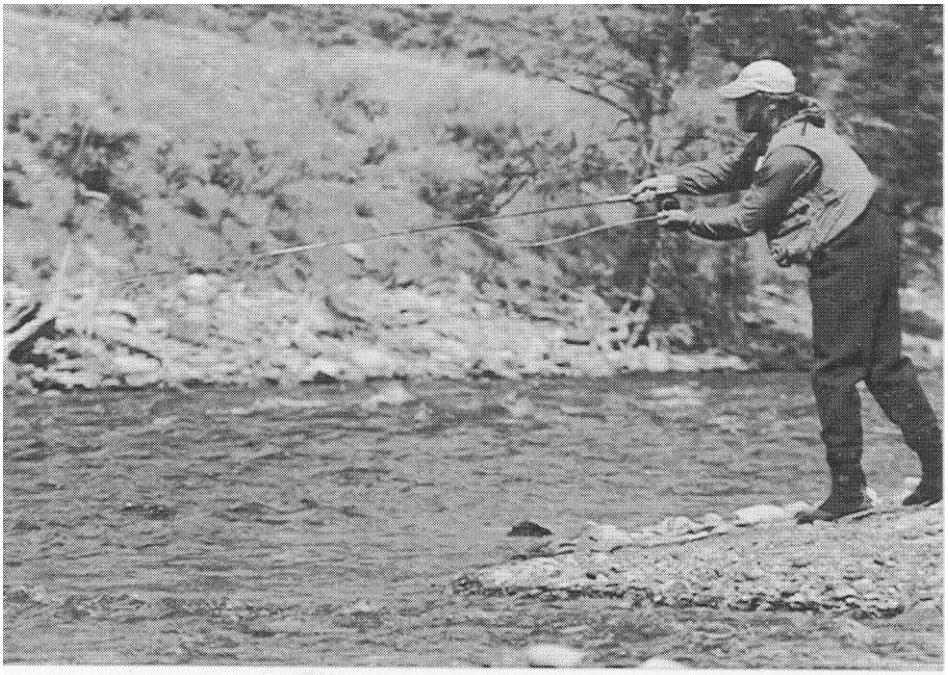
LOWER SNAKE RIVER
COMPENSATION PLAN
Hatchery Program

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

October 1, 1995 to December 31,1996



By:

Kent Ball, Senior Fishery Research Biologist

IDFG 99-29
September 1999

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Kent Ball
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Idaho Department of Fish and Game
600 South Walnut Street
P.O. Box 25
Boise, ID 83707

To

U.S. Fish and Wildlife Service
Lower Snake River Compensation Plan Office
4696 Overland Road, Room 560
Boise, ID 83702
Cooperative Agreement
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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 1995 and spring 1996 steelhead seasons, 13,696 anglers were interviewed and 2,279 adult steelhead examined, which was 11.3% of the total steelhead harvest. We retrieved 215 CWTs from 70 different mark groups. The total estimated harvest for the 1995-96 season was 20,161 hatchery steelhead, of which an estimated 5,830 (29%) were produced by the Lower Snake River Compensation Plan (LSRCP). An additional 2,485 LSRCP-reared fish returned to hatchery racks or to off-site release locations.

The estimated total return of A-strain adults from 729,553 smolts released at Sawtooth Hatchery in 1993 was 3,606 (0.49%), and 81% of the return was harvested. An estimated 248 (0.04%) B-strain adults returned after two ocean-years from 684,500 smolts released into the East Fork Salmon River in 1993; this group was harvested at 91%. Returns from the 1992 release of 1,343,535 smolts into the East Fork Salmon River totaled an estimated 412 adults, of which 90% were harvested.

Progeny of East Fork parents returned 1.6 times as many adults to the Idaho fishery and 5.8 times as many to the hatchery rack than progeny of Dworshak parents when released into the East Fork Salmon River.

Author:
Kent Ball
Senior Fishery Research Biologist

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, steelhead raised by Idaho Power Company (IPC) are also released in the Salmon River drainage. Although the harvest contribution of these fish is not included in this report, they are incorporated in the Appendix B tables. For some release groups, coded wire tagged (CWTed) 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 and naturally produced 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 that returning adults could be selectively harvested.

During the fall 1995 and spring 1996 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 coded wire tags (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 spring and summer chinook salmon has been limited to hatchery stocks. Harvest is allowed only when returning adult numbers exceed hatchery escapement needs. The 1996 chinook salmon return to Idaho hatchery weirs was the third lowest count for the last 13 years. Consequently, no harvest was allowed for chinook salmon produced by LSRCP facilities in Idaho, and this report pertains only to steelhead.

Table 1. Steelhead season dates, bag limits and special restrictions for the Clearwater, Salmon and Snake rivers, 1995-96.

River and Sections	Fall Season Dates	Bag Limits[a]
Snake River (01)	Sept 1 - Dec 31	2, 4, 10
Clearwater River (03)[b,c]		
Clearwater River (03 - 07)[c,d]	Oct 15 - Dec 31	
Salmon River (10 - 20)	Sept 1 - Dec 31	

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

[a]Bag limits denotes daily, possession, and season totals.
[b]Section 03 includes only that portion from its mouth upstream to Memorial Bridge of Highway 12 at Lewiston.
[c]Fall season closed to consumptive harvest Oct. 15 through Dec. 31, 1995; catch and release fishery only.
[d]Section 03 includes that portion from Memorial Bridge upstream to Clear Creek.

OBJECTIVES

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

Determine adult returns of LSRCP steelhead to Idaho hatcheries and off-site release areas.

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), Oxbow (section 27) and Boise River (section 28). These three sections are excluded because no steelhead produced by the LSRCP are released 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 in the Boise River and Oxbow Reservoir for harvest through the IPC mitigation program.

METHODS

Creel Survey

Angler interviews were conducted at check stations, from jet boats, and from 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, boat fishermen took a major portion of the fall and winter harvest, 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.

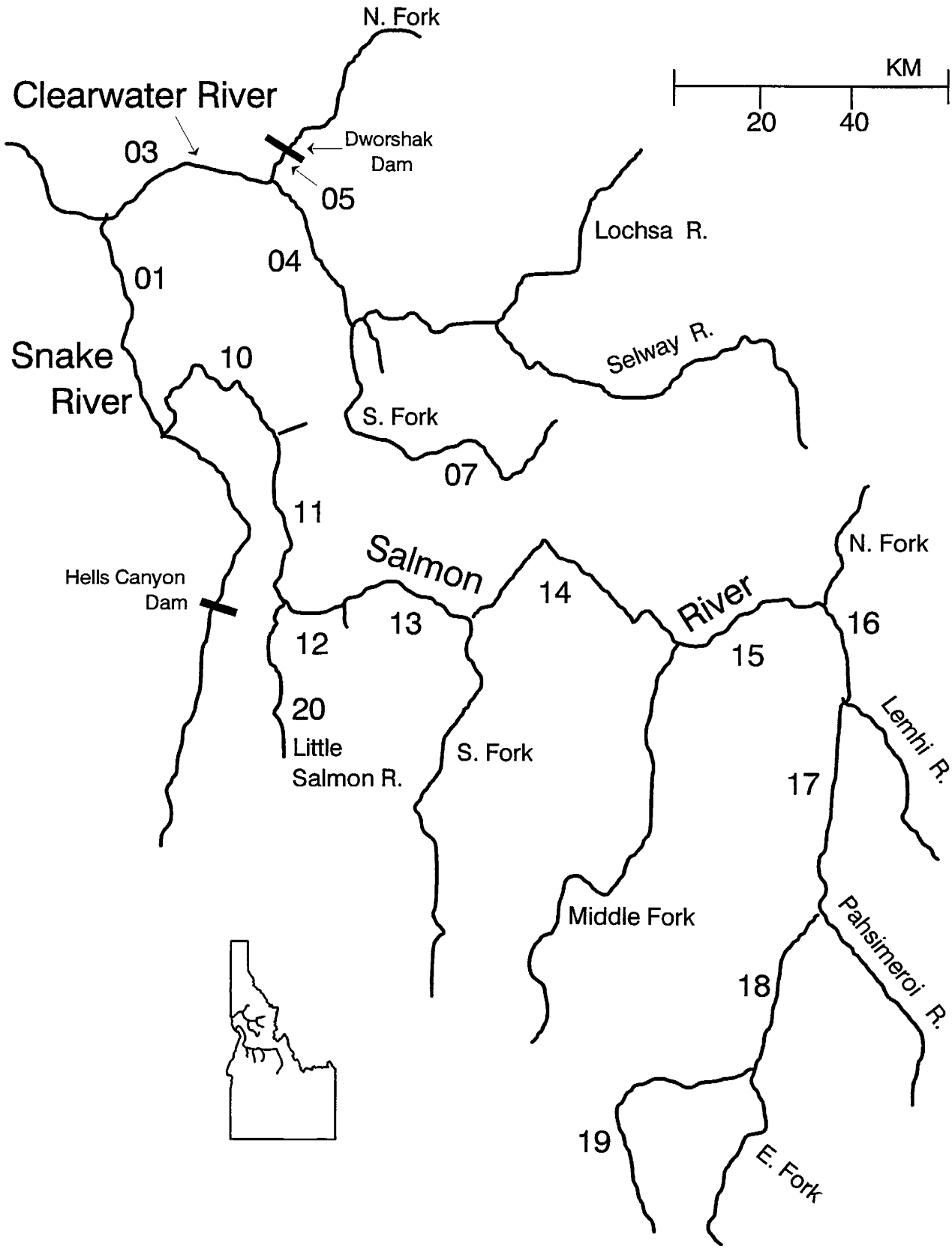

Figure 1. There are three major river systems in Idaho where steelhead are harvested: the Snake, Clearwater, and Salmon Rivers.

Table 2. River location codes for Idaho's anadromous fisheries.

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

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 sections 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. Snouts were not excised from CWTed fish 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 Fish and Wildlife personnel and at boat ramps on alternating weekends for ten weekends during the fall 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 six weeks in the fall and eight weeks in the spring.

Salmon River

Section 10 - by roving vehicle two weekend days for 8 weeks in the fall and four weeks in the spring season (upper roaded portion only).

Section 11 - by roving vehicle two weekend days for 8 weeks in the fall and four weeks in the spring season.

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

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

Section 19 - by roving vehicle for five 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 and naturally produced 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 months 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 in-state harvest estimates and hatchery rack returns. Out-of-state harvest was not calculated. In this report, we define exploitation rates as 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 fish that spawned in tributaries or in the river. Therefore, estimated exploitation rates should be considered maximum rates.

RESULTS

Creel Survey

During the fall 1995 and spring 1996 seasons, we interviewed 13,696 anglers that had harvested 2,473 hatchery fish (Tables 3-17). We physically examined 2,279 hatchery fish for marks, which represented 11.3% of the total steelhead harvest (Table 18). We removed 273 snouts for CWT retrieval from fish with clipped left ventral fins.

