	MVSH	CWT 10/40/58	66	15	81
1990	B-II	14,964	East Fork	MVSH	CWT 10/42/33	2	0	2
1990	B-II	15,157	East Fork	MVSH	CWT 10/42/34	58	0	58
1990	B-II	14,642	East Fork	MVSH	CWT 10/42/35	9	1	10
1990	B-II	15,474	East Fork	MVSH	CWT 10/42/36	20	4	24
1990	B-II	15,971	East Fork	MVSH	CWT 10/42/37	21	3	24
1990	B-II	14,958	East Fork	MVSH	CWT 10/42/38	21	3	24
1990	B-II	792,129	East Fork	MVSH	None	535	73	608
1990	B-II	14,841	Little Salmon	HNFH	CWT 10/42/30	258	258	516
1990	B-II	14,065	Little Salmon	HNFH	CWT 10/42/31	4	4	8

Table 20. Continued.

Release Year	Strain and Ocean-Age	No. of Fish		Hatchery Rearing	Marks	Estimated Number of Fish		
		Released	Release Site			Harvested	Hatchery Return <sup>a</sup>	Total
1990	B-II	13,416	Little Salmon	HNFH	CWT 10/42/32	9	9	18
1990	B-II	351,030	Little Salmon	HNFH	None	166	166	332
Subtotal		1,381,702				1,178	537	1,715
1989	B-III	15,624	East Fork	MVSH	CWT 10/41/44	0	0	0
1989	B-III	14,126	East Fork	MVSH	CWT 10/41/45	0	0	0
1989	B-III	14,314	East Fork	MVSH	CWT 10/41/46	0	0	0
1989	B-III	2,930	East Fork	MVSH	PIT			
1989	B-III	306,306	East Fork	MVSH	None	0	0	0
1989	B-III	14,939	East Fork	HNFH	CWT 10/41/32	0	0	0
1989	B-III	14,911	East Fork	HNFH	CWT 10/41/33	7	0	7
1989	B-III	13,719	East Fork	HNFH	CWT 10/41/34	0	0	0
1989	B-III	393,007	East Fork	HNFH	None	63	0	63
Subtotal		789,876				70	0	70

<sup>a</sup> Includes off-site escapement.

<sup>b</sup> HNFH = Hagerman National Steelhead Hatchery.

<sup>c</sup> Fall release of presmolts.

<sup>d</sup> MVSH = Magic Valley Steelhead Hatchery.

Table 21. Adult steelhead collected from upper Salmon River tributaries, 1993.

Stream	Collection Date	Hatchery Fish Strain and Ocean-age			Sex		Total No. of Fish	
		A-I	A-II	B-strain	Male	Female	Hatchery	Wild/Natural
Squaw (lower)	4/6	8	3	0	5	6	11	0
	4/19	3	0	0	1	2	3	0
Indian	4/6	5	3	0	6	2	8	1
	4/19	1	3	1	3	2	5	0
Owl	4/8	1	0	0	0	1	1	1
Slate	4/12	1	0	0	0	1	1	0
Hat	4/13	33	5	0	25	13	38	0
Cow	4/13	16	0	0	10	6	16	0
Warm Springs	4/13	9	1	0	6	4	10	0
Morgan	4/16	20	11	1	15	17	32	0
Challis	4/16	0	1	0	1	0	1	0
Williams	4/17	19	4	0	15	8	23	0
Iron	4/17	1	0	0	1	0	1	1
Fourth of July	4/19	4	4	0	3	5	8	0
Thompson	4/20	11	1	1	8	5	13	3
Squaw (upper)	4/20	6	0	1	3	4	7	7
Tower	4/21	0	1	0	1	0	1	0
Salmon Golf								
Course	4/21	2	1	0	1	2	3	0
	4/27	0	1	0	1	0	1	0
Carmen	4/22	20	11	3	18	16	34	0
Rattlesnake	4/27	0	1	0	0	1	1	0
Total		160	51	7	123	95	218	13
(%)		(74)	(23)	(3)	(56)	(44)	(94)	(6)

Table 22. Coded wire tag (CWT) recoveries from upper Salmon River tributaries, 1993.

Recovery Stream	CWT Datacode	Date Recovered	Release Site	Strain	Ocean-age	No. of Fish
Carmen	10/43/24	4/22	Salmon @ North Fork	A	I	1
	10/43/25	4/27	Salmon @ North Fork	A	I	1
	10/43/26	4/22	Salmon @ <b>Ellis</b> Bridge	A	I	1
	10/43/27	4/22	Pahsimer R.	A	I	1
	10/43/31	4/22	Salmon @ Ellis Bridge	A	I	1
Cow	10/43/30	4/13	Salmon R. @ Ellis Bridge	A	I	1
Fourth of July	10/43/26	4/19	Salmon R. @ North Fork	A	I	1
Hat	10/43/23	4/13	Pahsimeroi R.	A	I	1
	10/43/24	4/13	Salmon R. @ Fork	A	I	1
	10/43/27	4/13	Pahsimeroi R.	A	I	1
	10/43/29	4/13	Salmon @ Ellis Bridge	A	I	2
	10/43/30	4/13	Salmon @ Ellis Bridge	A	I	2
	10/43/31	4/13	Salmon @ Ellis Bridge	A	I	2
Indian	10/40/59	4/19	Sawtooth Hatcher	A	II	1
	10/43/36	4/06	Sawtooth Hatcher	A	I	1
Morgan	10/42/36	4/16	East Salmon R.	B	II	1
	10/43/30	4/16	Salmon R. @ Bridge	A	I	1
	10/43/31	4/16	Salmon R. @ Bridge	A	I	1
	10/43/34	4/16	Sawtooth	A	I	1
	10/43/36	4/16	Sawtooth	A	I	1
Rattlesnake	10/40/58	4/27	East Fork Salmon R.	B	II	1
Slate	10/43/33	4/12	Sawtooth Hatchery	A	I	1
Squaw (lower)	10/43/30	4/19	Salmon @ Ellis Bridge	A	I	1
Squaw (upper)	10/43/36	4/20	Sawtooth Hatchery	A	I	1
	10/43/37	4/20	Sawtooth Hatchery	A	I	1
Thompson	10/15/30	4/20	Sawtooth Hatchery	A	0 <sup>a</sup>	1
	10/43/34	4/20	Sawtooth Hatchery	A	I	1
	10/43/38	4/20	Sawtooth Hatchery	A	I	1
Warm Springs	10/43/31	4/13	Salmon @ Ellis Bridge	A	I	2
Williams	10/43/26	4/17	Salmon R. @ North Fork	A	I	1

<sup>a</sup>Precocial male with LV clip.

recovered the greatest distance from its release site. No adults from this tag group entered the Sawtooth trap. From 42,878 A-strain steelhead with CWTs released at the Pahsimeroi Hatchery in 1991, 3 were recovered in tributaries and 113 returned to the Pahsimeroi weir. From 56,379 CWT B-strain steelhead released in the East Fork Salmon River in 1990, we recovered 2 from tributaries and 19 returned to the East Fork trap. The furthest downstream tributary recovery of an East Fork CWT release was in Rattlesnake Creek, 101 km downstream from the mouth of the East Fork Salmon River.

We also handled a large fish in Carmen Creek that was likely a B-strain fish released in the East Fork, but it did not have a left ventral clip signifying a CWT. This recovery was 144 km downstream from the mouth of the East Fork Salmon River.

During our electrofishing survey in Thompson Creek on April 20, we observed several hundred smolts that were most likely from the release at Sawtooth Hatchery on April 7-9, 1993. We also collected a 37 cm precocial male from the 1992 Sawtooth Hatchery release bearing tag code 10/15/30 (Table 22).

## DISCUSSION

The number of adult steelhead that passed McNary Dam on the Columbia River in fall 1992 was the highest count of the last ten years (Table 23). Of the 194,000 fish that passed McNary Dam, 10.20 were unaccounted for at Priest Rapids and Ice Harbor dams. The 160,600 adults that passed Ice Harbor Dam was 30% higher than the previous year's number.

### Harvest of Sawtooth Hatchery Releases

Returns of steelhead released from Sawtooth Hatchery in 1990 are now complete. From a total release of 1,499,856 smolts, we estimated a return of 7,030 adults after one ocean-year and 2,092 after two ocean-years. The total return of 9,125 was 0.610 of the number released, and 820 of the adult returns were harvested (Ball 1992b) (Table 20).

Adult returns from the 1991 Sawtooth Hatchery releases have returned after their first ocean-year. From 1,344,499 smolts released, 5,768 (0.43%) returned to the fishery and Sawtooth Hatchery (Table 20).

### Harvest of East Fork Salmon River Releases

Beginning in 1989, progeny of East Fork and Dworshak stock parents were divided into two groups approximately equal in number and time of release, marked with CWTs, and released into the East Fork Salmon River. Smolts of East Fork stock were marked with tag codes 10/41/44, 10/41/45, and 10/41/46, and Dworshak stock smolts received CWTs 10/41/32, 10/41/33, and 10/41/34 (Table 20; Appendix B).

Adult returns from 353,300 East Fork stock and 436,576 Dworshak stock B-strain smolts released in 1989 were reported by Ball (1992a, 1992b). One additional Dworshak stock fish returned after three ocean-years so the total return of Dworshak stock fish was 449 fish (0.10%), of which 91% were harvested. The total return of East Fork stock was 705 fish (0.20%), of which 90% were harvested. Anglers harvested one and one-half times more fish from this group than progeny of Dworshak stock.

