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ANNUAL REPORT
TRINITY RIVER SALMON AND STEELHEAD HATCHERY 1981-82^{1/}

by

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ABSTRACT

This report describes the operation of Trinity River Salmon and Steelhead Hatchery for the period 1 July 1981 through 30 June 1982. Chinook salmon, Oncorhynchus tshawytscha, silver salmon, O. kisutch, and steelhead, Salmo gairdneri, were reared.

Tables present the numbers of adults spawned and eggs and fish produced and planted. The appendix tables present the numbers of eggs and fish shipped and received, daily weather, water temperature, and fish trapping data for the fiscal year.

^{1/} Anadromous Fisheries Branch Administrative Report No. 82-39
Submitted December 1982.

INTRODUCTION

This is the 24th consecutive fiscal year report covering operation of the Trinity River Salmon and Steelhead Hatchery, located near Lewiston, Trinity County. The hatchery was constructed by the United States Bureau of Reclamation to compensate for spawning areas blocked by the Trinity River project. The California Department of Fish and Game began operation of the permanent installation on 15 May 1963. Operation and maintenance costs are paid by the Bureau.

This report describes operation of the hatchery from 1 July 1981 through 30 June 1982. Copies of previous annual reports are available upon request from the Anadromous Fisheries Branch, Sacramento.

PRODUCTION SUMMARY

The ladder was opened and chinook salmon entered the hatchery beginning 31 August 1981. The run continued through 30 November 1981. Coho salmon were trapped from 8 October 1981 through 22 December 1981. Steelhead entered the hatchery from 23 November 1981 through 2 April 1982. Several small brown trout, Salmo trutta, entered the hatchery from September through December, but were not spawned because they did not exhibit anadromous characteristics. Production data are summarized in Table 1.

TABLE 1. Production Summary

Species	Number trapped	Number females spawned	Eggs taken or received	Number fingerlings planted	Number yearlings or broodstock planted	Total pounds planted	On hand 30 June 1982
Chinook salmon	5,874	2,078	5,940,000	2,228,775	1,007,001	100,331	1,800,000
Coho salmon	4,523	970	2,517,000	849,080	361,416	35,817	700,000
Steelhead	1,007	465	1,581,230 ^{a/}	164,500	812,413	95,140	1,198,000
Totals	11,404	3,513	10,038,230	3,242,355	2,180,830	231,288	3,698,000

a/ 465,000 Trinity; 715,000 Trinity River Iron Gate strain; 401,230 received from Iron Gate Hatchery by transfer.

HATCHERY OPERATION

All production fish were reared on a diet of Oregon Moist Pellet (OMP). A total of 421,984 lb of feed produced 231,288 lb of fish during fiscal year 1981-82, a food conversion rate (lbs of feed required to raise 1 lb of fish) of 1.82.

We had little or no loss this past year from Infectious Hemopoietic Necrosis.

For most of the year we had seasonal aids working 5 nights a week patrolling the raceways for Great Blue Herons and river otters. The program was quite effective and was probably largely responsible for the best feed conversion rate we've ever had at this installation. Some progress is being made toward caging the hatchery pond area to prevent predation by birds and mammals.

The hatchery had 10,261 visitors in 1981-82. Guided tours were provided for several of the larger groups of visitors, most of which were from schools in the area.

CHINOOK SALMON MAINTENANCE PROGRAM

History of the 1981 Run

Chinook salmon were first seen in the upper river on 1 June and continued arriving in small numbers throughout the summer. The ladder was opened on 28 August and sorting operations were begun on 31 August. The first fish were spawned on 14 September.

Spring run

Between 1 September and 8 October, 2,648 chinook salmon we believe were spring-run were trapped. This number included 1,155 males, 1,269 females, and 224 grilse. Chinook salmon males less than 56 cm or 22 inches fork length are considered grilse. The 839 females spawned during this period produced 2,680,000 eggs, an average of 3,194/female. Egg size averaged 102/ounce.