The composition of the hatchery steelhead harvest by river section and season was compiled in Table 19. All river sections were included except 02, 27, and 28 (Table 2). Total harvest for the river sections listed was 20,161 steelhead.

From anglers' creels, we recovered 215 CWTs from 70 different mark groups. The overall proportion of tags recovered from the number of fish checked for marks was 9.4% (Table 18). The number of 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 70 mark groups that yielded CWTs in the fishery, 51 were from releases in Idaho (Appendices B, C, and D). There were eight additional CWTs from two tag groups, 10/44/02 and 10/44/24 that returned to hatchery racks, but were not recovered from the fishery.

Table 3. Steelhead fishery interview data (unexpanded) from lower Snake River (01), September - November 1995.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
September	72	236	5	0	0	0	5	47	100
October	298	1,325	41	0	7	12	60	22	80
November	436	1,780	65	0	16	20	101	18	80
Total	806	3,341	111	0	23	32	166		
Average								20	81

Table 4. Steelhead fishery interview data (unexpanded) from lower Clearwater River (03) and North Fork Clearwater River (05), September 1995 - March 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
September	109	450	8	0	6	1	15	30	93
October[a]	293	1,038	12	0	68	19	99	10	81
November	50	136	0	0	21	0	21	7	100
December	104	271	0	0	72	3	75	4	96
Fall total	556	1,895	20	0	167	23	210		
Average								10	89
January	584	1,894	92	0	80	7	179	11	96
February	253	767	20	0	4	0	24	32	100
March	121	359	6	0	0	1	7	51	86
Spring total	958	3,020	118	0	84	8	210		
Average								14	96
Total	1,514	4,915	138	0	251	31	420		
Average								12	93

[a] Season closed to consumptive harvest beginning in October; catch and release fishery only Oct. 15 to Dec. 31, 1995.

Table 5. Steelhead fishery interview data (unexpanded) from upper Clearwater River and Middle Fork Clearwater rivers (04), February - April 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
February	21	82	3	0	0	1	4	21	75
March	171	538	20	0	13	11	44	12	75
April	2	4	0	0	0	0	0	--	--
Total	194	624	23	0	13	12	48		
Average								13	75

Table 6. Steelhead fishery interview data (unexpanded) from South Fork Clearwater River (07), February - April 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
February	24	61	0	0	1	1	2	31	50
March	403	1,246	43	0	57	3	103	12	97
April	26	90	2	0	5	1	8	11	88
Total	453	1,397	45	0	63	5	113		
Average								12	96

Table 7. Steelhead fishery interview data (unexpanded) from Salmon River Section 10, October - November 1995.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	68	280	4	0	0	1	5	56	80
November	5	12	0	0	0	0	0	--	--
Total	73	292	4	0	0	1	5		
Average								58	80

Table 8. Steelhead fishery interview data (unexpanded) from Salmon River Section 11, October 1995 - March 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	296	1,043	28	0	15	15	58	18	74
November	265	861	54	0	17	20	91	9	78
Fall total	561	1,904	82	0	32	35	149		
Average								13	77
February	55	181	6	0	3	1	10	18	90
March	155	489	11	0	2	1	14	35	93
Spring total	210	670	17	0	5	2	24		
Average								28	92
Total	771	2,574	99	0	37	37	173		
Average								15	79

Table 9. Steelhead fishery interview data (unexpanded) from Salmon River Section 12, October 1995 - March 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	620	3,018	95	0	28	21	144	21	85
November	545	2,513	87	0	12	24	123	20	80
Fall total	1,165	5,531	182	0	40	45	267		
Average								21	83
February	128	432	5	0	2	1	8	54	88
March	539	2,217	46	0	18	15	79	28	81
Spring total	667	2,649	51	0	20	16	87		
Average								30	82
Total	1,832	8,180	233	0	60	61	354		
Average								23	83

Table 10. Steelhead fishery interview data (unexpanded) from Salmon River Section 13, October 1995 - March 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	57	321	16	0	2	9	27	12	67
November	74	476	31	0	2	17	50	10	66
Fall total	131	797	47	0	4	26	77		
Average								10	66
March	42	262	10	0	2	11	23	11	52
Spring total	42	262	10	0	2	11	23		
Average								11	52
Total	173	1,059	57	0	6	37	100		
Average								11	63

Table 11. Steelhead fishery interview data (unexpanded) from Salmon River Section 14, October 1995 - March 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	227	3,733	56	0	20	64	140	27	54
November	143	2,629	65	0	11	17	93	28	82
Fall total	370	6,362	121	0	31	81	233		
Average								27	65
March	110	1,356	23	0	2	9	34	40	74
Spring total	110	1,356	23	0	2	9	34		
Average								40	74
Total	480	7,718	144	0	33	90	267		
Average								29	66

Table 12. Steelhead fishery interview data (unexpanded) from Salmon River Section 15, October 1995 - April 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	718	7,262	176	0	46	46	268	27	83
November	527	5,749	134	0	80	33	247	23	87
Fall total	1,245	13,011	310	0	126	79	515		
Average								25	85
March	1,064	9,717	338	0	340	40	718	14	94
April	21	200	15	0	11	1	27	7	96
Spring total	1,085	9,917	353	0	351	41	745		
Average								13	94
Total	2,330	22,928	663	0	477	120	1,260		
Average								18	90

Table 13. Steelhead fishery interview data (unexpanded) from Salmon River Section 16, October 1995 - March 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	39	156	7	0	2	0	9	17	100
November	142	583	15	0	2	4	21	28	81
Fall total	181	739	22	0	4	4	30		
Average								25	87
March	363	1,522	56	0	27	12	95	16	87
April	139	672	38	0	34	2	74	9	97
Spring total	502	2,194	94	0	61	14	169		
Average								13	92
Total	683	2,933	116	0	65	18	199		
Average								15	91

Table 14. Steelhead fishery interview data (unexpanded) from Salmon River Section 17, November 1995 - April 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
November	10	16	0	0	0	0	0	--	--
Fall total	10	16	0	0	0	0	0		
Average								--	--
March	1,329	7,237	357	0	278	16	651	11	98
April	397	2,809	101	0	54	4	159	18	97
Spring total	1,726	10,046	458	0	332	20	810		
Average								12	98
Total	1,736	10,062	458	0	332	20	810		
Average								12	98

Table 15. Steelhead fishery interview data (unexpanded) from Salmon River Section 18, March - April 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
March	415	2,303	62	0	55	5	122	19	96
April	311	1,888	45	0	80	4	129	15	97
Total	726	4,191	107	0	135	9	251		
Average								17	96

Table 16. Steelhead fishery interview data (unexpanded) from Salmon River Section 19, March - April 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
March	126	409	12	0	13	4	29	14	86
April	468	1,802	27	0	40	1	68	27	99
Total	594	2,211	39	0	53	5	97		
Average								23	95

Table 17. Steelhead fishery interview data (unexpanded) from Salmon River Section 20, October 1995 - April 1996.

Dates	No. Anglers	Total Hours Fished	Steelhead Kept		Steelhead Released		Hours/ Total	Percent Fish	Hatchery
			Hatchery	Wild	Hatchery	Wild			
October	11	23	0	0	0	0	0	--	--
November	31	71	1	0	2	0	3	24	100
Fall total	42	94	1	0	2	0	3		
Average								31	100
February	42	105	1	0	0	2	3	35	33
March	831	2,933	151	0	98	12	261	11	95
April	416	1,481	83	0	130	16	229	6	93
Spring total	1,289	4,519	235	0	228	30	493		
Average								9	94
Total	1,331	4,613	236	0	230	30	496		
Average								9	94

Table 18. Proportion of estimated harvest by river section that was examined for marks, 1995-96.

River Section	No. Fish Checked	Estimated Harvest[a]	Sample Rate (%)
01	110	2,921	3.8
03 & 05	124	1,718	7.2
04 & 06	23	317	7.3
07	45	284	15.8
10	4	1,454	0.3
11	82	2,094	3.9
12	229	1,101	20.8
13	55	246	22.4
14	138	810	17.0
15	621	3,834	16.3
16	100	1,125	8.9
17	412	1,601	25.7
18	100	479	20.9
19	38	426	8.9
20	198	1,752	11.3
Total	2,279	20,161	
Average			11.3

[a] Statewide harvest survey data from Thomas J. McArthur, IDFG, (unpublished).

Table 19. Estimated number of hatchery steelhead harvested in the lower Snake, Clearwater and Salmon rivers during the 1995-96 seasons.

River and Section	Fall Season - 1995 Estimated Harvest[a]	Fall Season - 1995 Percent Hatchery	Fall Season - 1995 No. Hatchery Fish	Spring Season - 1996 Estimated Harvest[a]	Spring Season - 1996 Percent Hatchery	Spring Season - 1996 No. Hatchery Fish	Total Harvest No. Hatchery Fish
Snake R.							
012,800	100	2,800	121	--	121[b]	2,921	
Clearwater R.							
03 & 05	1,182	100	1,182	536	100	536	1,718
04	23	--	23[b]	294	100	294	317
07	11	--	11[b]	273	100	273	284
Clwtr. Total	1,217		1,217	1,102		1,102	2,319
Average		100			100		
Salmon River							
10	1,171	100	1,171	283	--	283[b]	1,454
11	1,194	100	1,194	900	100	900	2,094
12	666	100	666	435	100	435	1,101
13	195	100	195	51	100	51	246
14	689	100	689	121	100	121	810
15	2,135	100	2,135	1,699	100	1,699	3,834
16	367	100	367	758	100	758	1,125
17	115	100	115	1,486	100	1,486	1,601
18	34	--	34[b]	445	100	445	479
19	11	--	11[b]	415	100	415	426
20	195	100	195	1,557	100	1,557	1,752
Salmon Total	6,772		6,772	8,149		8,149	14,922
Average		100			100		
1995-96 Total	10,789		10,789	9,372		9,372	20,161

[a] Statewide harvest survey data from Thomas J. McArthur, IDFG, (unpublished).
[b] Assumed to be of hatchery origin.

Coded wire tags were also recovered from four Oregon, two Washington, and 13 wire groups tagged by National Marine Fisheries Service (NMFS) personnel (Appendices B and E). Two Oregon tag groups were from releases on the Imnaha River and two were from releases on the Wallowa River. The two Washington tag groups were from releases in the Tucannon and Walla Walla rivers. The 13 NMFS-tagged groups were from steelhead smolts tagged at Lower Granite Dam during their downstream migration. These smolts were transported downriver from Lower Granite Dam to release sites at river miles 18.2 and 141 on the Columbia River below Bonneville Dam.