Table 23. Difference between the number of steelhead passing McNary Dam that can be accounted for upriver at Ice Harbor and Priest Rapids dams, 1983-92<sup>a</sup>.

Fall of Year	No. of Fish (000's)				Difference
	McNary Dam	Ice Harbor Dam	Priest Rapids Dam	Ice Harbor + Priest Rapids Total	
1983	125.2	88.5	31.1	119.6	5.6 (4.5%)
1984	135.5	94.0	26.0	120.0	15.5 (11.4%)
1985	188.2	128.8	34.5	163.3	24.9 (13.2%)
1986	193.5	144.3	22.4	166.7	26.8 (13.9%)
1987	148.8	74.5	14.0	88.5	60.3 (40.5%)
1988	151.8	99.7	10.2	109.9	41.9 (27.6%)
1989	170.5	151.1	10.7	161.8	8.7 (5.1%)
1990	95.1	54.7	7.8	62.5	32.6 (34.3%)
1991	169.0	123.8	14.0	137.8	31.2 (18.5%)
1992	194.0	160.6	13.7	174.3	19.7 (10.2%)

<sup>a</sup> Totals from Army Corps of Engineers annual fish passage reports.

From 988,350 smolts released in 1990, we estimated that 168 returned after one ocean-year and 841 returned after two ocean-years (Ball 1992b) (Table 20). The total return to date is 1,009 (0.10%) adults, and 88% of these fish were harvested.

There were 967,800 smolts released into the East Fork in 1991, and we estimated that 634 (0.07%) returned after one ocean-year.

### Harvest of Little Salmon River Releases

Adult returns from 80,465 A-strain smolts and 392,812 B-strain smolts released in 1990 are now complete. We estimated that 66 A-strain fish returned after one ocean-year and another 60 adults after two ocean-years. There were no one-ocean B-strain recoveries and 874 fish returned after two ocean-years. The total return after two ocean-years of 126 A-strain fish (0.16%) includes an estimated 50% escapement past the fishery. The total return to date of 874 B-strain adults (0.22%) also includes an estimated 50% escapement past the fishery.

In 1991, there were 310,300 A-strain and 457,110 B-strain smolts released in the Little Salmon River as part of the LSRCP program. After one ocean-year, there were 386 returns from the A-strain release and 256 B-strain returns.

### Harvest of Hammer Creek Releases

In addition to the Little Salmon River, there were LSRCP releases in 1991 at the Hammer Creek Access below Whitebird. From 186,300 A-strain smolts released, an estimated 232 adults returned after one ocean-year.

### Harvest of Clearwater River Releases

In 1989, there were 399,496 steelhead smolts released into the Clearwater River drainage from Hagerman National Fish Hatchery. The total return from this release was an estimated harvest of 31 fish, and 4 returned to the adult trap at Kooskia National Fish Hatchery.

### Off-site Releases

Off-site releases (smolt releases into the river or into tributaries without means or attempts to collect spawning adults) is a technique employed to distribute the harvest and put more hatchery fish into anglers' creels. Lower Salmon River harvest areas are corridors for all fish destined upriver, but have been unable to sustain a viable fishery after upriver fish have passed.

Releases into Hammer Creek during 1991 did not contain any CWTs, so harvest distribution was not ascertained. Adult returns were estimated from the performance of CWT groups released in Little Salmon River. In 1990, smolt releases at Ellis Bridge and near the mouth of the North Fork Salmon River were also without representative mark groups. Adult returns were estimated from marked groups released nearby. Again in 1991, releases at Pahsimeroi and Shoup Bridge were also without representative mark groups. Returns were estimated by using CWT groups reared by Idaho Power's steelhead mitigation program and released at the Pahsimeroi Hatchery.

In 1988, evaluation of in-river releases began with marked fish releases at Shoup Bridge, about 8 km upstream of the city of Salmon. There were no marked LSRCP releases that year, but estimated returns were derived from a companion group of marked fish from Niagara Springs Fish Hatchery (Ball 1992b). In 1989, all the in-river releases, both marked and unmarked, were reared at Niagara Springs Fish Hatchery (Appendix C). In 1990, the fish released at Shoup Bridge were LSRCP-reared fish from Hagerman National Fish Hatchery. From 45,828 marked fish released, anglers harvested an estimated 73 fish (Table 20). The harvest rate of 0.15% after one ocean-year is slightly higher than the 0.12% reported for the 1988 release after two ocean-years (Ball 1992b). More than half of the harvest was taken from section 15 (Appendix B). The relatively small harvest from near the release site may be due to the change in river morphology during successive drought years since 1986. The stream reach below the Shoup Bridge release site has less holding water for fish since the drought began.

Although no marked LSRCP fish were released in the Salmon River at North Fork or Ellis Bridge, there has been an increase in both effort and harvest near these release sites. Both of these reaches have large, long pools downstream of their release sites. Harvested numbers of CWT fish raised by IPC and released at North Fork and Ellis Bridge are reported in Appendix B. Performance of these groups, especially the North Fork release, illustrates the value of off-site releases as a tool to improve harvest opportunity and angler distribution.

### Hatchery Straying

Adult steelhead returning to Idaho rivers in the fall are several months away from spawning and commonly wander into streams other than where they were released. It is not unusual for these wandering fish to spend time in one or more rivers that are not their natal or release drainage. Adults observed or harvested during the wandering phase should not be considered strays. The majority of them would eventually return to their natal stream, hatchery, or release site.

In 1993, there were 871 CWTs recovered from hatchery steelhead at hatchery racks in Idaho. Additionally, National Marine Fisheries Service (NMFS) personnel mark smolts with CWTs during their downriver outmigration. These smolts originate from throughout the Snake River drainage and may be encountered as returning adults. However, in 1993, no NMFS-tagged fish returned to Idaho hatchery racks.

There were three strays of LSRCP fish tagged by Washington that were collected at Dworshak National Fish Hatchery. Two were from releases in the Tucannon River (63/08/38 and 63/39/12) and one was from a Lyons Ferry Hatchery release (63/14/21). Straying rates for these groups were reported by Washington.

Off-site releases that return to areas without spawning gravel may enter hatchery racks and are included in the number of CWTs recovered there. In 1993, there were seven CWTs recovered at the Pahsimeroi Hatchery from the off-site release at Ellis Bridge. Four fish from the off-site release at North Fork also entered the Pahsimeroi trap. Although technically these marked fish strayed from their release location, we are not including them in this straying evaluation between hatchery racks.

Of the 857 CWTs recovered from hatchery releases in the Salmon River drainage, only two fish (0.23) strayed. One IPC-reared fish was tagged with CWT 10/43/23 and released at the Pahsimeroi Hatchery in 1991. It returned to the trap at the East Fork Salmon River. One additional fish released at the Pahsimeroi Hatchery strayed to the hatchery rack at Hells Canyon Dam on the Snake River. This year's straying rate is similar to the range of straying rates (0.2-0.6%) reported since 1985 (Ball 1986, 1988, 1989, 1990, 1992a, 1992b).

Furthermore, there is very little variation between years and little or no change over time in the years we have been calculating straying rates between hatchery racks.

### Tributary Straying

Electrofishing surveys in 1993 were qualitative and should not be considered a reflection of straying rates of either hatchery or off-site releases. In addition to tributary spawning, fish released from hatchery racks were also spawning in the river below their release sites. This is especially evident in the upper Salmon River downstream from Sawtooth. A true quantitative analysis of straying would require weirs and very intensive electrofishing surveys over many miles of a large number of streams. The amount of straying, and possibly the distribution of steelhead, could be a function of lower flows and higher water temperatures during a drought cycle which began in 1987.

Straying between hatchery releases as documented by CWTs has been consistently low, but it is not a good indication of the number of adult steelhead straying into tributary streams (Ball 1986, 1989, 1992a, 1992b). Even without a quantitative straying analysis, it appears that a much larger proportion of adults are spawning in tributaries than stray to a hatchery rack other than where they were released.

Although we handled a small number of wild-natural steelhead, their time of arrival into the tributaries corresponds closely with hatchery fish. Both groups of fish enter the streams when males are ripe and females are gravid. Spawning begins soon after entry into the streams and the fish leave when spawning is complete. Males may return to the river and then return to the tributary with another female. We did not attempt to document contribution of hatchery steelhead to natural production in these tributaries.

### Sources of Error

The primary sources of error involved in the steelhead harvest estimates have been discussed previously by Ball (1986), as well as the quality control of adipose clipping (Ball 1989).

Left ventral fin clips, which are used on steelhead to identify the presence of CWTs, may regenerate but nonetheless leave the fin deformed. Since there is a high proportion of hatchery fish with deformed fins from their life in the hatchery, we attempt to take snouts from all fish with deformed left ventral fins. Although we take additional snouts with these methods, we should not be missing very many CWTs. Spot checks at hatcheries with portable CWT detectors have confirmed that our methods detect greater than 98% of CWT fish.

The number of marked fish in each release group and the number of groups released each depend on many factors, but generally have been adjusted to produce adequate adult returns under average conditions. Several consecutive low water years and poor migration survival of both juveniles migrating downstream and adults returning upstream have resulted in several poor steelhead runs in the Salmon River. Consequently, the chance of recovering marked fish becomes very low and the accuracy of return information diminishes. Harvest patterns, exploitation rates, age at return, and other reasonably stable statistics have been aberrant.