Fall-run

There were 3,226 chinook salmon trapped from 13 October to 30 November: 1,059 males, 1,245 females, and 922 grilse. All were assumed to be fall-run. The 1,239 females spawned produced 3,260,000 eggs, an average of 2,631/female. Egg size averaged 103/ounce.

Marked Chinook Salmon Returns

There were 2,399 chinook salmon trapped at the hatchery during the 1981 season which had been with an adipose clip and tagged with coded wire tags.

Planting 1980 Broodyear Chinook Salmon

We planted a total of 1,007,001 chinook salmon yearlings (1980 brood year) during this fiscal year (Table 2).

We planted a total of 1,481,045 chinook salmon (1980 brood year) fingerlings during the last fiscal year. Of the 4,243,000 chinook salmon eggs taken in 1980, (spring and fall combined) 2,488,046 (59%) were eventually planted as fingerlings and yearlings.

TABLE 2. Yearling Chinook Salmon Planted

Date	Race	Size/lb	Release site	Number
9/28/81	Trinity (Spring)	10.1	Hatchery	35,128
9/28/81	Trinity (Fall)	14.8	Hatchery	28,786
9/29/81	Trinity (Fall)	17.6	Hatchery	76,214
9/29/81	Trinity (Fall)	15.9	Hatchery	5,167
9/29/81	Trinity (Fall)	12.1	Hatchery	48,400
9/30/81	Trinity (Fall)	11.6	Hatchery	73,950
9/30/81	Trinity (Fall)	13.7	Hatchery	28,976
10/ 1/81	Trinity (Fall)	16.9	Hatchery	28,308
10/ 2/81	Trinity (Fall)	15.4	Hatchery	113,344
10/ 6/81	Trinity (Fall)	14.3	Hatchery	172,601
10/ 7/81	Trinity (Fall)	15.0	Hatchery	29,250
10/ 7/81	Trinity (Fall)	12.6	Hatchery	144,900
10/ 8/81	Trinity (Fall)	15.9	Hatchery	34,582
10/ 8/81	Trinity (Fall)	13.5	Hatchery	81,945
10/ 8/81	Trinity (Fall)	15.0	Hatchery	105,450
Total				1,007,001

Planting 1981 Brood Year Chinook Salmon

Chinook salmon fingerlings, totaling 2,228,775, were planted in 1982 (Table 3).

TABLE 3. Fingerling Chinook Salmon Planted, 1981

Date	Race	Size/lb	Release site	Number
3/24/82	Trinity (Fall)	1,290	Hoopa Hatchery	40,000
6/10/82	Trinity (Spring)	65	Hatchery	240,500
6/10/82	Trinity (Spring)	73	Hatchery	82,125
6/11/82	Trinity (Spring)	75	Hatchery	493,875
6/11/82	Trinity (Spring)	63	Hatchery	102,375
6/14/82	Trinity (Spring)	58	Hatchery	330,600
6/15/82	Trinity (Fall)	101	Hatchery	242,400
6/15/82	Trinity (Fall)	76	Hatchery	43,700
6/15/82	Trinity (Fall)	102	Hatchery	99,450
6/15/82	Trinity (Fall)	107	Hatchery	358,450
6/16/82	Trinity (Fall)	105	Hatchery	195,300
				Total 2,228,775

COHO SALMON MAINTENANCE PROGRAM

History of the 1981 Run

Coho salmon entered the hatchery from 8 October through 24 December 1981. We trapped 4,523 fish: 830 males; 1,164 females; and 2,529 grilse (grilse are fish < 22 inches). We spawned 970 females from 26 October through 16 December. They produced 2,517,000 eggs, an average of 2,595/female. Egg size averaged 99/ounce.

Marked Coho Salmon Returns

A total of 1,831 of the coho salmon trapped had been marked by removing the adipose fin and inserting a coded wire tag in the snout.

Planting 1980 Broodyear Coho Salmon

A total of 361,416 coho from the 1980 brood-year was planted in 1982 (Table 4).