Estimates of total returns in 1995-96 of LSRCP-reared fish were summarized in Table 20. Adult returns from the LSRCP program, verified by CWT recoveries, were from releases in the Salmon and Clearwater river drainages. However, CWTs from LSCRP releases were also recovered from the fishery in the Snake River. The total estimated return of adult steelhead to Idaho in 1995-96 from the LSRCP program, which includes harvest by Idaho anglers, hatchery returns, and off-site escapement, was 8,315 fish. The LSRCP contribution to Idaho's hatchery steelhead harvest (except sections 02, 27, and 28) in 1995-96 was 5,830. This number does not include an estimated harvest of 140 LSRCP-reared fish from Oregon and Washington that were caught by Idaho anglers (Appendix B). Additionally, other LSRCP-reared fish released in Idaho, but caught by Oregon and Washington anglers, were not included in this report.

The maximum exploitation rate for adult steelhead returning to Sawtooth Hatchery in 1995-96 was 81-82%. East Fork Salmon River returns after two ocean-years were exploited at a maximum rate of 91%. Off-site releases in 1993 at Challis, Ellis Bridge, Lemhi, and North Fork were estimated to be exploited at 56-78%. In the Little Salmon River, exploitation was not quantified, but was estimated to be 50% (Table 20).

All CWT recoveries from steelhead released from hatchery racks in the upper Salmon River were recovered downstream of their release sites.

DISCUSSION

Harvest of Sawtooth Hatchery Releases

Returns of steelhead released from Sawtooth Hatchery in 1993 are now complete. From the release of 729,553 smolts, we estimated a return of 2,263 adults after one ocean-year and 1,343 after two ocean-years. The total return of 3,606 adults was 0.49% of the number released, and a maximum exploitation rate of 81% of the adult returns were harvested (Ball 1997; Table 20).

Table 20. Summary of 1995-96 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: Harvest	Hatchery Return[a]	Total
1994	A-I	60,772	Sawtooth Hatchery	HNFH[b]	CWT 10/46/28[c] 3	12	15	
1994	A-I	60,929	Sawtooth Hatchery	HNFH	CWT 10/46/29[c] 45	9	54	
1994	A-I	651,433	Sawtooth Hatchery	HNFH	None 1,584	336	1,920	
1994	A-I	61,817	Salmon R. @ Bruno s Br.	HNFH	CWT 10/46/26[c]	92	7	99
1994	A-I	120,266	Salmon R. @ Bruno s Br.	HNFH	None	179	14	193
1994	A-I	21,294	Pahsimeroi Hatchery	MVFH[d]	CWT 10/47/25 30	28	58	
1994	A-I	21,660	Pahsimeroi Hatchery	MVFH	CWT 10/47/26 36	28	64	
1994	A-I	441,486	Pahsimeroi Hatchery	MVFH	None[c]	855	728	1,583
1994	A-I	21,155	Salmon R. @ Lemhi R.	HNFH	CWT 10/46/03[c]	30	15	45
1994	A-I	214,633	Salmon R. @ Lemhi R.	HNFH	None 304	153	457	
1994	A-I	20,529	Little Salmon R.	HNFH	CWT 10/46/01[c]	3	3	6
1994	A-I	20,365	Little Salmon R.	HNFH	CWT 10/46/02[c]	2	2	4
1994	A-I	287,269	Little Salmon R.	HNFH	None 35	35	70	
1994	A-I	20,958	Little Salmon R.	MVFH	CWT 10/47/23 0	0	0	
1994	A-I	21,530	Little Salmon R.	MVFH	CWT 10/47/24 8	8	16	
1994	A-I	425,062	Little Salmon R.	MVFH	None[c]	80	80	160
	Subtotal	2,471,158				3,286	1,458	4,744
1993	A-II	19,196	Sawtooth Hatchery	HNFH	CWT 10/49/49[c]	12	0	12
1993	A-II	18,168	Sawtooth Hatchery	HNFH	CWT 10/49/50[c]	16	3	19
1993	A-II	17,818	Sawtooth Hatchery	HNFH	CWT 10/49/51[c]	13	3	16
1993	A-II	8,161	Sawtooth Hatchery	HNFH	CWT 10/50/10 8	2	10	
1993	A-II	20,262	Sawtooth Hatchery	HNFH	CWT 10/50/20 36	7	43	
1993	A-II	18,726	Sawtooth Hatchery	HNFH	CWT 10/50/21 23	4	27	
1993	A-II	18,235	Sawtooth Hatchery	HNFH	CWT 10/50/22 11	7	18	
1993	A-II	4,563	Sawtooth Hatchery	HNFH	CWT 10/50/34 4	0	4	
1993	A-II	604,391	Sawtooth Hatchery	HNFH	None[c]	985	209	1,194
1993	A-II	19,924	Salmon R. @ Challis	MVFH	CWT 10/50/11 19	10	29	
1993	A-II	240,676	Salmon R. @ Challis	MVFH	None[c]	234	116	350
1993	A-II	19,778	Salmon R. @ Ellis Br.	MVFH	CWT 10/50/14 51	2	53	

Table 20. Continued.

Release Year	Strain and Ocean-Age	No. of Fish Released	Release Site	Hatchery Rearing	Marks	Estimated Number of Fish: Harvest	Hatchery Return[a]	Total
1993	A-II	20,361	Salmon R. @ Ellis Br.	MVFH	CWT 10/50/16 4	3	7	
1993	A-II	226,161	Salmon R. @ Ellis Br.	MVFH	None[c]	45	23	68
1993	A-II	22,106	Salmon R. @ Lemhi R.	MVFH	CWT 10/50/12 4	2	6	
1993	A-II	19,692	Salmon R. @ Lemhi R.	MVFH	CWT 10/50/13 4	2	6	
1993	A-II	21,390	Salmon R. @ Lemhi R.	MVFH	CWT 10/50/15 13	6	19	
1993	A-II	135,312	Salmon R. @ Lemhi R.	MVFH	None[c]	46	43	89
1993	A-II	65,637	Salmon R. @ N. Fork	MVFH	CWT 10/49/24 39	19	58	
1993	A-II	124,863	Salmon R. @ N. Fork	MVFH	None[c]	74	37	111
1993	A-II	20,045	Little Salmon R.	HNFH	CWT 10/50/17 5	5	10	
1993	A-II	10,245	Little Salmon R.	HNFH	CWT 10/50/18 0	0	0	
1993	A-II	19,621	Little Salmon R.	HNFH	CWT 10/50/19 14	14	28	
1993	A-II	497,405	Little Salmon R.	HNFH	None 189	189	378	
1993	A-II	17,142	Salmon R. @ Hammer Cr.	HNFH	CWT 10/49/46	0	0	0
1993	A-II	19,655	Salmon R. @ Hammer Cr.	HNFH	CWT 10/49/47	4	4	8
1993	A-II	16,662	Salmon R. @ Hammer Cr.	HNFH	CWT 10/49/48	10	10	20
1993	A-II	157,547	Salmon R. @ Hammer Cr.	HNFH	None	41	41	82
	Subtotal	2,403,742				1,904	761	2,665
1994	B-I	62,510	Slate Cr.	MVFH	CWT 10/49/25	11	--	11
1994	B-I	148,845	Slate Cr.	MVFH	None[C]	26	--	26
1994	B-I	21,296	E. Fork Salmon R.	MVFH	CWT 10/47/10[f] 0	0	0	
1994	B-I	20,648	E. Fork Salmon R.	MVFH	CWT 10/47/11[e]	8	4	12
1994	B-I	21,337	E. Fork Salmon R.	MVFH	CWT 10/47/12[e]	8	4	12
1994	B-I	21,369	E. Fork Salmon R.	MVFH	CWT 10/47/13[e]	2	4	6
1994	B-I	20,443	E. Fork Salmon R.	MVFH	CWT 10/47/21[f] 0	0	0	
1994	B-I	20,974	E. Fork Salmon R.	MVFH	CWT 10/47/22[f] 0	0	0	
1994	B-I	96,646	E. Fork Salmon R.	MVFH	None[c,e]	86	21	107
1994	B-I	294,427	E. Fork Salmon R.	MVFH	None[c,f]	0	0	0
1994	B-I	20,891	Little Salmon R.	MVFH	CWT 10/47/14 0	0	0	
1994	B-I	21,243	Little Salmon R.	MVFH	CWT 10/47/15 0	0	0	
1994	B-I	21,582	Little Salmon R.	MVFH	CWT 10/47/16	0	0	0

Table 20. Continued.

Release Year	Strain and Ocean-Age	No. of Fish Released	Release Site	Hatchery Rearing	Marks	Estimated Number of Fish: Harvest	Hatchery Return[a]	Total
1994	B-I	175,009	Little Salmon R.	MVFH	None[c]	0	0	0
1994	B-I	21,507	Clearwater R. @ Clear Cr.	CAFH	CWT 10/47/29	0	0	0
1994	B-I	21,562	Clearwater R. @ Clear Cr.	CAFH	CWT 10/47/30	0	0	0
1994	B-I	20,827	Clearwater R. @ Clear Cr.	CAFH	CWT 10/47/33[c]	0	0	0
1994	B-I	89,964	Clearwater R. @ Clear Cr.	CAFH	None[c]	0	0	0
1994	B-I	21,779	Crooked R.	CAFH	CWT 10/47/32[c]	0	0	0
1994	B-I	20,883	Crooked R.	CAFH	CWT 10/47/37[c]	0	0	0
1994	B-I	61,788	Crooked R.	CAFH	None	0	0	0
1994	B-I	71,566	Crooked R.	CAFH	RV Clip[c,h]	0	0	0
1994	B-I	50,027	S. Fk. Red R.	CAFH	None[c,h]	0	0	0
1994	B-I	20,424	S. Fk. Clearwater R.	CAFH	CWT 10/47/31 0	0	0	
1994	B-I	21,086	S. Fk. Clearwater R.	CAFH	CWT 10/47/34[c]	0	0	0
1994	B-I	22,137	S. Fk. Clearwater R.	CAFH	CWT 10/47/35[c]	0	0	0
1994	B-I	21,430	S. Fk. Clearwater R.	CAFH	CWT 10/47/36[c]	0	0	0
1994	B-I	307,988	S. Fk. Clearwater R.	CAFH	None[c]	0	0	0
	Subtotal	1,740,188				141	33	174
1993	B-II	187,100	Slate Cr.	MVFH	None	155	24	179
1993	B-II	16,024	E. Fork Salmon R.	MVFH	CWT 10/50/05 2	0	2	
1993	B-II	18,924	E. Fork Salmon R.	MVFH	CWT 10/50/07 10	0	10	
1993	B-II	19,128	E. Fork Salmon R.	MVFH	CWT 10/50/09 0	0	0	
1993	B-II	87,272	E. Fork Salmon R.	MVFH	None[c,e]	90	15	105
1993	B-II	356,052	E. Fork Salmon R.	MVFH	None[c,f]	79	0	79
1993	B-II	19,358	Little Salmon R.	MVFH	CWT 10/50/04 2	2	4	
1993	B-II	19,932	Little Salmon R.	MVFH	CWT 10/50/06 15	15	30	
1993	B-II	19,909	Little Salmon R.	MVFH	CWT 10/50/08 2	2	4	
1993	B-II	266,101	Little Salmon R.	MVFH	None[c]	85	85	170

Table 20. Continued.