It is impossible to predict when poor migration conditions will occur in order to mark more fish to compensate for poor survival. The reasoning to mark enough fish with average return expectations is still sound, but may not produce sufficient results in very low return years.

#### RECOMMENDATIONS

Continue to include coded wire tags in each major smolt release that are representative in size, time of release, and fish health.

Continue to evaluate rate of return, contribution to the sport fishery, and distribution of adults returning from off-site releases.

Set up check stations in Salmon River Sections 17 and 18 to improve manpower efficiency and to increase the number of fish checked.

Survey upper Salmon River tributaries to document presence or absence of off-site releases.

Formulate a marking program for PIT tag evaluation of adult returns to Lower Granite Dam.

Move Shoup Bridge off-site release downstream to mouth of Lemhi River.

## ACKNOWLEDGEMENTS

Marsha White and Ellen Smith assisted with data compilation and word processing. Vicki Feucht provided data from coded wire tags. Ralph Roseberg provided data from Dworshak National Fish Hatchery. Tom McArthur produced statewide harvest estimates. Mark Schuck and Art Viola, Washington Department of Fish and Wildlife, cooperated with data collection and compilation for the Snake River. The cover photo was contributed by Marsha White.

## LITERATURE CITED

- Ball, K. 1986. Evaluation of hatchery-wild steelhead harvest, December 1, 1984 to September 30, 1985. U.S. Fish and Wildlife Service Lower Snake River Compensation Plan, Contract No. 14-16-0001-85607 (RWG). Idaho Department of Fish and Game, Boise.
- Ball, K. 1989. Evaluation of hatchery-wild steelhead harvest, October 1, 1986 to December 31, 1987. U.S. Fish and Wildlife Service Lower Snake River Compensation Plan, Contract No. 14-16-0001-87501 (RWG). Idaho Department of Fish and Game, Boise.
- Ball, K. 1992a. Evaluation of hatchery-wild composition of Idaho salmon and steelhead harvest, October 1, 1989 to December 31, 1990. U.S. Fish and Wildlife Service Lower Snake River Compensation Plan, Contract No. 14-16-0001-89501 (RWG). Idaho Department of Fish and Game, Boise.
- Ball, K. 1992b. Evaluation of hatchery-wild composition of Idaho salmon and steelhead harvest, October 1, 1990 to December 31, 1991. U.S. Fish and Wildlife Service Lower Snake River Compensation Plan, Contract No. 14-16-0001-89501 (RWG). Idaho Department of Fish and Game, Boise.
- Ball, K. 1994. Evaluation of hatchery-wild composition of Idaho salmon and steelhead harvest, October 1, 1991 to December 31, 1992. U.S. Fish and Wildlife Service Lower Snake River Compensation Plan, Idaho Department of Fish and Game, Boise.
- U.S. Army Corps of Engineers, North Pacific Division. 1992. 1991 Annual Fish Passage Report, Columbia and Snake rivers for salmon, steelhead, and shad. U.S. Army Engineer Districts, Portland and Walla Walla.

**A P P E N D I C E S**

Appendix A. Total number of steelhead by section and month harvested by resident and nonresident anglers, fall **1992** and spring **1993<sup>a</sup>**.

Fall 1992 Steelhead Harvest

River Section	September	October	November	December	Total
01	133	912	1,727	584	3,356
02	9	434	638	239	1,319
Snake Totals	142	1,346	2,364	824	4,675
03	177	2,984	3,870	1,346	8,377
04	9	283	310	115	717
05	0	71	434	177	682
06	9	9	26	18	62
07	18	0	44	0	62
Clearwater Totals	213	3,347	4,684	1,656	9,900
10	35	868	434	151	1,488
11	0	514	522	115	1,151
12	0	328	416	53	797
13	0	142	168	9	319
14	9	859	744	53	1,665
15	0	2,176	1,851	204	4,231
16	9	283	363	27	381
17	0	53	160	0	213
18	0	53	9	0	62
19	0	79	18	0	97
20	0	44	89	9	142
Salmon Totals	53	5,401	4,773	620	10,847
Oxbow	0	213	177	239	619
Boise	0	0	18	0	18
Payette	0	9	18	18	44
Statewide Totals	407	10,316	12,034	3,356	26,113

Appendix A. Continued.

Spring 1993 Steelhead

River Section	Januar	February	March	April	Total
01	410	159	91	45	705
02	102	34	34	34	205
Snake Totals	512	193	125	80	910
03	1,456	2,228	1,672	193	5,549
04	171	477	421	80	1,149
05	250	353	967	307	1,877
06	45	0	137	57	239
07	11	102	102	422'	637
Clearwater Totals	1,933	3,162	3,298	1,058	9,451
10	159	216	182	23	580
11	227	274	136	159	796
12	0	205	68	159	432
13	0	0	68	34	102
14	45	34	68	115	262
15	91	239	956	159	1,445
16	34	57	160	45	296
17	11	34	489	490	1,024
18	0	23	387	386	796
19	57	0	205	909	1,171
20	0	205	125	751	1,080
Salmon Totals	626	1,285	2,843	3,230	7,984
Oxbow	57	34	0	91	182
Boise	0	0	11	11	22
Payette	0	0	0	0	0
Statewide Totals	3,128	4,674	6,278	4,470	18,550

<sup>a</sup> Statewide harvest survey data (unpublished).

Appendix B. Coded wire tag recoveries and fin clips identified September 1992 - April 1993; harvest estimates by month and river section; and total harvest estimates for the 1992-93 season.

TAG CODE - 05/20/44                      RELEASE SITE - North Fork Clearwater R.                      NUMBER RELEASED - 20,016

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>	
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Rate</u>	<u>Harv.</u>
01											
03/05				1	0.077	13	1	0.061	16		
04/06											
07											
10											
11											
12											
13											
14											
15											
16											
17											

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>	
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>	<u>01</u>	<u>Est.</u>
03/05	1	0.053	19	2	0.086	23	2	0.091	22			7	93
04/06													
07													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

Total estimated harvest

93

Appendix B. Continued.

TAG CODE - 05/20/45

RELEASE SITE - North Fork Clearwater R.

NUMBER RELEASED - 19,797

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>							
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>					
01																	
03/05																	
04/06																	
07																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>				
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>			
03/05													1	0.060	17	1	17
04/06																	
07																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	

\_\_\_\_ Total estimated harvest

17

Appendix B. Continued.

TAG CODE - 05/20/47

RELEASE SITE - North Fork Clearwater R.

NUMBER RELEASED - 21,290

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>			<u>1992-93</u>	
	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01														
03/05							2	0.061	33	1	0.060	17		
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Est.</u>
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
03/05				2	0.086	23	1	0.091	11				6	84
04/06														
07 10														
11 12														
13 14														
15 16														
17 18														
19 20														

Total estimated harvest

84

Appendix B. Continued.

TAG CODE - 05/20/48

RELEASE SITE - North Fork Clearwater R.

NUMBER RELEASED - 20,888

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>			
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	
01				1	0.110	9							
03/05				4	0.077	52							
04/06													
07													
10													
11													
12													
13													
14													
15													
16													
17													
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>	
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01												1	9
03/05				2	0.086	23	1	0.091	11			7	86
04/06													
07													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
Total estimated harvest													95

47

Appendix B. Continued.

TAG CODE - 05/20/49

RELEASE SITE - North Fork Clearwater R.

NUMBER RELEASED - 21,387

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>		
01														
03/05				4	0.077	52	2	0.061	33	1	0.060	17		
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Est. Harv.</u>
03/05	2	0.053	38	1	0.086	12	2	0.091	22				12	174
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total estimated harvest

174

Appendix B. Continued.

TAG CODE - 05/20/49                      RELEASE SITE - North Fork Clearwater R.                      NUMBER RELEASED - 21,387

<u>River Section</u>	<u>Tags</u>	<u>September</u>		<u>October</u>		<u>November</u>		<u>December</u>	
		<u>No. Sample</u>	<u>Est. Harv.</u>						
01									
03/05				1	0.110	9			
04/06									
07									
10									
11									
12									
13									
14									
15									
16									
17									

<u>River Section</u>	<u>Tags</u>	<u>January</u>		<u>February</u>		<u>March</u>		<u>April</u>		<u>1992-93</u>
		<u>No. Sample</u>	<u>Est. Harv.</u>	<u>No. Est.</u>						
01	2	0.053	38	1	0.086	12	2	0.09122	1	9
03/05										
04/06										
07										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

Total estimated harvest

Appendix B. Continued.

TAG CODE - 07/51/20

RELEASE SITE - Wallowa R. @ Spring Cr.

NUMBER RELEASED - 26,347

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>					
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
01				1	0.110	9									
03/05															
04/06															
07															
10															
11															
12															
13															
14															
15															
16															
17															
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
03/05															
04/06															
07															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
Total estimated harvest													01	1	9

50

Appendix B. Continued.

TAG CODE - 07/51/21                      RELEASE SITE - Wallowa R. C Spring Cr.                      NUMBER RELEASED - 26,473

River Section	Tags	September		October		November		December		1992-93	
		No. Sample	Est. Harv.								
01				1	0.110	9					
03/05											
04/06											
07											
10											
11											
12											
13											
14											
15											
16											
17											
		January		February		March		April		1992-93	
		No. Sample	Est. Harv.								
01										1	9
03/05											
04/06											
07											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Total estimated harvest

Appendix B. Continued.