TABLE 4. Coho Salmon Yearlings Planted

Date	Race	Size	Release site	Number
2/16/82	Trinity	13.7/lb	Hatchery	53,294
3/ 4/82	Trinity	13.9/lb	Hatchery	49,831
3/ 5/82	Trinity	4.4/lb	Hatchery	17,226
3/ 8/82	Trinity	5.7/lb	Hatchery	35,910
3/ 9/82	Trinity	13/lb	Hatchery	53,625
3/25/82	Trinity	12.5/lb	Hatchery	50,375
4/ 8/82	Trinity	12.2/lb	Hatchery	49,593
4/23/82	Trinity	12.5/lb	Hatchery	51,562
Total				361,416

Almost 850,000 coho from the 1981 brood year were planted as fingerlings (Table 5).

Planting 1981 Brood Year Coho Salmon

TABLE 5. Coho Salmon Fingerlings Planted

Date	Race	Size/lb	Release site	Number
3/25/82	Trinity	500	Willow Creek	85,000
3/25/82	Trinity	600	Willow Creek	15,000
3/26/82	Trinity	600	Willow Creek	34,800
3/26/82	Trinity	550	Willow Creek	66,000
3/29/82	Trinity	550	Mill Creek	35,000
3/29/82	Trinity	550	Hostel Creek	13,000
3/29/82	Trinity	550	Supply Creek	40,000
3/29/82	Trinity	550	Hoopa Hatchery	12,000
4/19/82	Trinity	364	Hayfork Creek	100,000
4/19/82	Trinity	391	Tom Lang Gulch	5,000
4/19/82	Trinity	391	Cannon Ball Creek	101,743
4/20/82	Trinity	505	Swede Creek	3,000
4/20/82	Trinity	505	Quinby Creek	2,500
4/20/82	Trinity	505	Bell Creek	96,005
4/21/82	Trinity	496	Big E. Fk. Canyon Creek	120,032
4/22/82	Trinity	496	Pine Creek	40,000
4/22/82	Trinity	496	Supply Creek	40,000
4/22/82	Trinity	496	Tish Tang Creek	40,000
Total				849,080

STEELHEAD MAINTENANCE PROGRAM

History of the 1981-82 Steelhead Run

The adult steelhead run at Trinity River Hatchery consisted of 1,007 fish: 413 males and 594 females. As determined by fin clips, 606 of the fish were Klamath River strain, 286 were Trinity River strain, 2 were marks we didn't recognize, and 113 were unmarked. We assumed the unmarked fish to be of Trinity River origin and the two unknown marks to be mismarked Klamath River strain. From 23 December 1980 through 22 March 1982, 313 of the Klamath River strain females were spawned. They produced 715,000 eggs, an average of 2,284/female. Egg size averaged 205/ounce.

From 23 December 1981 through 22 March 1982, we spawned 152 Trinity River females. They produced 465,000 eggs, an average of 3,059/female.

Marked Steelhead Returns

Of the 1,007 steelhead trapped at Trinity River Hatchery during the 1981 season 894 (89%) were marked. (Table 6).

TABLE 6. Marked Steelhead Recovered at Trinity River Hatchery, 1981-82

Mark	Number trapped	Mean fork length in inches (range)	Probable origin				
			Brood year	Date planted	Location	Number	Strain
LP	251	21.5 (16.0-29.0)	1978	3/22/79	Hatchery	342,661	Iron Gate
Ad-RV	4	25.0 (22.0-27.0)	1978	2/9-3/19/79	Hatchery	14,753	Trinity River
RP	59	22.0 (17.0-29.5)	1978	4/ 4/79	Hatchery	68,133	Iron Gate
LV	2	19.5 (17.5-22.0)	? ^{a/}				
Ad-LP	85	22.0 (18.0-29.0)	1979	4/15/80	Hatchery	26,740	Trinity River
Ad-RP	26	23.0 (20.0-27.5)	1979	1/23-4/9/80	Hatchery	18,365	Trinity River
Ad-LV-RV	1	24.0 (24.0-24.0)	1977	4/7-4/17/78	Hatchery	152,876	Iron Gate
Ad-LV	27	25.5 (19.0-29.0)	1978	4/4/79	Hatchery	30,903	Trinity River
RV-LP	141	21.5 (15.0-26.0)	1979	4/9-4/17/80	Hatchery	160,731	Trinity River
LV-RP	292	19.5 (15.0-25.0)	1979	4/9-4/30/80	Hatchery	113,625	Iron Gate
Ad-LV-RP	2	18.8 (17.0-20.5)	1979	3/26/81	Hatchery	29,104	Trinity River
RV	3	23.5 (21.0-25.5)	1980	4/15/81	Hatchery	60,217	Iron Gate
LV-RV	1	17.5 (17.5-17.5)	1980	4/14/81	Hatchery	51,800	Trinity River