Release Year	Strain and Ocean-Age	No. of Fish Released	Release Site	Hatchery Rearing	Marks	Estimated Number of Fish: Harvest	Hatchery Return[a]	Total
1993	B-II	25,673	S. Fk. Clearwater R.	CAFH[g]	CWT 10/29/47 0	1	1	
1993	B-II	22,003	S. Fk. Clearwater R.	CAFH	CWT 10/49/37[c] 0	0	0	
1993	B-II	21,340	S. Fk. Clearwater R.	CAFH	CWT 10/49/38[c] 0	1	1	
1993	B-II	257,284	S. Fk. Clearwater R.	CAFH	None0 0	0		
	Subtotal	1,336,100				440	145	585
1992	B-III	21,771	East Fork Salmon R.	MVFH	CWT 10/44/18[f]	0	0	0
1992	B-III	21,568	East Fork Salmon R.	MVFH	CWT 10/44/19[f]	0	0	0
1992	B-III	20,821	East Fork Salmon R.	MVFH	CWT 10/44/20[f]	0	0	0
1992	B-III	63,979	East Fork Salmon R.	MVFH	None[c,e]	0	0	0
1992	B-III	913,061	East Fork Salmon R.	MVFH	None[c,f]	0	0	0
1992	B-III	302,335	East Fork Salmon R.	HNFH	None[f]	0	0	0
1992	B-III	18,386	Little Salmon R.	HNFH	CWT 10/44/07	0	0	0
1992	B-III	19,450	Little Salmon R.	HNFH	CWT 10/44/08	0	0	0
1992	B-III	17,390	Little Salmon R.	HNFH	CWT 10/44/09	0	0	0
1992	B-III	245,308	Little Salmon R.	HNFH	None	0	0	0
	Subtotal	1,644,069				0	0	0

[a] Includes off-site escapement and strays to hatchery racks.
[b] HNFH = Hagerman National Fish Hatchery.
[c] Release group includes fish marked with passive integrated transponder (PIT) tags.
[d] MVFH = Magic Valley Fish Hatchery.
[e] East Fork Salmon River stock.
[f] Dworshak National Fish Hatchery stock.
[g] CAFH = Clearwater Anadromous Fish Hatchery.
[h] Fall release of presmolts.

Adult returns from the 1994 Sawtooth Hatchery releases have returned after their first ocean-year. From 773,134 smolts released, 1,989 (0.26%) returned to the fishery and Sawtooth Hatchery (Table 20).

Harvest of East Fork Salmon River Releases

Returns of steelhead released from the East Fork Salmon River in 1992 are now complete. From 1,343,535 smolts released, we estimated that 327 returned after one ocean year, 85 returned after two ocean years, and none after three ocean years (Ball 1997, 1998; Table 20). There were 412 returning adults (0.03%), of which 90% were harvested. B-strain steelhead in the Clearwater drainage commonly return two to five percent of adults after three ocean-years (Roseberg et al. 1991). In the upper Salmon River drainage, however, the proportion of three-ocean returnees from East Fork B-strain releases is very small. Of the 187 known-age CWT Idaho fishery recoveries of East Fork marked fish, to date only six (3.2%) East Fork CWT fish have been recovered as three-ocean from the fishery. An additional two (1.3%) CWT fish have been recovered at the East Fork trap as three-ocean returns.

From 497,400 smolts released in 1993, we estimate that 53 adults returned after one ocean-year, and 195 adults returned after two ocean-years (Ball 1998; Table 20). The total return to date is 248 adults, of which 225 (91%) were harvested.

The 1994 release of 517,180 smolts into the East Fork returned an estimated 137 adults after one ocean-year. Of these one-ocean returns, 104 (76%) were harvested.

Since 1989, smolts released into the East Fork Salmon River have been from parents that returned to the East Fork trap and from adults from Dworshak National Fish Hatchery on the Clearwater River. Each year since 1989 (except 1993), each of the two stocks has been marked with CWTs to evaluate their performance (Table 21).

Through the 1994 releases, from a total of 240,965 smolts released from East Fork stock with CWTs, 60 adults were harvested in Idaho and 46 returned to hatchery racks. From 310,287 smolts released with CWTs from Dworshak stock, 33 adults have been harvested in the Idaho fishery and eight returned to hatchery racks. From fairly comparable numbers of smolts released, East Fork stock fish have produced 1.5 times as much total harvest as Dworshak progeny. Total harvest includes tags recovered in both the downriver and Idaho harvest areas. Tag code recoveries through 1995-96 show that 60% of East Fork and Dworshak stock steelhead harvest occurred downriver of the Idaho harvest areas (Table 24). Downriver harvest included Oregon and Washington sport fisheries, and commercial and Indian gillnet operations. These harvest areas extend from the confluence of the Clearwater and Snake rivers downstream to Bonneville Dam on the lower Columbia River. Based on CWT recoveries, comparison of downriver harvest between the two stocks showed a slight difference. For CWT recoveries reported to Idaho through

Table 21. Coded wire tag (CWT) recoveries of East Fork Salmon River steelhead releases - East Fork stock vs. Dworshak stock.

Release Year, Stock, Tag Codes, and No. Of Fish Released	I-Ocean			II-Ocean			III-Ocean			Total
	Harvest Downriver	ID.	Rack Returns	Harvest Downriver	Rack ID.	Returns	Harvest Downriver	ID.	Rack Returns	No. CWT s
1989										
East Fork Stock: CWT 10/41/44, 10/41/45, 10/41/46 n = 44,064	1	0	4	16	12	3	0	0	0	36
Dworshak Stock: CWT 10/41/32, 10/41/33, 10/41/34 n = 43,569	0	0	1	0	6	1	0	1	0	9
1990										
East Fork Stock: CWT 10/42/36, 10/42/37, 10/42/38 n = 46,403	1	4	4	26	22	10	3	1	0	71
Dworshak Stock: CWT 10/42/33, 10/42/34, 10/42/35 n = 44,763	2	1	1	15	7	1	3	0	0	30
1991										
East Fork Stock: CWT 10/43/20, 10/43/21, 10/43/22 n = 66,383	5	1	7	23	12	3[a]	3	1	0	55

Table 21. Continued.

Release Year, Stock, Tag Codes, and No. Of Fish Released	I-Ocean Harvest Downriver	I-Ocean ID.	I-Ocean Rack Returns	II-Ocean Harvest Downriver	II-Ocean Rack ID.	II-Ocean Returns	III-Ocean Harvest Downriver	III-Ocean ID.	III-Ocean Rack Returns	Total No. CWT s
1991 (Cont.)										
Dworshak Stock: CWT 10/43/14, 10/43/15, 10/43/16 n = 61,827	1	2	2	23	12	0	3	1	0	44
1992										
East Fork Stock: CWT 10/44/20 n = 20,821	0	2	1	5	1	2	0	0	0	11
Dworshak Stock: CWT 10/44/18, 10/44/19 n = 43,339	0	0	0	9	2	1[b]	0	0	0	12
1993										
East Fork Stock: No CWT groups	--	--	--	--	--	--				--
Dworshak Stock: CWT 10/50/05, 10/50/07,10/50/09 n = 54,076	0	1	1	2	4	0				8

Table 21. Continued.

Release Year, Stock, Tag Codes, and No. Of Fish Released	I-Ocean Harvest Downriver	I-Ocean Harvest ID.	I-Ocean Rack Returns	II-Ocean Harvest Downriver	II-Ocean Harvest ID.	II-Ocean Rack Returns	III-Ocean Harvest DownriverID.	III-Ocean Rack Returns	Total No. CWT s
1994									
East Fork Stock: CWT 10/47/11, 10/47/12,10/47/13 n = 63,394	2[c]	4	12						18
Dworshak Stock: CWT 10/47/10, 10/47/21,10/47/22 n = 62,713	0[c]	0	0						0

[a] Includes one stray to Pahsimeroi Hatchery.
[b] Includes one stray to Hells Canyon trap.
[c] Downriver CWT recoveries received through May 1997 at Idaho Department of Fish and Game CWT lab in Lewiston.

September 1996, downriver harvest accounted for 45% of East Fork stock CWT recoveries, compared to 56% for Dworshak stock CWT recoveries. By the time these stocks returned to Idaho waters, East Fork stock fish produced 1.6 times more CWT recoveries in the fishery than Dworshak stock fish. Likewise, East Fork stock returned 5.8 times as many CWT adults to the hatchery rack as the Dworshak stock.

Harvest of Little Salmon River Releases

In 1993, both A-strain and B-strain smolts were released into the Little Salmon River. Adult returns after two ocean-years are complete. Based on past performance of B-strain fish returning to the Salmon River, very few three-ocean fish were expected. From the 547,496 A-strain smolts released, 430 adults returned after one ocean-year, and 406 after two ocean-years. The total return was estimated at 836 (0.15%), which includes an estimated escapement of 50% past the fishery. From the 325,300 B-strain smolts released in 1993, 120 adults returned after one ocean-year and 208 returned after two ocean-years. In 1994-95, we observed that 23% of the fish checked in the Little Salmon River were of B-size. The estimated harvest of hatchery fish from the Little Salmon River was 2,007 (Ball 1998), so including other river sections, the total return of two-ocean adults from this release should have been between 500-1,000 fish. Apparently, there must have been a survival problem with the CWT fish. In 1995-96, we observed the same trend. In the Little Salmon River fishery, 22% of the fish checked were of B-size and the estimated harvest was 1,752. Instead of seeing a total return of 385-770 adults, only 208 were counted for the two-ocean portion of this 1993 release.

Including 1993, there have now been five release years when both A- and B-strain steelhead were released into the Little Salmon River. In 1984, there were 96,425 A-strain and 95,624 B-strain smolts released with CWTs (Ball 1989). The estimated adult returns from these releases were 1,697 (1.76%) A-strain and 180 (0.19%) B-strain. Comparatively, the A-strain fish returned 9.3 times more adults (Ball 1989). In 1990, there were 80,465 A-strain and 392,812 B-strain smolts released, but only the B-strain group was represented by CWTs (Ball 1996). The estimated return rate of B-strain fish (0.22%) was higher than the 0.16% reported for the A-strain fish. However, the difference is a function of using the same CWTs for both strains with different returns of one- and two-ocean numbers. Adult returns from the 1991 release continued to favor A-strain releases in the Little Salmon River. From 310,000 A-strain smolts released, the total return was estimated at 1,053 (0.34%), which included an estimated 50% escapement past the fishery. The 1991 B-strain release of 577,433 produced a total estimated return of 724 (0.13%) adults, which also included an estimated 50% escapement past the fishery. The 1993 release of 547,496 A-strain fish resulted in a total return of 836 (0.15%) compared to a total return of 328 (0.10%) B-strain adults from a release of 325,300 smolts.