TAG CODE - 07/51/22                      RELEASE SITE - Wallowa R. @ Spring Cr.                      NUMBER RELEASED - 26,771

<u>River Section</u>	<u>September</u>				<u>October</u>			<u>November</u>			<u>December</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	
01				1	0.110	9	1	0.065	15				
03/05													
04/06													
07													
10													
11													
12													
13													
14													
15													
16													
17													

<u>River Section</u>	<u>January</u>				<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	
01															2	24
03/05																
04/06																
07																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																

Total estimated harvest

24

Appendix B. Continued.

TAG CODE - 07/53/57                      RELEASE SITE - Imnaha R. @ Little Sheep Cr.                      NUMBER RELEASED - 24,282

River Section	Tags	September		Tags	October		Tags	November		December	
		No.	Sample Est.		No.	Sample Est.		No.	Sample Est.	No.	Sample Est.
03/05	1	0.062	16	1	0.110	9	1	0.065	15		
04/06											
07											
10											
11				1	0.154	6					
12											
13											
14											
15											
16											
17											

River Section	Tags	January		Tags	February		Tags	March		April		1992-93	
		No.	Sample Est.		No.	Sample Est.		No.	Sample Est.	No.	Sample Est.	No.	Est.
01												2	24
03/05												1	16
04/06													
07													
10													
11												1	6
12													
13													
14													
15													
16													
17													
18													
19													
20													

Total estimated harvest

46

Appendix B. Continued.

TAG CODE - 07/54/43                      RELEASE SITE - Wallowa R. @ Spring Cr.                      NUMBER RELEASED - 28,815

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>	
	<u>Tags</u>	<u>No. Sample Est.</u>	<u>Rate Harv.</u>	<u>Tags</u>	<u>No. Sample Est.</u>	<u>Rate Harv.</u>	<u>Tags</u>	<u>No. Sample Est.</u>	<u>Rate Harv.</u>	<u>Tags</u>	<u>Rate Harv.</u>
01							1	0.065	15		
03/05											
04/06											
07											
10											
11											
12											
13											
14											
15											
16											
17											

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>	
	<u>Tags</u>	<u>No. Sample Est.</u>	<u>Rate Harv.</u>	<u>Tags</u>	<u>No. Sample Est.</u>	<u>Rate Harv.</u>	<u>Tags</u>	<u>No. Sample Est.</u>	<u>Rate Harv.</u>	<u>Tags</u>	<u>No. Sample Est.</u>	<u>Tags</u>	<u>Harv.</u>
03/05													
04/06													
07													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

Total estimated harvest

Appendix B. Continued.

TAG CODE - 07/54/44      RELEASE SITE - Wallowa R @ Spring Cr      NUMBER RELEASED - 28 738

River Section	September			October			November			December		
	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.
01				1	0	110	9					
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

River Section	January			February			March			April			1992-93	
	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Est. Harv.
01													1	9
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total estimated harvest

Appendix B. Continued.

TAG CODE - 10/40/58

RELEASE SITE - East Fork Salmon R.

NUMBER RELEASED - 40,905

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>No.</u>	<u>Sample Est.</u>	<u>Tags</u>	<u>No.</u>	<u>Sample Est.</u>	<u>Tags</u>	<u>No.</u>	<u>Sample Est.</u>	<u>Tags</u>	<u>No.</u>	<u>Sample Est.</u>	<u>Tags</u>		
01														
03/05														
04/06														
07														
10														
11				3	0.154	19								
12				1	0.284	4								
13				1	0.218	5								
14							3	0.433	7					
15				4	0.258	16	1	0.298	3					
16				1	0.177	6								
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>No.</u>	<u>Sample Est.</u>	<u>Tags</u>	<u>No.</u>	<u>Sample Est.</u>	<u>Tags</u>	<u>No.</u>	<u>Sample Est.</u>	<u>Tags</u>	<u>No.</u>	<u>Sample Est.</u>	<u>No.</u>	<u>Est.</u>	
01														
03/05														
04/06											3	19		
07											1	4		
10											1	5		
11							1	0.456	2		3	7		
12											6	21		
13											-	-		
14														
15														
16														
17														
18														
19														
20										1	0.243	4	1	4
Total estimated harvest												66		

56

Appendix B. Continued.

TAG CODE - 10/40/59

RELEASE SITE - Sawtooth Hatchery

NUMBER RELEASED - 30,620

River Section	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>					
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>				
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14					1	0.149	7	2	0.433	5					
15					1	0.258	4	1	.0.298	3					
16															
17															
River Section	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>			
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>	
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14													3	12	
15								1	0.456	2			3	9	
16															
17								1	0.051	20			1	20	
18											1	0.399	3	1	3
19											2	0.229	9	2	9
20															
Total estimated harvest														53	

Appendix B. Continued.

TAG CODE - 10/41/33                      RELEASE SITE - East Fork Salmon R.                      NUMBER RELEASED - 14,911.

<u>River Section</u>	<u>September</u>		<u>October</u>		<u>November</u>		<u>December</u>		<u>1992-93</u>	
	<u>No. Sample</u>	<u>Est. Tags</u>								
01										
03/05										
04/06										
07 10										
11 12										
13										
14			1	0.149	7					
15										
16										
17										
	<u>January</u>		<u>February</u>		<u>March</u>		<u>April</u>		<u>1992-93</u>	
	<u>No. Sample</u>	<u>Est. Tags</u>								
03/05										
04/06										
07										
10										
11										
12										
13										
14									1	7
15										
16										
17										
18										
19										
20										
Total estimated harvest										7

Appendix B. Continued..

TAG CODE - 10/42/14

RELEASE SITE - Sawtooth Hatchery

NUMBER RELEASED - 14,597

River Section	Tags	September		October			November		December	
		No. Sample	Est. Harv.	Tag	Rate	Harv.	No. Sample	Est.	Tag	Rate
01										
03/05										
04/06										
07										
10										
11										
12										
13										
14							1	0.298		
15										
16										
17										

River Section	Tags	January		February		March		April		1992-93		
		No. Sample	Est. Rate	No. Sample	Est. Rate	No. Sample	Est.	No. Sample	Est. Harv.	No. Tags	Est.	
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15										1	3	
16												
17												
18												
19								2	0.229	9	2	9
20												

Total estimated harvest

12

Appendix B. Continued.

<u>TAG CODE - 10/42/15</u>		<u>RELEASE SITE - Sawtooth Hatchery</u>										<u>NUMBER RELEASED - 15,482</u>			
<u>River Section</u>	<u>Tags</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		<u>01</u>	<u>No. Est.</u>	
		<u>No. Sample</u>	<u>Est.</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>			<u>Harv.</u>
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14					3	0.149		20							
15									4	0.298		13			
16															
17															
<u>River Section</u>	<u>Tags</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
		<u>No. Sample</u>	<u>Est.</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>01</u>	<u>No. Est.</u>
03/05															
04/06															
07															
10															
11															
12															
13															
14														3	20
15														4	13
16															
17															
18															
19															
20															
Total estimated harvest															33

Appendix B. Continued.

TAG CODE - 10/42/16

RELEASE SITE - Sawtooth Hatchery

NUMBER RELEASED - 15,218

<u>River Section</u>	<u>Tags</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
		<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>		
<u>River Section</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>			
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14						1		0.298		3					
15															
16															
17															
	<u>No.</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
		<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>
<u>River Section</u>	<u>Tags</u>	<u>Rate</u>	<u>Hary</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
Total estimated harvest														1	3

Appendix B. Continued.

TAG CODE -		RELEASE SITE - Pahsimeroi R.						NUMB RELEASED - 14,339							
River	Section	September			October			November			December				
		No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.		
	01														
	03/05														
	04/06														
	07														
	10														
	11														
	12														
	13														
	14														
	15														
	16														
	17														
River	Section	January			February			March			April			1992-93	
		No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Est. Harv.
	01														
	03/05														
	04/06														
	07														
	10														
	11														
	12														
	13														
	14														
	15														
	16														
	17										1	0.465	2	1	2
	18														
	19														
	20														
Total estimated harvest														2	

62

Appendix Continued.

TAG CODE - 10/42/25                      RELEASE SITE - Little Salmon R.                      NUMBER RELEASED - 15,004

River Section	No. Tags	September		No. Tags	October		No. Tags	November		December	
		Sample Est.	Rate		Sample Est.	Harv.		Sample Est.	Rate	Sample Est.	Harv.
01											
03/05											
04/06											
07											
10											
11				1	0.154	6					
12				1	0.284	4					
13											
14											
15											
16											
17											

River Section	No. Tags	January		No. Tags	February		No. Tags	March		April		1992-93	
		Sample Est.	Harv.		Sample Est.	Harv.		Sample Est.	Harv.	Sample Est.	Harv.	No.	Est.
01													
03/05													
04/06													
07													
10													
11											1		6
12											1		4
13													
14													
15													
16													
17													
18													
19													
20													

Total estimated harvest

10





Appendix B. Continued.

TAG CODE - 10/42/29

RELEASE SITE - Salmon R. @ Shoup Bridge

NUMBER RELEASED - 15,104

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>			
							01	03/05						
							04/06							
07														
10														
11														
12						1	0.284				4			
13														
14														
15									1	0.298	3			
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01														
03/05														
04/06														
07														
10														
11														
12													1	4
13														
14														
15									1	0.456			2	5
16														
17														
18														
19														
20														
Total estimated harvest													9	

69

Appendix B. Continued.

TAG CODE - 10/42/30

RELEASE SITE - Little Salmon R.