^{a/} Probably mismarked Iron Gate strain

Steelhead Planted

We planted 976,913 steelhead in FY 1981-82 (Table 7).

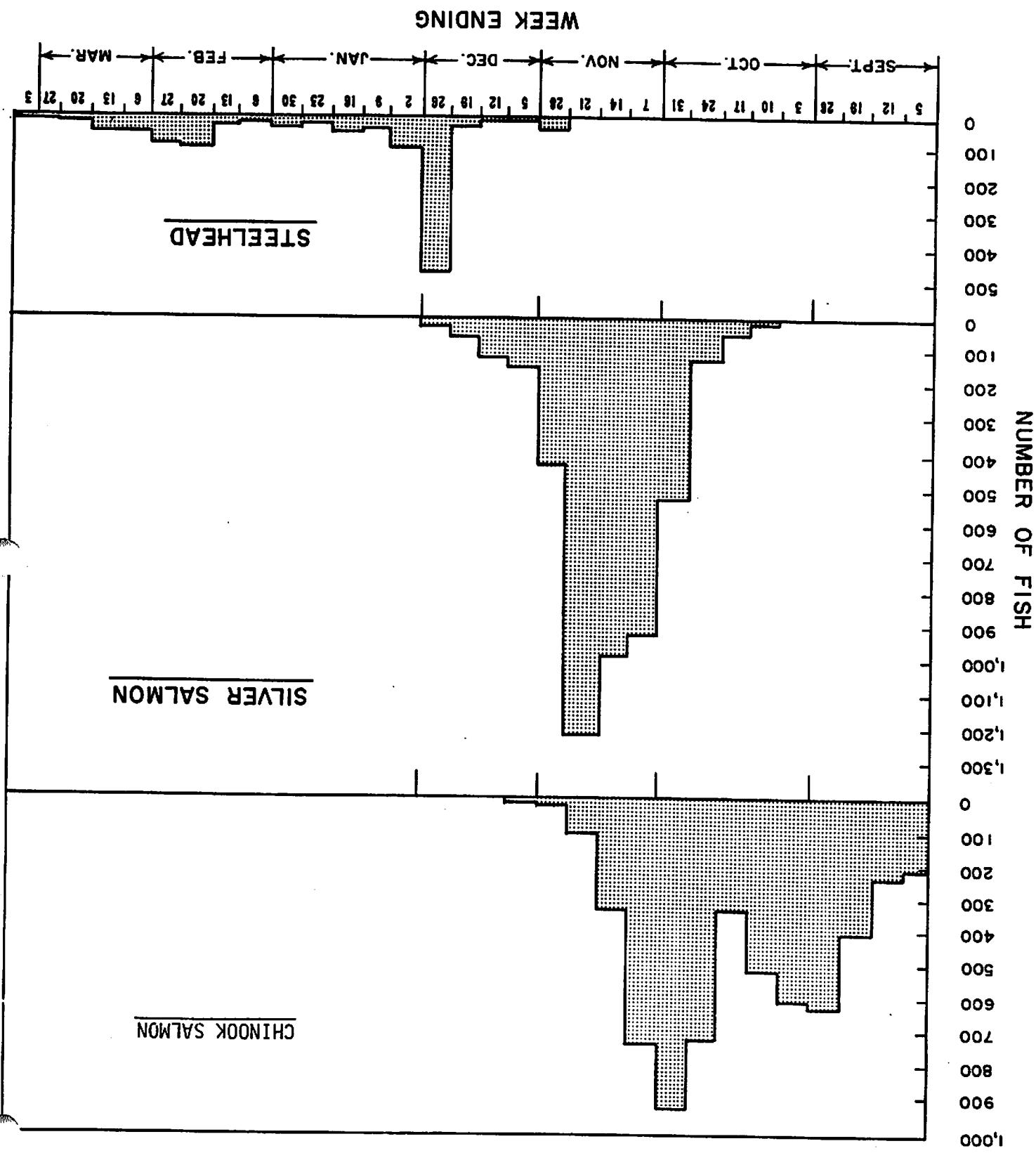
TABLE 7. Steelhead Planting Summary

Strain & brood year	Date released	Average size/lb	Mark	Release site	Number released
Iron Gate - 1981	12/ 7/81	47	None	Freshwater Lagoon	84,600
Iron Gate - 1981	12/ 8/81	47	None	Freshwater Lagoon	79,900
Trinity - 1980	4/ 1/82	6.2	None	Hatchery	3,472
Iron Gate - 1980	4/ 1/82	6.2	Ad	Hatchery	18,228
Iron Gate - 1981	4/ 1/82	9.4	None	Hatchery	49,726
Iron Gate - 1981	4/ 2/82	10.5	None	Hatchery	81,112
Iron Gate - 1981	4/ 5/82	10.2	None	Hatchery	19,125
Iron Gate - 1981	4/ 5/82	8.6	None	Hatchery	110,725
Iron Gate - 1981	4/ 6/82	10.4	None	Hatchery	21,580
Iron Gate - 1981	4/ 6/82	8.8	None	Hatchery	127,908
Iron Gate - 1981	4/ 7/82	8.8	None	Hatchery	13,904
Iron Gate - 1981	4/ 7/82	7.6	None	Hatchery	48,298
Trinity - 1981	4/ 8/82	6.0	Ad	Hatchery	24,600
Trinity - 1981	4/ 9/82	7.8	Ad	Hatchery	94,575