Harvest of Hammer Creek Releases

For the last two years, A-strain smolts released into the Salmon River at Hammer Creek contained CWT mark groups. Returns from the first CWT release in 1993 are now complete. From a total release of 211,006 smolts, no adults were detected after one ocean-year and 110 returned after two years (Table 20). The primary harvest area for adults returning from Hammer Creek releases is the bottom one-half of section 10 (Figure 1), which is unroaded and accessible only by boat. Jet boat creel surveys in the bottom one-half of this river section have been eliminated, making CWT detections and adult return numbers difficult to estimate. Since the roving creel survey currently covers only the upper 3 km of section 10 from Whitebird Creek to Hammer Creek, harvest estimates are minimal.

Harvest of Clearwater Anadromous Fish Hatchery Releases

The Clearwater Anadromous Fish Hatchery (CAFH), the newest LSRCP facility in Idaho, began releasing steelhead smolts in the Clearwater River drainage in 1993. Three CWT groups were included in this first release of 326,300 smolts into the South Fork Clearwater River. After two ocean-years, we have not recorded any CWTs in the fishery from 69,026 marked fish. Two fish with CWTs strayed into the trap at Dworshak National Fish Hatchery.

In 1994, 63,896 fish with CWTs were reared at CAFH and released at Kooskia National Fish Hatchery on Clear Creek. After one ocean-year, no CWTs were recovered in either the fishery or at the hatchery rack. The fall 1995 fishery in the Clearwater drainage was changed to catch-and-release only after October 5, so no CWTs could be recovered. The Clearwater River drainage was open to consumptive harvest in spring 1996, but the river flooded during most of the spring season and harvest was very low.

Off-site Releases

Off-site releases (smolt releases into the river or into tributaries without means or attempts to collect spawning adults) are 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. However, because these lower river sections have been unable to sustain a viable fishery after upriver fish have passed, off-site releases have been employed there.

In the upper Salmon River -- from North Fork upstream -- off-site releases have been used in recent years to distribute angling opportunity and harvest over more river miles. In 1988, evaluation of upper Salmon River off-site releases began with marked fish releases at Shoup Bridge, about eight km upstream of the city of Salmon. Although there were no marked LSRCP releases in the upper Salmon River that year, estimated returns were derived from a companion group of marked fish from Niagara Springs Fish Hatchery (Ball 1992b). Beginning in 1990, the LSRCP has reared smolts for various off-site releases in the upper Salmon River at Hagerman National Fish Hatchery and Magic Valley Fish Hatchery.

Concerns of potential interactions between steelhead smolts and emergent chinook salmon were raised in 1993. Consequently, the scheduled number of smolts to be released into the East Fork Salmon River was reduced that year. Slate Creek (23.2 km upstream of the mouth of the East Fork) was stocked with 187,100 B-strain smolts, none of which were CWTed. No attempts were made to document returns since only a small proportion of the B-strain fish return after one ocean-year. The 1994 release of 211,355 smolts into Slate Creek included a CWT mark group. After one ocean-year, 37 adults have returned from this release.

In 1993 and 1994, off-site LSRCP releases of A-strain fish were spread over 141 km of the upper Salmon River from North Fork upstream to Challis. Adult returns are now complete for off-site releases in 1990,1991, and 1993 at North Fork, Lemhi, Shoup Bridge, Ellis Bridge, and Challis. Return rates for these release groups ranged from 0.12% to 0.35%, and averaged 0.18% (Ball 1994, 1996, 1997, 1998).

Releasing steelhead off-site has important management benefits in distributing anglers out "in space and in time." Anglers are enjoying the opportunity to catch steelhead later in the spring near the release sites. Additional release sites should be explored in the future.

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 area.

In 1996, there were 614 coded wire tags recovered from hatchery steelhead at hatchery racks in Idaho, excluding Hells Canyon. Additionally, NMFS personnel marked smolts with CWTs during their downriver outmigration. These smolts originated from throughout the Snake River drainage and were encountered as returning adults. In 1996, 39 NMFS-tagged fish returned to Idaho hatchery racks.

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 1996, there were five CWTs recovered at the Pahsimeroi Hatchery from the LSRCP off-site release at Ellis Bridge. Although technically these marked fish strayed from their release location, we are not including them in this straying evaluation between hatchery racks. The Ellis Bridge release site is located 0.7 km downstream from the mouth of the Pahsimeroi River.

Of the 299 CWTs recovered from hatchery releases in the Salmon River drainage, ten fish (3.3%) strayed to another rack. Seven fish marked with CWT 10/49/26 returned to the Pahsimeroi rack from an off-site release into the Salmon River at Bruno's Bridge. One A-strain fish marked with CWT 10/47/03 and released in the Salmon River at Challis, also returned to the Pahsimeroi rack. These two release sites are located 12.6 and 33.5 km respectively upstream from the mouth of the Pahsimeroi River. The final stray was a two-ocean A-strain fish with tag code 10/50/22 released from Sawtooth Hatchery and recovered at the East Fork Salmon River trap. This year's straying rate is higher than the average straying rate (0.64%) reported since 1985 (Ball 1986a, 1986b, 1988, 1989, 1990, 1991, 1992a, 1992b, 1994, 1996, 1997, 1998). There has been very little variation between years and little or no change over time in the years we have been calculating straying rates between hatchery racks.

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 steelhead with CWTs.

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.

Install a weir at Slate Creek to trap returning adults from the 1994 and 1995 releases.

Investigate additional sites in Salmon River sections 16, 17, and 18 for off-site smolt releases.

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

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APPENDICES

Appendix A. Total number of steelhead by section and month harvested by resident and nonresident anglers, fall 1995[a] and spring 1996[a].

	Fall 1995 Steelhead Harvest				
River Section	September	October	November	December	Total
Snake R.					
01	218	1,343	849	390	2,800
02	46	436	321	207	1,010
Subtotal	264	1,779	1,171	597	3,810
Clearwater R.					
03	356	471	287	57	1,171
04	0	23	0	0	23
05	0	0	0	11	11
06	0	0	0	0	0
07	0	11	0	0	11
Subtotal	356	505	287	69	1,217
Salmon R.					
10	46	666	321	138	1,171
11	34	494	356	310	1,194
12	0	218	287	161	666
13	0	34	138	23	195
14	11	195	459	23	689
15	57	849	976	252	2,135
16	34	92	172	69	367
17	0	69	34	11	115
18	0	0	23	11	34
19	11	0	0	0	11
20	0	69	46	80	195
Subtotal	195	2,686	2,812	1,079	6,772
Oxbow Reservoir	0	252	172	57	482
Boise R.	23	57	115	69	264
Payette R.	0	0	0	0	0
Statewide Total	838	5,279	4,556	1,871	12,545

Appendix A. Continued.

River Section	January	February	March	April	Total
		Spring 1996 Steelhead Harvest			
Snake R.					
01	101	10	10	0	121
02	51	0	0	0	51
Subtotal	152	10	10	0	172
Clearwater R.					
03	192	30	10	0	233
04	91	61	71	10	233
05	162	111	0	30	303
06	20	30	10	0	61
07	0	30	212	30	273
Subtotal	465	263	303	71	1,102
Salmon R.					
10	152	40	91	0	283
11	324	192	263	121	900
12	142	131	121	40	435
13	0	0	51	0	51
14	0	51	71	0	121
15	162	91	1,264	182	1,669
16	51	91	425	192	758
17	40	20	1,031	394	1,486
18	0	30	101	313	445
19	40	51	51	273	415
20	51	30	677	799	1,557
Subtotal	960	728	4,145	2,315	8,149
Oxbow Reservoir	40	20	10	10	81
Boise R.	0	0	0	0	0
Payette R.	0	0	0	0	0
Statewide Total	1,618	1,021	4,469	2,396	9,504

[a] Statewide harvest survey data from Thomas J. McArthur, IDFG, (unpublished).

Appendix B. Coded wire tag recoveries and fin clips identified September 1995 - April 1996 harvest estimates by month and river section; and total harvest estimates for the 1995-96 season.

Tag Code: 05/21/60 Release Site: Clearwater R. Number Released: 21,144

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05	1	0.225	4	3	0.040	75							4	79
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 79

Appendix B. Continued.

Tag Code: 05/21/61 Release Site: Clearwater R. Number Released: 20,780

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05	3	0.225	13										3	13
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 13

Appendix B. Continued.

Tag Code: 05/24/22 Release Site: South Fork Clearwater R. Number Released: 20,499

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05							1	0.017	59				1	59
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 59

Appendix B. Continued.

Tag Code: 05/29/37 Release Site: South Fork Clearwater R. Number Released: 63,803

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
07							1	0.203	5				1	5
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 5

Appendix B. Continued.

Tag Code: 07/03/21 Release Site: Imnaha R. @ Little Sheep Cr. Number Released: 24,658

	September			October			November			December		
River Sect.	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	0.077	13			
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

	January			February			March			April			1995-96	
River Sect.	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	13
10														
03/05														
07														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 13

Appendix B. Continued.

Tag Code: 07/03/24 Release Site: Imnaha R. @ Little Sheep Cr. Number Released: 24,187

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01													1	13
10														
03/05														
07														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 13

Appendix B. Continued.

Tag Code: 07/03/26 Release Site: Wallowa R. @ Big Canyon Cr. Number Released: 26,960

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01				1	0.031	32						
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01													1	32
10														
03/05														
07														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 32

Appendix B. Continued.

Tag Code: 07/03/30 Release Site: Wallowa R. @ Spring Cr. Number Released: 27,694

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01													1	13
10														
03/05														
07														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 13

Appendix B. Continued.

Tag Code: 10/15/32 Release Site: Salmon R. @ Hammer Cr. Number Released: 60,423

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11				1	0.055	18						
12				1	0.431	2						
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11													1	18
12													1	2
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 20

Appendix B. Continued.

Tag Code: 10/43/12 Release Site: Pahsimeroi R. Number Released: 20,882

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15				1	0.199	5						
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				2	9
16														
17							1	0.309	3				1	3
18														
19														
20														

Total Estimated Harvest 12

Appendix B. Continued.

Tag Code: 10/44/10 Release Site: Pahsimeroi R. Number Released: 19,736

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12							1	0.300	3			
13												
14												
15				2	0.130	15						
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	3
13														
14														
15													2	15
16														
17														
18														
19														
20														

Total Estimated Harvest 18

Appendix B. Continued.

Tag Code: 10/44/11 Release Site: Pahsimeroi R. Number Released: 19,418

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15				3	0.130	23						
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15													3	23
16														
17							2	0.309	6	1	0.236	4	3	10
18														
19														
20														

Total Estimated Harvest 33

Appendix B. Continued.

Tag Code: 10/44/25 Release Site: Pahsimeroi R. Number Released: 19,096

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13							1	0.217	5			
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13													1	5
14														
15														
16														
17							1	0.309	3				1	3
18														
19														
20														

Total Estimated Harvest 8

Appendix B. Continued.