NUMBER RELEASED - 14,841

<u>River Section</u>	<u>September</u>				<u>October</u>		<u>November</u>			<u>December</u>			
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	
01													
03/05													
04/06													
07													
10													
11													
12													
13													
14													
15													
16													
17													
<u>River Section</u>	<u>January</u>				<u>February</u>		<u>March</u>			<u>April</u>		<u>1992-93</u>	
<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01													
03/05													
04/06													
07													
10													
11					1	0.004	250					1	250
12													
13													
14													
15													
16													
17													
18													
19													
20									2	0.243	8	2	8
Total estimated harvest												258	

Appendix B. Continued.

RELEASE SITE - Little Salmon R.

NUMBER RELEASED - 14,065

TAG CODE - 10/42/31

<u>River Section</u>	<u>September</u>				<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>01</u>	<u>No. Sample Est.</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>			
03/05															
04/06															
07															
10															
11															
12															
13															
14															
15															
16															
17															
<u>River Section</u>	<u>January</u>				<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>No. Sample Est.</u>	<u>No. Sample Est.</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20											1	0.243	4	1	4
Total estimated harvest															4

Appendix B. Continued.

TAG CODE - 10/42/32

RELEASE SITE - Little Salmon R.

NUMBER RELEASED - 13,416

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>					
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>			
01															
03/05															
04/06															
07															
10						1	0.201					5			
11															
12															
13															
14															
15															
16															
17															
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>No. Est.</u>	<u>Tags</u>	<u>Rate</u>
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

69

9

Total estimated harvest



Appendix B. Continued.

TAG CODE - 10/42/34

RELEASE SITE -East Fork Salmon R.

NUMBER RELEASED - 15,157

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Est. Harv.</u>
01														
03/05				1	0.021	48								
04/06														
07														
10														
11							1	0.201	5					
12														
13														
14														
15														
16														
17														
	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
<u>River Section</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Est. Harv.</u>
03/05														
04/06													1	48
07														
10														
11														
12													1	5
13														
14														
15							1	0.456	2				1	2
16														
17														
18										1	0.399	3	1	3
19														
20														
Total estimated harvest														58

Appendix B. Continued.

TAG CODE - 10/42/35

RELEASE SITE - East Fork Salmon R.

NUMBER RELEASED - 14,642

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
01												
03/05												
04/06												
07												
10												
11												
12				1	0.284	4						
13												
14												
15												
16												
17												

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
03/05														
04/06														
07														
10														
11														
12													1	4
13							1	0.206	5				1	5
14														
15														
16														
17														
18														
19														
20														

Total estimated harvest

9

Appendix B.

Continued  
TAG CODE - 10/42/36

RELEASE SITE - East Fork Salmon R.

NUMBER RELEASED - 15,474

River Section	September			October			November			December			
	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	
01	1	0.316	3										
03/05													
04/06													
07													
10													
11				1	0.154	6							
12							1	0.238	4				
13													
14													
15													
16													
17													
River Section	January			February			March			April		1992-93	
	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	No. Tags	Est. Harv.
01												1	3
03/05													1
04/06													
07													
10													
11													
12												1	6
13												1	4
14													
15							1	0.456	2				
16													
17												1	2
18												1	2
19												1	2
20													
Total estimated harvest													20

Appendix B. Continued.

TAG CODE - 10/42/37

RELEASE SITE - East Fork Salmon R.

NUMBER RELEASED - 15,971

River Section	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14							3	0.433	7					
15				3	0.258	4	1	0.298	3					
16														
17														
River Section	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14													3	7
15							1	0.456	2				5	9
16														
17														
18										2	0.399	5	2	5
19														
20														
Total estimated harvest												21		

Appendix B. Continued.

TAG CODE - 10/42/38                      RELEASE SITE - East Fork Salmon R.                      NUMBER RELEASED - 14,958

River Section	No. Tags	September		No. Tags	October		No. Tags	November		December		1992-93	No. Tags
		Sample Est. Rate	Harv.		Sample Est. Rate	Sample Est. Rate		Harv.	Sample Est. Rate	Harv.			
01													
03/05													
04/06													
07													
10													
11													
12				1	0.284	4							
13													
14				1	0.149	7	1	0.433	2				
15				1	0.258	4							
16													
17													
River Section	No. Tags	January		No. Tags	February		No. Tags	March		April		1992-93	No. Tags
		Sample Est. Rate	Harv.		Sample Est. Rate	Sample Est. Rate		Harv.	Sample Est. Rate	Harv.			
01													
03/05													
04/06													
07													
10													
11													
12												1	4
13													
14												2	9
15							2	0.456	4			3	8
16													
17													
18													
19													
20													
Total estimated harvest													21

75

Appendix B. Continued.

TAG CODE - 10/43/14

RELEASE SITE - East Fork Salmon R.

NUMBER RELEASED - 20,498

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

76

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>
03/05														
04/06														
07														
10														
11														
12						1		0.005		200				
13														
14														
15														
16														
17														
18														
19														
20														

Total estimated harvest

200



Appendix B. Continued.

TAG CODE - 10/43/17                      RELEASE SITE - Little Salmon R.                      NUMBER RELEASED - 21,809

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv..</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Hary</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
04/06						01			03/05			
07												
10												
11												
12												
13												
14												
15						1	0.258		4			
16												
17												

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Hary</u>	<u>Tags</u>	<u>Hare.</u>	<u>No. Est.</u>
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

Total estimated harvest 4

78





Appendix B. Continued.

TAG CODE - 10/43/20

RELEASE SITE - East Fork Salmon R.

NUMBER RELEASED - 22,525

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16										1	0.233		4	1
17														
18														
19														
20														
Total estimated harvest												4		

Appendix B. Continued.

TAG CODE - 10/43/23

RELEASE SITE - Pahsimeroi R.

NUMBER RELEASED - 20,550

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Hary</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01														
03/05														
04/06														
07														
10														
11														
12														
13				1	0.258	4	2	0.298	7					
14				1	0.177	6								
15														
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Hary</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
03/05														
04/06														
07														
10														
11														
12														
13							1	0.265	4				1	4
14							1	0.456	2	1	0.233	4	5	17
15													1	6
16										3	0.465	6	3	6
17														
18														
19														
20														
Total estimated harvest													33	

Appendix B. Continued.

TAG CODE - 10/43/24

RELEASE SITE - Salmon R. @ North Fork

NUMBER RELEASED - 21,605

River Section	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	Tags	Rate	Harv.	Tags	Rate	Harv.	Tags	Rate	Harv.	Tags	Rate	Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14							1	0.433		2		
15				2	0.258	8	3	0.298		10		
16												
17												

River Section	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
	Tags	Rate	Harv.	Tags	Rate	Harv.	Tags	Rate	Harv.	Tags	Rate	Harv.	Tags	Harv.
01														
03/05														
04/06														
07 10														
11 12														
13														
14													1	2
15							5	0.456	11	2	0.233	9	12	38
16							1	0.188	5				1	5
17														
18														
19														
20														

Total estimated harvest

45

Appendix B. Continued.

TAG CODE - 10/43/25

RELEASE SITE -Salmon R. @ North Fork

NUMBER RELEASED - 23,782

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>					
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>			
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14				2	0.149	13	2	0.433	5						
15				3	0.258	12	4	0.298	13						
16															
17															
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>	
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14													4	18	
15							3	0.456	7	1	0.233	4	11	36	
16															
17										1	0.465	2	1	2	
18															
19															
20															
Total estimated harvest															56



Appendix B. Continued.

TAG CODE - 10/43/27

RELEASE SITE - Pahsimeroi R.

NUMBER RELEASED - 22,328

<u>River Section</u>	<u>No. Tags</u>	<u>October</u>			<u>November</u>			<u>December</u>			<u>September</u>	
		<u>No. Sample</u>	<u>Est.</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Rate</u>	<u>Harv.</u>
01												
03/05												
04/06												
07												
10												
11												
12				1	0.284		4					
13							1	0.433		2		
14				4	0.258		16	0.298		13		
15				1	0.177		6					
16												
17												

<u>River Section</u>	<u>Tags</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
		<u>No. Sample</u>	<u>Est.</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14								4	0.456	9				12	38
15														1	6
16											6	0.465	13	6	13
17															
18															
19															
20															

Total estimated harvest

63

Appendix B. Continued.

TAG CODE - 10/43/28

		<u>RELEASE SITE - Pahsimeroi R.</u>						<u>NUMBER RELEASED - 22,395</u>							
		<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
		<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>		
<u>River</u>	<u>Section</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
	01				1	0.077	13								
	03/05														
	04/06														
	07														
	10														
	11														
	12							1	0.238	4					
	13														
	14							2	0.433	5					
	15				3	0.258	12	1	0.298	3					
	16														
	17														
		<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
		<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Est.</u>
<u>River</u>	<u>Section</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
	01														
	03/05													1	13
	04/06														
	07														
	10														
	11														
	12													1	4
	13														
	14													2	5
	15													4	15
	16														
	17							1	0.051	20	2	0.465	4	3	24
	18														
	19														
	20														
		Total estimated harvest													61

Appendix B. Continued.

TAG CODE - 10/43/29                      RELEASE SITE - Salmon R. G Ellis Bridge                      NUMBER RELEASED - 23,280

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>			
	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	
						01 03/05 04/06							
07													
10													
11													
12													
13													
14				1	0.149	7							
15				1	0.258	4	1	0.298	3				
16													
17													
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>	
<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Est. Harv.</u>
01													
03/05													
04/06													
07													
10													
11													
12													
13													
14												1	7
15							2	0.456	4			4	11
16													
17										3	0.465	6	3
18										1	0.399	3	1
19													
20										1	0.243	4	1
Total estimated harvest												31	

88

Appendix B. Continued.