Iron Gate - 1981	4/13/82	10.2	None	Hatchery	62,322
Iron Gate - 1981	4/14/82	9.0	None	Hatchery	55,665
Iron Gate - 1981	4/15/82	10.1	None	Hatchery	6,817
Iron Gate - 1981	5/ 7/82	11.4	None	Hatchery	46,398
Iron Gate - 1981	5/10/82	10.9	None	Hatchery	27,958
Total					976,913

BROWN TROUT MAINTENANCE PROGRAM

No brown trout were spawned or planted during fiscal year 1981-82.

FIGURE 1. Salmon and Steelhead Trapped at Trinity River Hatchery.
Weekly Counts During 1981-82 Season.



APPENDIX TABLE 1. Eggs and Fish Shipped from and Received at Trinity River Hatchery, 1 July 1981 - 30 June 1982

Received	Number	Date	Origin
Iron Gate Winter-run Steelhead eggs	190,050	4/ 8/82	Iron Gate Hatchery
Iron Gate Winter-run Steelhead eggs	161,020	4/13/82	Iron Gate Hatchery
Iron Gate Winter-run Steelhead eggs	50,160	4/21/82	Iron Gate Hatchery
Total Received	401,230		

APPENDIX TABLE 2. Summary of Fish Runs to Trinity River
 Chinook Salmon Coho Salmon Males Females Grilse Males Females Grilse Steelhead Brown trout