Tag Code: 10/44/26 Release Site: Pahsimeroi R. Number Released: 19,584

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15							1	0.130	8			
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15													1	8
16														
17							1	0.309	3				1	3
18														
19														
20														

Total Estimated Harvest 11

Appendix B. Continued.

Tag Code: 10/46/01 Release Site: Little Salmon R. Number Released: 20,529

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12							1	0.300	3			
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	3
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 3

Appendix B. Continued.

Tag Code: 10/46/02 Release Site: Little Salmon R. Number Released: 20,365

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12				1	0.431	2						
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	2
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 2

Appendix B. Continued.

Tag Code: 10/46/03 Release Site: Salmon R. @ Lemhi R. Number Released: 21,155

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14							1	0.135	7			
15							1	0.130	8			
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12							1	0.380	3				1	3
13														
14													1	7
15							3	0.248	12				4	20
16														
17														
18														
19														
20														

Total Estimated Harvest 30

Appendix B. Continued.

Tag Code: 10/46/28 Release Site: Sawtooth Hatchery Number Released: 60,772

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17							1	0.309	3				1	3
18														
19														
20														

Total Estimated Harvest 3

Appendix B. Continued.

Tag Code: 10/46/29 Release Site: Sawtooth Hatchery Number Released: 60,929

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12							1	0.300	3			
13												
14							1	0.135	7			
15				1	0.199	5						
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	3
13														
14													1	7
15							1	0.248	4				2	9
16														
17							1	0.309	3				1	3
18										2	0.141	14	2	14
19							2	0.235	9				2	9
20														

Total Estimated Harvest 45

Appendix B. Continued.

Tag Code: 10/47/01 Release Site: Pahsimeroi R. Number Released: 20,098

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11				1	0.055	18						
12												
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11													1	18
12														
13														
14														
15							2	0.248	8				2	8
16														
17							2	0.309	6				2	6
18							1	0.554	2				1	2
19														
20														

Total Estimated Harvest 34

Appendix B. Continued.

Tag Code: 10/47/02 Release Site: Pahsimeroi R. Number Released: 20,496

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15							1	0.130	8			
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				2	12
16							1	0.111	9				1	9
17							2	0.309	6				2	6
18										1	0.236	4	1	4
19														
20														

Total Estimated Harvest 31

Appendix B. Continued.

Tag Code: 10/47/03 Release Site: Salmon R. @ Challis Number Released: 21,172

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12							1	0.300	3			
13												
14												
15							1	0.130	8			
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12				1	0.023	43							2	46
13														
14														
15							3	0.248	12				4	20
16														
17							3	0.309	10	2	0.236	8	5	18
18							2	0.554	4	1	0.141	7	3	11
19														
20														
Total Estimated Harvest														95

Appendix B. Continued.

Tag Code: 10/47/04 Release Site: Salmon R. @ North Fork Number Released: 20,357

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12							2	0.300	7			
13												
14												
15				3	0.199	15						
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													2	7
13														
14														
15							5	0.248	20	3	0.066	45	11	80
16							1	0.111	9	1	0.172	6	2	15
17														
18														
19														
20														

Total Estimated Harvest 102

Appendix B. Continued.

Tag Code: 10/47/11 Release Site: East Fork Salmon R. Number Released: 20,648

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15							1	0.130	8			
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
14														
15													1	8
16														
17														
18														
19														
20														

Total Estimated Harvest 8

Appendix B. Continued.

Tag Code: 10/47/12 Release Site: East Fork Salmon R. Number Released: 21,377

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15				1	0.199	5						
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
14														
15													1	5
16														
17							1	0.309	3				1	3
18														
19														
20														
Total Estimated Harvest														8

Appendix B. Continued.

Tag Code: 10/47/13 Release Site: East Fork Salmon R. Number Released: 21,369

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12				1	0.431	2						
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	2
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 2

Appendix B. Continued.

Tag Code: 10/47/24 Release Site: Little Salmon R. Number Released: 21,530

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12							1	0.380	3				1	3
13														
14														
15														
16														
17														
18														
19														
20							1	0.192	5				1	5
Total Estimated Harvest														8

Appendix B. Continued.

Tag Code: 10/47/25 Release Site: Pahsimeroi R. Number Released: 21,294

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12							1	0.300	3			
13												
14												
15				1	0.199	5	1	0.130	8			
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	3
13														
14														
15							2	0.248	8				4	21
16														
17							2	0.309	6				2	6
18														
19														
20														

Total Estimated Harvest 30

Appendix B. Continued.

Tag Code: 10/47/26 Release Site: Pahsimeroi R. Number Released: 21,660

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12				1	0.431	2						
13												
14							1	0.135	7			
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	2
13														
14														
15							3	0.248	12				4	19
16														
17							2	0.309	6	2	0.236	9	4	15
18														
19														
20														

Total Estimated Harvest 36

Appendix B. Continued.

Tag Code: 10/49/24 Release Site: Salmon R. @ North Fork Number Released: 65,637

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14				1	0.272	4						
15				3	0.199	15	1	0.130	8			
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14													1	4
15							3	0.248	12				7	35
16														
17														
18														
19														
20														

Total Estimated Harvest 39

Appendix B. Continued.

Tag Code: 10/49/25 Release Site: Salmon R. @ Slate Cr. Number Released: 62,510

	September			October			November			December		
River Sect.	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				1	0.199	5						
16												
17												

	January			February			March			April			1995-96	
River Sect.	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							1	0.176	6				1	6
14														
15													1	5
16														
17														
18														
19														
20														

Total Estimated Harvest 11

Appendix B. Continued.

Tag Code: 10/49/26 Release Site: Salmon R. @ Bruno's Bridge Number Released: 61,817

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13							1	0.217	5			
14							2	0.135	15			
15							1	0.130	8			
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13							1	0.176	6				2	11
14							1	0.324	3				3	18
15							2	0.248	8				3	16
16							1	0.111	9				1	9
17							4	0.309	13	2	0.236	9	6	22
18							1	0.554	2	2	0.141	14	3	16
19														
20														

Total Estimated Harvest 92

Appendix B. Continued.

Tag Code: 10/49/47 Release Site: Salmon R. @ Hammer Cr. Number Released: 19,655

	September			October			November			December		
River Sect.	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				1	0.272	4						
15												
16												
17												

	January			February			March			April			1995-96	
River Sect.	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													1	4
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 4

Appendix B. Continued.

Tag Code: 10/49/48 Release Site: Salmon R. @ Hammer Cr. Number Released: 16,662

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12							2	0.300	7			
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12							1	0.380	3				3	10
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 10

Appendix B. Continued.

Tag Code: 10/49/49 Release Site: Sawtooth Hatchery Number Released: 19,196

	September			October			November			December		
River Sect.	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							1	0.135	7			
15				1	0.199	5						
16												
17												

	January			February			March			April			1995-96	
River Sect.	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													1	7
15													1	5
16														
17														
18														
19														
20														

Total Estimated Harvest 12

Appendix B. Continued.

Tag Code: 10/49/50 Release Site: Sawtooth Hatchery Number Released: 18,168

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							2	0.248	8				1	5
16														
17														
18														
19										1	0.095	11	1	11
20														
Total Estimated Harvest														16

Appendix B. Continued.

Tag Code: 10/49/51 Release Site: Sawtooth Hatchery Number Released: 17,818

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15				1	0.199	5						
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							2	0.248	8				3	13
16														
17														
18														
19														
20														

Total Estimated Harvest 13

Appendix B. Continued.

Tag Code: 10/50/04 Release Site: Little Salmon R. Number Released: 19,358

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12				1	0.431	2						
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	2
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 2

Appendix B. Continued.

Tag Code: 10/50/05 Release Site: East Fork Salmon R. Number Released: 16,024

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18							1	0.554	2				1	2
19														
20														
Total Estimated Harvest														2

Appendix B. Continued.

Tag Code: 10/50/06 Release Site: Little Salmon R. Number Released: 19,932

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12							1	0.300	3			
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	3
13														
14														
15														
16														
17														
18														
19														
20										1	0.084	12	1	12
Total Estimated Harvest														15

Appendix B. Continued.

Tag Code: 10/50/07 Release Site: East Fork Salmon R. Number Released: 18,924

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12				1	0.431	2						
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	2
13														
14														
15							2	0.248	8				2	8
16														
17														
18														
19														
20														

Total Estimated Harvest 10

Appendix B. Continued.

Tag Code: 10/50/08 Release Site: Little Salmon R. Number Released: 19,909

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12				1	0.431	2						
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	2
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 2

Appendix B. Continued.

Tag Code: 10/50/10 Release Site: Sawtooth Hatchery Number Released: 8,161

	September			October			November			December		
River Sect.	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				1	0.199	5						
16												
17												

	January			February			March			April			1995-96	
River Sect.	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													1	5
16														
17							1	0.309	3				1	3
18														
19														
20														

Total Estimated Harvest 8

Appendix B. Continued.

Tag Code: 10/50/11 Release Site: Salmon R. @ Challis Number Released: 19,924

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12				1	0.431	2						
13												
14							1	0.135	7			
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	2
13														
14													1	7
15							2	0.248	8				2	8
16														
17														
18							1	0.554	2				1	2
19														
20														

Total Estimated Harvest 19

Appendix B. Continued.

Tag Code: 10/50/12 Release Site: Salmon R. @ Lemhi R. Number Released: 22,106

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				1	4
16														
17														
18														
19														
20														

Total Estimated Harvest 4

Appendix B. Continued.

Tag Code: 10/50/13 Release Site: Salmon R. @ Lemhi R. Number Released: 19,692

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				1	4
16														
17														
18														
19														
20														

Total Estimated Harvest 4

Appendix B. Continued.

Tag Code: 10/50/14 Release Site: Salmon R. @ Ellis Bridge Number Released: 19,778

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12				1	0.023	44							1	44
13														
14														
15							1	0.248	4				1	4
16														
17							1	0.309	3				1	3
18														
19														
20														

Total Estimated Harvest 51

Appendix B. Continued.

Tag Code: 10/50/15 Release Site: Salmon R. @ Lemhi R. Number Released: 21,390

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				1	4
16							1	0.111	9				1	9
17														
18														
19														
20														

Total Estimated Harvest 13

Appendix B. Continued.

Tag Code: 10/50/16 Release Site: Salmon R. @ Ellis Bridge Number Released: 20,361

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				1	4
16														
17														
18														
19														
20														

Total Estimated Harvest 4

Appendix B. Continued.

Tag Code: 10/50/17 Release Site: Little Salmon R. Number Released: 20,045

	September			October			November			December		
River Sect.	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												

	January			February			March			April			1995-96	
River Sect.	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														
18														
19														
20							1	0.192	5				1	5
Total Estimated Harvest														5

Appendix B. Continued.

Tag Code: 10/50/19 Release Site: Little Salmon R. Number Released: 19,621

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11							1	0.118	9			
12												
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11													1	9
12														
13														
14														
15														
16														
17														
18														
19														
20							1	0.192	5				1	5
Total Estimated Harvest														14

Appendix B. Continued.