TAG CODE - 10/43/30                      RELEASE SITE - Salmon R. @ Ellis Bridge                      NUMBER RELEASED - 22,388

River Section	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	No. Tags	Sample Rate	Est. Hary	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Hary	No. Tags	Sample Rate	Est. Harv.
01												
03/05												
04/06												
07												
10												
11				1	0.154							6
12												
13				1	0.218							5
14												
15				2	0.258							8
16												
17												

River Section	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>		
	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.	No. Tags	Sample Rate	Est. Harv.
01															
													03/05	04/06	07
10															
11														1	6
12															
13														1	5
14															
15														2	8
16															
17															
18										6	0.465		13	6	13
19															
20															

Total estimated harvest

32

Appendix B. Continued.

TAG CODE - 10/43/31

RELEASE SITE - Salmon R. @ Ellis Bridge

NUMBER RELEASED - 21,826

<u>River Section</u>	<u>No. Tags</u>	<u>September</u>		<u>October</u>			<u>November</u>			<u>December</u>		
		<u>Sample</u>	<u>Est.</u>	<u>No. Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>No. Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>No. Tags</u>	<u>Sample</u>	<u>Est.</u>
01												
03/05												
04/06												
07												
10												
11												
12												
13				1	0.218	5						
14							3	0.433	7			
15				2	0.258	8	3	0.298	10			
16												
17												

06

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>Sample</u>	<u>Est.</u>	<u>Tags</u>	<u>Sample</u>	<u>Est.</u>	<u>Tags</u>	<u>Sample</u>	<u>Est.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01														
03/05														
04/06														
07														
10														
11														
12														5
13													1	
14													3	7
15							1	0.456	2				6	20
16														
17										5	0.465	11	5	11
18														
19										1	0.229	4	1	4
20														

Total estimated harvest

47



Appendix B. Continued.

TAG CODE - 10/43/33

RELEASE SITE - Sawtooth Hatchery

NUMBER RELEASED - 21,050

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14							1	0.433		2		
15				3	0.258	12	2	0.298		7		
16												
17												

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>		
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>Est. Harv.</u>	
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14													1	2	
15							1	0.456		2			6	21	
16															
17											1	0.465	2	1	2
18											1	0.399	3	1	3
19											4	0.229	17	4	17
20															
Total estimated harvest															45



Appendix B. Continued.

TAG CODE - 10/43/35

RELEASE SITE - Sawtooth Hatchery

NUMBER RELEASED - 12,066

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>			
	<u>Tags</u>	<u>Sample</u>	<u>Est.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	
						01 03/05 04/06							
07													
10													
11													
12													
13													
14				1	0.149	7	1	0.433	2				
15							3	0.298	10				
16													
17													
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>	
<u>Tags</u>	<u>Sample</u>	<u>Est.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01													
03/05													
04/06													
07													
10													
11													
12													
13													
14												2	9
15							5	0.456	11			8	21
16													
17										1	0.465	2	1
18													
19													
20													
Total estimated harvest												32	

Appendix B. Continued.

<u>TAG CODE - 10/43/36</u>		<u>RELEASE SITE - Sawtooth Hatchery</u>						<u>NUMBER RELEASED - 21,775</u>							
		<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
<u>River Section</u>		No. Sample Est.			No. Sample Est.			No. Sample Est.			No. Sample Est.				
		<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01															
03/05															
04/06															
07															
08															
09															
10															
11															
12															
13															
14					1	0.149	7	2	0.433	5					
15					4	0.258	16	1	0.298	3					
16					1	0.177	6								
17															
		<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
<u>River Section</u>		No. Sample Est.			No. Sample Est.			No. Sample Est.			No. Sample Est.			No. Est.	
		<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01															
03/05															
04/06															
07															
10															
11															
12															
13															
14														3	12
15								1	0.456	2				6	21
16								1	0.188	5	1	0.133	8	3	19
17															
18											1	0.399	3	1	3
19															
20															

95

Total estimated harvest

55

Appendix B. Continued.

TAG CODE - 10/43/37

RELEASE SITE - Sawtooth Hatchery

NUMBER RELEASED - 20,318

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01														
03/05														
04/06														
07														
10				1	0.024	42								
11														
12														
13														
14														
15				1	0.258	4								
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01														
03/05														
04/06													1	42
07														
10														
11														
12													1	4
13														
14														
15														
16										2	0.399	3	2	3
17														
18														
19														
20														
Total estimated harvest													49	



Appendix B. Continued.

TAG CODE - 10/43/39

RELEASE SITE - Little Salmon R.

NUMBER RELEASED - 19,813

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>						
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Hary</u>	<u>Tags</u>	<u>Rate</u>	<u>Hary</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>				
01																
03/05																
04/06																
07																
10																
11																
12																
13																
14																
15																
16																
17																
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>				
	<u>Tags</u>	<u>Rate</u>	<u>Hary</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>		
01																
03/05																
04/06																
07																
10																
11																
12																
13																
14																
15																
16																
17																
18										1	0.243	4	1	4		
19																
20																
Total estimated harvest																4



Appendix B. Continued.

TAG CODE - 63/07/25

RELEASE SITE -Asotin Creek (Snake R.)

NUMBER RELEASED - 20,061

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Sample Est. Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
01				1	0.110	9						
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Sample Est. Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01													1	9
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														

Total estimated harvest

Appendix B. Continued.

TAG CODE - 63/08/41                      RELEASE SITE -Curl Lake (Tucannon R.)                      NUMBER RELEASED - 19,820

River Section	No. Tags	September		No. Tags	October		No. Tags	November		December	
		Sample Est. Rate	Harv		Sample Est. Rate	Harv.		Sample Est. Rate	Harv	Sample Est. Rate	
01											
03/05				1	0.077	13	1	0.061	16		
04/06											
07											
10											
11											
12											
13											
14											
15											
16											
17											

River Section	No. Tags	January		No. Tags	February		No. Tags	March		April		1992-93	
		Sample Est. Rate	Harv.		Sample Est. Rate	Harv.		Sample Est. Rate	Harv.	Sample Est. Rate	Harv	No. Tags	
01													
03/05												2	29
04/06													
07													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

Total estimated harvest

29

Appendix B. Continued.

TAG CODE - 63/08/42                      RELEASE SITE -Curl Lake (Tucannon R.)                      NUMBER RELEASED - 19,820

River Section	Tags	September		No. Tags	October		No. Tags	November		No. Tags	December	
		Rate	Harv.		Rate	Harv.		Rate	Harv.		Rate	Harv.
01												
03/05				2	0.077	26						
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

River Section	Tags	January		No. Tags	February		No. Tags	March		No. Tags	April		1992-93	
		Rate	Harv.		Rate	Harv.		Rate	Harv.		Rate	Harv.	Tags	Harv.
01														
03/05													2	26
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total estimated harvest

26

102

Appendix B. Continued.

TAG CODE - 63/14/21

RELEASE SITE - Lyons Ferry (Snake R.)

NUMBER RELEASED - 17,914

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01														
03/05				2	0.077	26								
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01														
03/05													2	26
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
Total estimated harvest													26	

Appendix B. Continued.

TAG CODE - 63/14/22

RELEASE SITE - Asotin Creek (Snake R.)

NUMBER RELEASED - 19,750

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>
01							1	0.065	15			
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>	
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>Rate Harv.</u>	<u>Tags</u>	<u>Est. Harv.</u>
01												1	15
03/05													
04/06													
07													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
Total estimated harvest													15



Appendix B. Continued.

TAG CODE - 63/14/47

RELEASE SITE - Tucannon R.

NUMBER RELEASED - 19,858

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01	1	0.316	3				1	0.065	15					
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
							<u>March</u>			<u>April</u>			<u>1992-93</u>	
							<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
													2	10
							<u>January</u>			<u>February</u>				
							<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total estimated harvest

Appendix B. Continued.

TAG CODE - 63/14/49                      RELEASE SITE - Tucannon R.                      NUMBER RELEASED - 19,752

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01				2	0.110	18								
03/05				1	0.077	13								
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01													2	18
03/05													1	13
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
Total estimated harvest														

107

Appendix B. Continued.

TAG CODE - 63/14/52                      RELEASE SITE - Curl Lake (Tucannon R.)                      NUMBER RELEASED - 19,787

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
03/05	1	0.062	16	1	0.077	13						
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

<u>River Section</u>	<u>Tags</u>	<u>January</u>		<u>February</u>		<u>March</u>		<u>April</u>		<u>1992-93</u>	
		<u>Sample Est.</u>	<u>Rate</u>								
01											
03/05											
04/06											
07											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Total estimated harvest

29



Appendix B. Continued.

TAG CODE - 63/14/56

RELEASE SITE - Touchet River @ Dayton

NUMBER RELEASED - 19,923

<u>River Section</u>	<u>September</u>				<u>October</u>			<u>November</u>			<u>December</u>			
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>01</u>	<u>No.</u>	<u>Sample Est.</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
03/05					1	0.110		9						
04/06					2	0.077		26						
07														
10														
11														
12														
13														
14														
15														
16														
17														

<u>River Section</u>	<u>January</u>				<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>01</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01															
03/05														1	9
04/06														2	26
07															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Total estimated harvest

Appendix B. Continued.