Tag Code: 10/50/20 Release Site: Sawtooth Hatchery Number Released: 20,262

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13							1	0.217	5			
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12							1	0.380	3				1	3
13													1	5
14														
15							1	0.248	4				1	4
16														
17							1	0.309	3				1	3
18														
19										2	0.095	21	2	21
20														

Total Estimated Harvest 36

Appendix B. Continued.

Tag Code: 10/50/21 Release Site: Sawtooth Hatchery Number Released: 18,726

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14				1	0.272	4						
15				1	0.199	5						
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14													1	4
15													1	5
16														
17														
18										2	0.141	14	2	14
19														
20														

Total Estimated Harvest 23

Appendix B. Continued.

Tag Code: 10/50/22 Release Site: Sawtooth Hatchery Number Released: 18,268

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14							1	0.135	7			
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14													1	7
15														
16														
17										1	0.236	4	1	4
18														
19														
20														

Total Estimated Harvest 11

Appendix B. Continued.

Tag Code: 10/50/34 Release Site: Sawtooth Hatchery Number Released: 4,563

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				1	4
16														
17														
18														
19														
20														

Total Estimated Harvest 4

Appendix B. Continued.

Tag Code: 23/19/58 Release Site: Columbia R. @ RM 141 Number Released: 9,678

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01				1	0.031	32						
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01													1	32
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 32

Appendix B. Continued.

Tag Code: 23/20/17 Release Site: Columbia R. @ RM 141 Number Released: 9,147

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12				1	0.431	2						
13												
14												
15							1	0.130	8			
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12													1	2
13														
14														
15													1	8
16														
17							1	0.309	3				1	3
18														
19														
20														

Total Estimated Harvest 13

Appendix B. Continued.

Tag Code: 23/23/57 Release Site: Columbia R. @ RM 18.2 Number Released: 8,796

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				1	4
16														
17														
18														
19														
20														

Total Estimated Harvest 4

Appendix B. Continued.

Tag Code: 23/24/24 Release Site: Columbia R. @ RM 18.2 Number Released: 9,140

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				1	4
16														
17														
18														
19														
20														

Total Estimated Harvest 4

Appendix B. Continued.

Tag Code: 23/24/36 Release Site: Columbia R. @ RM 141 Number Released: 10,143

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17							1	0.309	3				1	3
18														
19														
20														

Total Estimated Harvest 3

Appendix B. Continued.

Tag Code: 23/24/37 Release Site: Columbia R. @ RM 141 Number Released: 9,041

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20							1	0.192	5				1	5
Total Estimated Harvest														5

Appendix B. Continued.

Tag Code: 23/24/42 Release Site: Columbia R. @ RM 141 Number Released: 8,176

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17										1	0.236	4	1	4
18														
19														
20														

Total Estimated Harvest 4

Appendix B. Continued.

Tag Code: 23/24/48 Release Site: Columbia R. @ RM 141 Number Released: 9,137

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				1	4
16														
17														
18														
19														
20														

Total Estimated Harvest 4

Appendix B. Continued.

Tag Code: 23/30/02 Release Site: Columbia R. @ RM 18.2 Number Released: 9,111

	September			October			November			December		
River Sect.	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												

	January			February			March			April			1995-96	
River Sect.	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							1	0.248	4				1	4
16														
17														
18														
19														
20														

Total Estimated Harvest 4

Appendix B. Continued.

Tag Code: 23/30/03 Release Site: Columbia R. @ RM 18.2 Number Released: 8,396

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15				1	0.199	5						
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				2	9
16														
17														
18														
19														
20														

Total Estimated Harvest 9

Appendix B. Continued.

Tag Code: 23/30/04 Release Site: Columbia R. @ RM 18.2 Number Released: 9,302

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01												
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15							2	0.130	8			
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15							1	0.248	4				3	12
16														
17														
18														
19														
20														

Total Estimated Harvest 12

Appendix B. Continued.

Tag Code: 23/30/05 Release Site: Columbia R. @ RM 141 Number Released: 8,858

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16				1	0.076	13							1	13
17														
18														
19														
20														

Total Estimated Harvest 13

Appendix B. Continued.

Tag Code: 23/30/14 Release Site: Columbia R. @ RM 141 Number Released: 8,411

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01														
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16										1	0.172	6	1	6
17														
18														
19														
20														

Total Estimated Harvest 6

Appendix B. Continued.

Tag Code: 63/53/12 Release Site: Walla Walla R. Number Released: 20,165

River Sect.	September No. Tags	September Sample Rate	September Est. Harv.	October No. Tags	October Sample Rate	October Est. Harv.	November No. Tags	November Sample Rate	November Est. Harv.	December No. Tags	December Sample Rate	December Est. Harv.
01	1	0.018	56									
03/05												
04/06												
07												
10												
11												
12												
13												
14												
15												
16												
17												

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01													1	56
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 56

Appendix B. Continued.

Tag Code: 63/54/08 Release Site: Curl Lake (Tucannon R.) Number Released: 16,283

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

River Sect.	January No. Tags	January Sample Rate	January Est. Harv.	February No. Tags	February Sample Rate	February Est. Harv.	March No. Tags	March Sample Rate	March Est. Harv.	April No. Tags	April Sample Rate	April Est. Harv.	1995-96 No. Tags	1995-96 Est. Harv.
01													1	13
03/05														
04/06														
07														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Total Estimated Harvest 13

Appendix C. Steelhead return groups to the Salmon River, 1995-96.

Strain	Age	No. of Fish	Release Site	Hatchery Rearing	Marks
A	I	60,772	Sawtooth Hatchery	HNFH[a]	CWT 10/46/28[b]
A	I	60,929	Sawtooth Hatchery	HNFH	CWT 10/46/29[b]
A	I	651,433	Sawtooth Hatchery	HNFH	None
A	I	21,172	Salmon R. @ Challis	NSPR[c]	CWT 10/47/03[b]
A	I	178,790	Salmon R. @ Challis	NSPR	None[b]
A	I	61,817	Salmon R. @ Bruno's Br.	HNFH	CWT 10/49/26[b]
A	I	120,266	Salmon R. @ Bruno's Br.	HNFH	None
A	I	21,294	Pahsimeroi R.	MVSH[d]	CWT 10/47/25
A	I	21,660	Pahsimeroi R.	MVSH	CWT 10/47/26
A	I	441,486	Pahsimeroi R.	MVSH	None[b]
A	I	20,098	Pahsimeroi R.	NSPR[d]	CWT 10/47/01[b]
A	I	20,496	Pahsimeroi R.	NSPR	CWT 10/47/02[b]
A	I	339,354	Pahsimeroi R.	NSPR	None[b]
A	I	21,155	Salmon R. @ Lemhi R.	HNFH	CWT 10/46/03[b]
A	I	214,633	Salmon R. @ Lemhi R.	HNFH	None
A	I	20,357	Salmon R. @ N. Fork	NSPR	CWT 10/47/04[b]
A	I	114,622	Salmon R. @ N. Fork	NSPR	None[b]
A	I	20,958	Little Salmon R.	MVSH	CWT 10/47/23
A	I	21,530	Little Salmon R.	MVSH	CWT 10/47/24
A	I	425,062	Little Salmon R.	MVSH	None[b]
A	I	20,529	Little Salmon R.	HNFH	CWT 10/46/01[b]
A	I	20,365	Little Salmon R.	HNFH	CWT 10/46/02[b]
A	I	287,269	Little Salmon R.	HNFH	None
A	I	60,423	Salmon R. @ Hammer Cr.	NSPR	CWT 10/15/32

Appendix C. Continued.

Strain	Age	No. of Fish	Release Site	Hatchery Rearing	Marks
A	I	132,599	Salmon R. @ Hammer Cr.	NSPR	None
A	I	132,599	Salmon R. @ Pine Bar Rapids	NSPR	None
Total		3,400,139			
A	II	19,196	Sawtooth Hatchery	HNFH	CWT 10/49/49[b]
A	II	18,168	Sawtooth Hatchery	HNFH	CWT 10/49/50[b]
A	II	17,818	Sawtooth Hatchery	HNFH	CWT 10/49/51[b]
A	II	8,161	Sawtooth Hatchery	HNFH	CWT 10/50/10[b]
A	II	20,262	Sawtooth Hatchery	HNFH	CWT 10/50/20[b]
A	II	18,726	Sawtooth Hatchery	HNFH	CWT 10/50/21[b]
A	II	18,235	Sawtooth Hatchery	HNFH	CWT 10/50/22[b]
A	II	4,563	Sawtooth Hatchery	HNFH	CWT 10/50/3
A	II	604,391	Sawtooth Hatchery	HNFH	None
A	II	19,924	Salmon R. @ Challis	MVSH	CWT 10/50/11
A	II	240,676	Salmon R. @ Challis	MVSH	None[b]
A	II	20,882	Pahsimeroi R.	NSPR	CWT 10/43/12
A	II	19,736	Pahsimeroi R.	NSPR	CWT 10/44/10
A	II	19,418	Pahsimeroi R.	NSPR	CWT 10/44/11
A	II	19,547	Pahsimeroi R.	NSPR	CWT 10/44/24
A	II	19,096	Pahsimeroi R.	NSPR	CWT 10/44/25
A	II	19,584	Pahsimeroi R.	NSPR	CWT 10/44/26
A	II	643,537	Pahsimeroi R.	NSPR	None[b]
A	II	19,778	Salmon R. @ Ellis Br.	MVSH	CWT 10/50/14
A	II	20,361	Salmon R. @ Ellis Br.	MVSH	CWT 10/50/16
A	II	226,161	Salmon R. @ Ellis Br.	MVSH	None[b]

Appendix C. Continued.

Strain	Age	No. of Fish	Release Site	Hatchery Rearing	Marks
A	II	22,106	Salmon R. @ Lemhi R.	MVSH	CWT 10/50/12
A	II	19,692	Salmon R. @ Lemhi R.	MVSH	CWT 10/50/13
A	II	21,390	Salmon R. @ Lemhi R.	MVSH	CWT 10/50/15
A	II	135,312	Salmon R. @ Lemhi R.	MVSH	None[b]
A	II	65,637	Salmon R. @ N. Fork	MVSH	CWT 10/49/24
A	II	124,863	Salmon R. @ N. Fork	MVSH	None[b]
A	II	20,045	Little Salmon R.	HNFH	CWT 10/50/17
A	II	10,245	Little Salmon R.	HNFH	CWT 10/50/18
A	II	19,621	Little Salmon R.	HNFH	CWT 10/50/19
A	II	497,405	Little Salmon R.	HNFH	None
A	II	17,142	Salmon R. @ Hammer Cr.	HNFH	CWT 10/49/46
A	II	19,655	Salmon R. @ Hammer Cr.	HNFH	CWT 10/49/47
A	II	16,662	Salmon R. @ Hammer Cr.	HNFH	CWT 10/49/48
A	II	157,547	Salmon R. @ Hammer Cr.	HNFH	None
Total		3,165,542			
B	I	62,510	Slate Cr.	MVSH	CWT 10/49/25
B	I	148,845	Slate Cr.	MVSH	None[b]
B	I	21,296	E. Fork Salmon R.	MVSH	CWT 10/47/10
B	I	20,648	E. Fork Salmon R.	MVSH	CWT 10/47/11
B	I	21,377	E. Fork Salmon R.	MVSH	CWT 10/47/12
B	I	21,369	E. Fork Salmon R.	MVSH	CWT 10/47/13
B	I	20,443	E. Fork Salmon R.	MVSH	CWT 10/47/21
B	I	20,974	E. Fork Salmon R.	MVSH	CWT 10/47/22
B	I	226,333	E. Fork Salmon R.	MVSH	None[b,]
B	I	164,740	E. Fork Salmon R.	MVSH	None[f]

Appendix C. Continued.

Strain	Age	No. of Fish	Release Site	Hatchery Rearing	Marks
B	I	20,891	Little Salmon R.	MVSH	CWT 10/47/14
B	I	21,243	Little Salmon R.	MVSH	CWT 10/47/15
B	I	21,582	Little Salmon R.	MVSH	CWT 10/47/16
B	I	175,009	Little Salmon R.	MVSH	None[b]
Total		967,26			
B	II	187,100	Slate Cr.	MVSH	None
B	II	16,024	E. Fork Salmon R.	MVSH	CWT 10/50/05
B	II	18,924	E. Fork Salmon R.	MVSH	CWT 10/50/07
B	II	19,128	E. Fork Salmon R.	MVSH	CWT 10/50/09
B	II	87,272	E. Fork Salmon R.	MVSH	None[b,e]
B	II	356,052	E. Fork Salmon R.	MVSH	None[b,f]
B	II	19,358	Little Salmon R.	MVSH	CWT 10/50/04
B	II	19,932	Little Salmon R.	MVSH	CWT 10/50/06
B	II	19,909	Little Salmon R.	MVSH	CWT 10/50/08
B	II	266,101	Little Salmon R.	MVSH	None[b]
Total		1,009,800			
B	III	302,335	East Fork Salmon R.	HNFH	None
B	III	21,771	East Fork Salmon R.	MVSH	CWT 10/44/18[b]
B	III	21,568	East Fork Salmon R.	MVSH	CWT 10/44/19[b]
B	III	20,821	East Fork Salmon R.	MVSH	CWT 10/44/20[b]
B	III	63,979	East Fork Salmon R.	MVSH	None[e]
B	III	913,061	East Fork Salmon R.	MVSH	None[f]
B	III	18,386	Little Salmon R.	HNFH	CWT 10/44/07
B	III	19,450	Little Salmon R.	HNFH	CWT 10/44/08

Appendix C. Continued.

Strain	Age	No. of Fish	Release Site	Hatchery Rearing	Marks
B	III	17,390	Little Salmon R.	HNFH	CWT 10/44/09
B	III	245,308	Little Salmon R.	HNFH	None
Total		1,644,069			

[a] HNFH = Hagerman National Fish Hatchery.
[b] Release group includes fish marked with passive integrated transponder (PIT) tags.
[c] NSPR = Niagara Springs Fish Hatchery.
[d] MVSH = Magic Valley Steelhead Hatchery.
[e] East Fork Salmon River stock.
[f] Dworshak National Fish Hatchery stock.

Appendix D. Steelhead groups returning to the Clearwater River, 1995-96.

Strain	Age	No. of Fish	Release Site	Hatchery Rearing	Marks
B	I	136,447	Clearwater R. @ Button Beach	DNFH[a]	None
B	I	21,507	Clear Cr.	CAFH[b]	CWT 10/47/29
B	I	21,562	Clear Cr.	CAFH	CWT 10/47/30
B	I	20,827	Clear Cr.	CAFH	CWT 10/47/33[c]
B	I	89,964	Clear Cr.	CAFH	None[c]
B	I	1,149	Clear Cr.	DNFH	CWT 05/34/06
B	I	2,187	Clear Cr.	DNFH	CWT 05/34/07
B	I	346,297	Clear Cr.	DNFH	None
B	I	19,422	Clearwater R.	DNFH	CWT 05/21/53
B	I	20,451	Clearwater R.	DNFH	CWT 05/21/54
B	I	18,551	Clearwater R.	DNFH	CWT 05/21/55
B	I	19,318	Clearwater R.	DNFH	CWT 05/21/56
B	I	18,264	Clearwater R.	DNFH	CWT 05/30/12
B	I	5,148	Clearwater R.	DNFH	CWT 05/31/41
B	I	9,509	Clearwater R.	DNFH	CWT 05/31/42
B	I	22,189	Clearwater R.	DNFH	CWT 05/31/43
B	I	19,769	Clearwater R.	DNFH	CWT 05/34/05
B	I	1,000,796	Clearwater R.	DNFH	None
B	I	21,779	Crooked R.	CAFH	CWT 10/47/32[c]
B	I	20,883	Crooked R.	CAFH	CWT 10/47/37[c]
B	I	61,788	Crooked R.	CAFH	None
B	I	71,566	Crooked R.	CAFH	RV Clip[c,d]
B	I	50,027	South Fork Red R.	CAFH	None[c,d]

Appendix D. Continued.

Strain	Age	No. of Fish	Release Site	Hatchery Rearing	Marks
B	I	20,424	South Fork Clearwater R.	CAFH	CWT 10/47/31
B	I	21,086	South Fork Clearwater R.	CAFH	CWT 10/47/34[c]
B	I	22,137	South Fork Clearwater R.	CAFH	CWT 10/47/35[c]
B	I	21,430	South Fork Clearwater R.	CAFH	CWT 10/47/36[c]
B	I	307,988	South Fork Clearwater R.	CAFH	None[c]
B	I	184,380	South Fork Clearwater R.	DNFH	None
	Total	2,596,845			
B	II	16,214	Clearwater R.	DNFH	CWT 05/20/50
B	II	20,579	Clearwater R.	DNFH	CWT 05/20/51
B	II	20,779	Clearwater R.	DNFH	CWT 05/20/52
B	II	20,258	Clearwater R.	DNFH	CWT 05/21/57
B	II	20,886	Clearwater R.	DNFH	CWT 05/21/58
B	II	19,800	Clearwater R.	DNFH	CWT 05/21/59
B	II	21,144	Clearwater R.	DNFH	CWT 05/21/60
B	II	20,780	Clearwater R.	DNFH	CWT 05/21/61
B	II	1,168,550	Clearwater R.	DNFH	None
B	II	25,673	South Fork Clearwater R.	CAFH	CWT 10/29/47[c]
B	II	22,003	South Fork Clearwater R.	CAFH	CWT 10/49/37[c]
B	II	21,340	South Fork Clearwater R.	CAFH	CWT 10/49/38[c]
B	II	257,284	South Fork Clearwater R.	CAFH	None
B	II	63,803	South Fork Clearwater R.	DNFH	CWT 05/29/37
B	II	675,826	South Fork Clearwater R.	DNFH	None
	Total	2,394,919			

Appendix D. Continued.

Strain	Age	No. of Fish	Release Site	Hatchery Rearing	Marks
B	III	20,645	Clearwater R.	DNFH	CWT 05/24/19
B	III	20,705	Clearwater R.	DNFH	CWT 05/24/20
B	III	20,709	Clearwater R.	DNFH	CWT 05/24/23
B	III	20,039	Clearwater R.	DNFH	CWT 05/26/46
B	III	1,141,397	Clearwater R.	DNFH	None
B	III	349,210	Clearwater R. @ Clear Cr.	DNFH	None
B	III	19,909	South Fork Clearwater R.	DNFH	CWT 05/24/21
B	III	20,499	South Fork Clearwater R.	DNFH	CWT 05/24/22
B	III	695,333	South Fork Clearwater R.	DNFH	None
	Total	2,308,446			

[a] DNFH = Dworshak National Fish Hatchery.
[b] CAFH = Clearwater Anadromous Fish Hatchery.
[c] Release group includes fish marked with passive integrated transponder (PIT) tags.
[d] Fall release of subsmolts.

Appendix E. Miscellaneous coded wire tag steelhead groups that were recovered by Idaho anglers, 1995-96.

Strain	Age	No. of Fish	Release Site	Tagging Agency	Marks
A	I	24,658	Imnaha R. @ Little Sheep Cr.	ODFW[a]	CWT 07/03/21
A	I	24,187	Imnaha R. @ Little Sheep Cr.	ODFW	CWT 07/03/24
A	I	26,960	Wallowa R. @ Big Canyon Cr.	ODFW	CWT 07/03/26
A	I	27,694	Wallowa R. @ Spring Cr.	ODFW	CWT 07/03/30
[b]	I	9,678	Columbia R. @ RM 141	NMFS[c]	CWT 23/19/58
[b]	I	9,147	Columbia R. @ RM 141	NMFS	CWT 23/20/17
[b]	I	8,796	Columbia R. @ RM 18.2	NMFS	CWT 23/23/57
[b]	I	9,140	Columbia R. @ RM 18.2	NMFS	CWT 23/24/24
[b]	I	10,143	Columbia R. @ RM 141	NMFS	CWT 23/24/36
[b]	I	9,041	Columbia R. @ RM 141	NMFS	CWT 23/24/37
[b]	I	8,176	Columbia R. @ RM 141	NMFS	CWT 23/24/42
A	I	20,165	Walla Walla R.	WDFW[d]	CWT 63/53/12
A	I	16,283	Curl Lake (Tucannon R.)	WDFW	CWT 63/54/08
[e]	II	9,111	Columbia R. @ RM 18.2	NMFS	CWT 23/30/02
[e]	II	9,302	Columbia R. @ RM 18.2	NMFS	CWT 23/30/04
[e]	II	8,396	Columbia R. @ RM 18.2	NMFS	CWT 23/30/03
[e]	II	8,858	Columbia R. @ RM 141	NMFS	CWT 23/30/05
[e]	II	8,411	Columbia R. @ RM 141	NMFS	CWT 23/30/14
[f]	III	9,137	Columbia R. @ RM 141	NMFS	CWT 23/24/48

[a] ODFW = Oregon Department of Fish and Wildlife.
[b] Mixed hatchery stocks tagged and released in 1994; strain unknown.
[c] NMFS = National Marine Fisheries Service.
[d] WDFW = Washington Department of Fish and Wildlife.
[e] Mixed hatchery stocks tagged and released in 1993; strain unknown.
[f] Mixed hatchery stocks tagged and released in 1992; strain unknown.

Submitted by:

Kent Ball
Senior Fishery Research Biologist

Approved by:

Virgil K. Moore, Chief
Bureau of Fisheries

Sharon W. Kiefer
Anadromous Fisheries Coordinator