TAG CODE - 63/39/08                      RELEASE SITE - Touchet River C Dayton                      NUMBER RELEASED - 19,302

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv</u>	<u>Tags</u>	<u>Rate</u>	<u>Hary</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
01												
03/05				1	0.077	13						
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>	
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Hary</u>	<u>Tags</u>	<u>Rate</u>	<u>Hary</u>	<u>Tags</u>	<u>Hare.</u>	<u>No.</u>	<u>Est.</u>
03/05													
04/06												1	13
07													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

Total estimated harvest 13

111

Appendix B. Continued.

TAG CODE - 63/39/12

RELEASE SITE - Curl Lake (Tucannon R.)

NUMBER RELEASED - 19,672

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01				1	0	110			9					
03/05							1	0	061			16		
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>		<u>1992-93</u>		
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01													1	9
03/05													1	16
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total estimated harvest

Appendix A. Continued.

TAG CODE - 63/40/58

RELEASE SITE - Touchet River @ Dayton

NUMBER RELEASED - 20,011

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>		
01														
03/05				1	0.077	13								
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Hary</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Rate</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Rate</u>	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Rate</u>	<u>Harv. Tags</u>	<u>Est. Harv.</u>
01														
03/05													1	13
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
Total estimated harvest													13	

Appendix A. Continued.

TAG CODE - 63/40/59

RELEASE SITE - Touchet River @ Dayton

NUMBER RELEASED - 20,011

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>
01														
03/05				2	0.077	26								
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
	<u>Tags</u>	<u>No. Sample</u>	<u>Est. Hary</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Est. Harv.</u>
01													2	26
03/05													1	13
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
Total estimated harvest														32

Appendix B. Continued.

TAG CODE - 63/40/60

RELEASE SITE - Touchet River @ Dayton

NUMBER RELEASED - 20,104

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>				
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>		
01														
03/05				1	0.077	13								
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01														
03/05														
04/06	0													
7														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
Total estimated harvest													1	13

115

Appendix B. Continued.

TAG CODE - 63/40/61

RELEASE SITE - Touchet River @ Dayton

NUMBER RELEASED - 20,104

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>
01	1	0.316	32									
03/05				1	0.077	13						
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Sample</u>	<u>Est.</u>	<u>No.</u>	<u>Est.</u>
	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Rate</u>	<u>Harv.</u>	<u>Tags</u>	<u>Harv.</u>
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total estimated harvest

Appendix B. Continued.

TAG CODE - 63/40/62

RELEASE SITE - Touchet River @ Dayton

NUMBER RELEASED - 20,104

<u>River Section</u>	<u>September</u>			<u>October</u>			<u>November</u>			<u>December</u>		
	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>
01	1	0.316	3	1	0.110	9						
03/05				2	0.077	26						
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

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<u>River Section</u>	<u>January</u>			<u>February</u>			<u>March</u>			<u>April</u>			<u>1992-93</u>	
	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Sample Rate</u>	<u>Est. Harv.</u>	<u>No. Tags</u>	<u>Est. Harv.</u>
01													2	12
03/05													2	26
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total estimated harvest

Appendix C. Steelhead groups returning to the Salmon River, 1992-93.

<u>Strain</u>	<u>Age</u>	<u>No. of Fish</u>	<u>Release Site</u>	<u>Hatchery Rearing</u>	<u>Marks</u>
A	I	21,050	Sawtooth Hatchery	HNFH <sup>a</sup>	CWT 10/43/33
A	I	20,129	Sawtooth Hatchery	HNFH	CWT 10/43/34
A	I	12,066	Sawtooth Hatchery	HNFH	CWT 10/43/35
A	I	21,775	Sawtooth Hatchery	HNFH	CWT 10/43/36
A	I	20,318	Sawtooth Hatchery	HNFH	CWT 10/43/37
A	I	19,338	Sawtooth Hatchery	HNFH	CWT 10/43/38
A	I	985	Sawtooth Hatchery	HNFH	PIT
A	I	864,138	Sawtooth Hatchery	HNFH	None
A	I	304,907	Sawtooth Hatchery	HNFH	None
A	I	364,700	Sawtooth Hatchery	MVSH <sup>b</sup>	None
A	I	135,100	Pahsimeroi R.	MVSH	None
A	I	20,550	Pahsimeroi R.	NSPR <sup>c</sup>	CWT 10/43/23
A	I	22,328	Pahsimeroi R.	NSPR	CWT 10/43/27
A	I	22,395	Pahsimeroi R.	NSPR	CWT 10/43/28
A	I	500	Pahsimeroi R.	NSPR	PIT
A	I	409,227	Pahsimeroi R.	NSPR	None
A	I	23,280	Salmon R. @ Ellis Bridge	NSPR	CWT 10/43/29
A	I	22,388	Salmon R. @ Ellis Bridge	NSPR	CWT 10/43/30
A	I	21,826	Salmon R. @ Ellis Bridge	NSPR	CWT 10/43/31
A	I	106,906	Salmon R. @ Ellis Bridge	NSPR	None
A	I	97,800	Salmon R. @ Shoup Bridge	MVSH	None
A	I	48,200	Salmon R. @ Shoup Bridge	NSPR	None
A	I	21,605	Salmon R. @ North Fork	NSPR	CWT 10/43/24
A	I	23,782	Salmon R. @ North Fork	NSPR	CWT 10/43/25
A	I	22,244	Salmon R. @ North Fork	NSPR	CWT 10/43/26
A	I	500	Salmon R. @ North Fork	NSPR	PIT
A	I	90,269	Salmon R. @ North Fork	NSPR	None
A	I	21,809	Little Salmon R.	MVSH	CWT 10/43/17

Appendix C. Continued.

<u>Strain</u>	<u>Age</u>	<u>No. of Fish</u>	<u>Release Site</u>	<u>Hatchery Rearing</u>	<u>Marks</u>
A	I	22,704	Little Salmon R.	MVSH	CWT 10/43/18
A	I	21,484	Little Salmon R.	MVSH	CWT 10/43/19
A	I	1,600	Little Salmon R.	MVSH	PIT
A	I	242,703	Little Salmon R.	MVSH	None
A	I	186,300	Salmon R. @ Hammer Cr.	MVSH	None
Total		3,234,906			
A	II	14,597	Sawtooth Hatchery	HNFH	CWT 10/42/14
A	II	15,482	Sawtooth Hatchery	HNFH	CWT 10/42/15
A	II	15,218	Sawtooth Hatchery	HNFH	CWT 10/42/16
A	II	255,859	Sawtooth Hatchery	HNFH	None
A	II	39,620	Sawtooth Hatchery	MVSH	CWT 10/40/59
A	II	1,159,080	Sawtooth Hatchery	MVSH	None
A	II	14,909	Pahsimeroi R.	NSPR	CWT 10/42/21
A	II	14,339	Pahsimeroi R.	NSPR	CWT 10/42/22
A	II	15,127	Pahsimeroi R.	NSPR	CWT 10/42/23
A	II	457,225	Pahsimeroi R.	NSPR	None
A	II	200,295	Salmon R. @ Ellis Bridge	HNFH	None
A	II	15,528	Salmon R. @ Shoup Bridge	HNFH	CWT 10/42/27
A	II	15,196	Salmon R. @ Shoup Bridge	HNFH	CWT 10/42/28
A	II	15,104	Salmon R. @ Shoup Bridge	HNFH	CWT 10/42/29
A	II	154,418	Salmon R. @ Shoup Bridge	HNFH	None
A	II	199,602	Salmon R. @ North Fork	HNFH	None
A	II	80,465	Little Salmon R.	HNFH	None
A	II	15,501	Little Salmon R.	NSPR	CWT 10/42/24
A	II	15,004	Little Salmon R.	NSPR	CWT 10/42/25
A	II	15,250	Little Salmon R.	NSPR	CWT 10/42/26

Appendix C. Continued.

<u>Strain</u>	<u>Age</u>	<u>No. of Fish</u>	<u>Release Site</u>	<u>Hatchery Rearing</u>	<u>Marks</u>
A	II	179,745	Little Salmon R.	NSPR	None
A	II	229,000	Salmon R. @ Hammer Cr.	NSPR	None
Total		3,136,564			
B	I	20,498	East Fork Salmon R.	MVSH	CWT 10/43/14
B	I	21,017	East Fork Salmon R.	MVSH	CWT 10/43/15
B	I	20,312	East Fork Salmon R.	MVSH	CWT 10/43/16
B	I	750	East Fork Salmon R.	MVSH	PIT
B	I	22,525	East Fork Salmon R.	MVSH	CWT 10/43/20
B	I	22,483	East Fork Salmon R.	MVSH	CWT 10/43/21
B	I	21,375	East Fork Salmon R.	MVSH	CWT 10/43/22
B	I	750	East Fork Salmon R.	MVSH	PIT
B	I	838,090	East Fork Salmon R.	MVSH	None
B	I	540,733	East Fork Salmon R.	HNFH	None
B	I	19,831	Little Salmon R.	HNFH	CWT 10/43/32
B	I	19,813	Little Salmon R.	HNFH	CWT 10/43/39
B	I	18,877	Little Salmon R.	HNFH	CWT 10/43/40
B	I	501	Little Salmon R.	HNFH	PIT
B	I	398,078	Little Salmon R.	HNFH	None
B	I	120,323	Little Salmon R.	HNFH	None
Total		2,085,956			
B	II	64,150	East Fork Salmon R.	HNFH	None
B	II	40,905	East Fork Salmon R.	MVSH	CWT 10/40/58
B	II	14,964	East Fork Salmon R.	MVSH	CWT 10/42/33
B	II	15,157	East Fork Salmon R.	MVSH	CWT 10/42/34
B	II	14,642	East Fork Salmon R.	MVSH	CWT 10/42/35
B	II	15,474	East Fork Salmon R.	MVSH	CWT 10/42/36
B	II	15,971	East Fork Salmon R.	MVSH	CWT 10/42/37
B	II	14,958	East Fork Salmon R.	MVSH	CWT 10/42/38

Appendix C. Continued.

<u>Strain</u>	<u>Age</u>	<u>No. of Fish</u>	<u>Release Site</u>	<u>Hatchery Rearing</u>	<u>Marks</u>
B	II	792,129	East Fork Salmon R.	MVSH	None
B	II	14,841	Little Salmon R.	HNFH	CWT 10/42/30
B	II	14,065	Little Salmon R.	HNFH	CWT 10/42/31
B	II	13,416	Little Salmon R.	HNFH	CWT 10/42/32
B	II	351,030	Little Salmon R.	HNFH	None
Total		1,381,702			
B	III	14,939	East Fork Salmon R.	HNFH	CWT 10/41/32
B	III	14,911	East Fork Salmon R.	HNFH	CWT 10/41/33
B	III	13,719	East Fork Salmon R.	HNFH	CWT 10/41/34
B	III	393,007	East Fork Salmon R.	HNFH	None
B	III	15,624	East Fork Salmon R.	MVSH	CWT 10/41/44
B	III	14,126	East Fork Salmon R.	MVSH	CWT 10/41/45
B	III	14,314	East Fork Salmon R.	MVSH	CWT 10/41/46
B	III	2,930	East Fork Salmon R.	MVSH	PIT
B	III	306,306	East Fork Salmon R.	MVSH	None
Total		789,876			

<sup>a</sup> HNFH = Hagerman National Fish Hatchery.  
<sup>b</sup> MVSH = Magic Valley Steelhead Hatchery.  
<sup>c</sup> NSPR = Niagara Springs Fish Hatchery.

Appendix D. Steelhead groups returning to the Clearwater River, 1992-93.

<u>Strain</u>	<u>Age</u>	<u>No. of Fish</u>	<u>Release Site</u>	<u>Hatchery Rearing</u>	<u>Marks</u>
B	I	210,874	American R.	DNFH <sup>a</sup>	None
B	I	369,190	Clearwater R @ Clear Cr.	DNFH	None
B	I	19,773	Clearwater R.	DNFH	CWT 05/24/24
B	I	20,320	Clearwater R.	DNFH	CWT 05/24/25
B	I	19,858	Clearwater R.	DNFH	CWT 05/24/26
B	I	19,515	Clearwater R.	DNFH	CWT 05/24/27
B	I	20,547	Clearwater R.	DNFH	CWT 05/25/28
B	I	20,499	Clearwater R.	DNFH	CWT 05/24/29
B	I	20,293	Clearwater R.	DNFH	CWT 05/24/30
B	I	1,051,698	Clearwater R.	DNFH	None
B	I	201,847	Eldorado Cr. (Lolo Cr.)	DNFH	None
B	I	213,827	Red R.	DNFH	None
B	I	467,757	South Fork Clearwater R.	DNFH	None
Total		2,655,998			
B	II	209,847	American R.	DNFH	None
B	II	374,040	Clearwater R.@ Clear Cr.	DNFH	None
B	II	214,633	Crooked R.	DNFH	None
B	II	199,700	Eldorado Cr. (Lolo Cr.)	DNFH	None
B	II	20,016	North Fork Clearwater R.	DNFH	CWT 05/20/44
B	II	19,797	North Fork Clearwater R.	DNFH	CWT 05/20/45
B	II	20,279	North Fork Clearwater R.	DNFH	CWT 05/20/46
B	II	21,290	North Fork Clearwater R.	DNFH	CWT 05/20/47
B	II	20,888	North Fork Clearwater R.	DNFH	CWT 05/20/48
B	II	21,387	North Fork Clearwater R.	DNFH	CWT 05/20/49
B	II	1,043,007	Clearwater R.	DNFH	None
B	II	210,836	South Fork Clearwater R. @ Newsome Cr.	DNFH	None
B	II	287,830	South Fork Clearwater R.	DNFH	None
Total		2,663,550			

Appendix D. Continued.

<u>Strain</u>	<u>Age</u>	<u>No. of Fish</u>	<u>Release Site</u>	<u>Hatchery Rearing</u>	<u>Marks</u>
B	III	15,294	Clearwater R.@ Clear Cr.	HNFH <sup>b</sup>	CWT 10/41/35
B	III	15,482	Clearwater R.@ Clear Cr.	HNFH	CWT 10/41/36
B	III	14,375	Clearwater R.@ Clear Cr.	HNFH	CWT 10/41/37
B	III	3,996	Clearwater R.@ Clear Cr.	HNFH	None
B	III	208,201	Clearwater R.@ Clear Cr.	DNFH	None
B	III	109,898	Crooked R.	DNFH	None
B	III	109,480	Eldorado Cr. (Lolo Cr.)	DNFH	None
B	III	16,912	North Fork Clearwater R.	DNFH	CWT 05/18/37
B	III	17,789	North Fork Clearwater R.	DNFH	CWT 05/18/38
B	III	20,339	North Fork Clearwater R.	DNFH	CWT 05/19/45
B	III	19,894	North Fork Clearwater R.	DNFH	CWT 05/19/46
B	III	18,869	North Fork Clearwater R.	DNFH	CWT 05/19/47
B	III	20,603	North Fork Clearwater R.	DNFH	CWT 05/20/41
B	III	20,782	North Fork Clearwater R.	DNFH	CWT 05/20/42
B	III	20,497	North Fork Clearwater R.	DNFH	CWT 05/20/43
B	III	918,215	North Fork Clearwater R.	DNFH	None
B	III	103,273	South Fork Clearwater R. @ Newsome Cr.	HNFH	None
B	III	247,076	South Fork Clearwater R.	HNFH	None
Total		1,797,702			

<sup>a</sup> DNFH = Dworshak National Fish Hatchery.

<sup>b</sup> HNFH = Hagerman National Fish Hatchery.

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Appendix E. Miscellaneous coded wire tag steelhead groups that were recovered by Idaho anglers, 1992-93.

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A	I	24,282	Imnaha R. @ Little Sheep Cr.	ODFW <sup>a</sup>	CWT 07/53/57
A	I	28,815	Wallowa R. @ Spring Cr.	ODFW	CWT 07/54/43
A	I	28,738	Wallowa R. @ Spring Cr.	ODFW	CWT 07/54/44
A	I	19,971	Tucannon R.	WDFW <sup>b</sup>	CWT 63/14/44
A	I	19,860	Tucannon R.	WDFW	CWT 63/14/47
A	I	19,756	Tucannon R.	WDFW	CWT 63/14/49
A	I	19,791	Curl Lake (Tucannon R.)	WDFW	CWT 63/14/52
A	I	20,155	Curl Lake (Tucannon R.)	WDFW	CWT 63/14/55
A	I	19,925	Touchet R. @ Dayton	WDFW	CWT 63/14/56
A	I	20,132	Touchet R. @ Dayton	WDFW	CWT 63/40/58
A	I	20,024	Touchet R. @ Dayton	WDFW	CWT 63/40/59
A	I	20,104	Touchet R. @ Dayton	WDFW	CWT 63/40/60
A	I	20,024	Touchet R. @ Dayton	WDFW	CWT 63/40/61
A	I	20,108	Touchet R. @ Dayton	WDFW	CWT 63/40/62
A	II	25,961	Wallowa R. @ Spring Cr.	ODFW	CWT 07/51/18
A	II	26,347	Wallowa R. @ Spring Cr.	ODFW	CWT 07/51/20
A	II	26,473	Wallowa R. @ Spring Cr.	ODFW	CWT 07/51/21
A	II	26,771	Wallowa R. @ Spring Cr.	ODFW	CWT 07/51/22
A	II	20,061	Asotin Cr. (Snake R.)	WDFW	CWT 63/07/25
A	II	19,820	Curl Lake (Tucannon R.)	WDFW	CWT 63/08/41
A	II	20,597	Lyons Ferry (Snake R.)	WDFW	CWT 63/08/42
A	II	17,914	Lyons Ferry (Snake R.)	WDFW	CWT 63/14/21
A	II	19,750	Asotin Cr. (Snake R.)	WDFW	CWT 63/14/22
A	II	19,928	Touchet R. @ Dayton	WDFW	CWT 63/39/08
A	II	19,672	Curl Lake (Tucannon R.)	WDFW	CWT 63/39/12

<sup>a</sup> ODFW = Oregon Department of Fish and Wildlife.

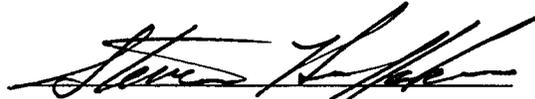
<sup>b</sup> WDFW = Washington Department of Fish and Wildlife.

**Submitted by:**

Kent Ball  
Senior Fishery Research Biologist

**Approved by:**

IDAHO DEPARTMENT OF FISH AND GAME

A handwritten signature in black ink, appearing to read "Steven M. Huffaker", written over a horizontal line.

Steven M. Huffaker, Chief  
Bureau of Fisheries

A handwritten signature in black ink, appearing to read "Bill Hutchinson", written over a horizontal line.

Bill Hutchinson  
State Fisheries Manager