1958-59	1,269	1,744	878	240	343	33	2,880	80
1959-60	1,716	2,833	2,701	49	44	26	2,071	52
1960-61	1,493	1,287	4,130	84	54	70	3,526	82
1961-62	885	1,613	2,899	158	160	37	3,243	35
1962-63	1,308	1,608	6,535	7	0	9	1,687	49
1963-64	1,569	2,627	2,539	32	40	11	2,786	84
1964-65	1,974	3,042	1,287	23	25	2	6,941	145
1965-66	477	1,077	1,002	2	1	1	992	100
1966-67	1,052	2,102	1,250	59	59	287	232	232
1967-68	1,620	1,746	1,746	519	519	287	2,786	807
1968-69	1,797	2,102	1,250	59	59	287	2,786	807
1969-70	624	832	1,130	153	132	1,721	241	241
1970-71	773	725	2,946	1,410	1,396	341	67	67
1971-72	3,648	4,645	2,946	1,410	1,396	341	242	23
1972-73	5,217	5,217	5,825	339	28	11	2,612	271
1973-74	2,483	1,152	1,577	3,808	3,787	1,414	2,060	275
1974-75	4,547	2,840	677	33	22	40	372	32
1975-76	2,958	3,405	860	68	68	40	109	677
1976-77	2,845	1,902	2,878	1,271	1,271	1,414	1,421	1,421
1977-78	1,841	1,318	1,841	1,271	1,271	1,414	1,414	1,414
1978-79	4,678	5,131	5,131	1,387	1,387	1,421	1,47	1,47
1979-80	1,138	1,480	1,480	1,480	1,480	1,480	1,070	1,070
1980-81	2,745	2,271	2,271	2,242	2,242	2,242	500	500
1981-82	2,224	2,514	2,514	2,529	2,529	2,529	1,007	1,007

Trinity River Salmon and Steelhead Hatchery Weather,
and Water Data, and Counts of Fish during Spawning
Operations, July 1, 1981, through June 30, 1982

July	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped					
	Air		Water				Chinook salmon	Coho salmon	Adults	Grilse		
	Maximum	Minimum	Maximum	Minimum			Adults	Grilse	Adults	Grilse		
1	91	53	54	53	high clouds	451						
2	99	60	54	53	cloudy	451						
3	99	56	53	52	clear	452						
4	96	61	54	53	partly cloudy	449						
5	85	62	53	53	cloudy	450						
6	76	60	52	52	cloudy	449						
7	80	41	52	50	clear	449						
8	90	48	53	50	clear	448						
9	86	50	53	51	clear	450						
10	84	54	53	51	clear	450						
11	86	46	54	52	clear	430						
12	87	49	53	52	clear	308						
13	88	43	54	52	clear	307						
14	98	50	54	51	clear	307						
15	97	50	54	53	clear	306						
16	99	54	54	52	clear	307						
17	94	53	54	52	clear	307						
18	96	50	54	53	clear	348						
19	99	51	54	52	clear	463						
20	100	52	54	53	clear	452						
21	100	54	54	53	clear	453						
22	101	56	54	53	clear	455						
23	100	56	54	53	clear	453						
24	98	50	54	53	clear	453						
25	98	50	54	52	clear	453						
26	100	55	54	53	clear	453						
27	100	56	54	52	clear	559						
28	100	60	54	53	clear	557						
29	96	51	54	52	clear	559						
30	93	52	54	52	clear	558						
31	92	53	54	53	clear	557						

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*From USGS records.

Appendix Table 3 (Continued)

August	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped					
	Air		Water				Chinook salmon		Coho salmon			
	Maximum	Minimum	Maximum	Minimum			Adults	Grilse	Adults	Grilse	Steelhead	
1	89	52	54	52	clear	558						
2	89	50	53	52	clear	558						
3	90	50	53	51	clear	443						
4	91	50	53	52	clear	445						
5	100	52	54	51	clear	443						
6	106	55	54	51	clear	441						
7	113	56	54	51	clear	441						
8	114	58	54	51	clear	441						
9	109	62	54	51	clear	442						
10	105	60	55	52	clear	451						
11	102	60	55	52	clear-windy	459						
12	94	61	54	52	clear-windy	442						
13	91	61	54	53	clear-windy	441						
14	89	58	54	53	clear-windy	445						
15	94	53	53	52	clear	446						
16	101	55	54	52	clear	446						
17	100	54	54	51	clear	444						
18	92	52	53	51	clear	443						
19	78	57	53	52	clear	442						
20	87	49	53	52	clear	442						
21	93	50	53	51	clear	443						
22	94	59	53	51	clear	444						
23	85	50	52	52	clear	445						
24	84	51	53	51	cloudy	444						
25	87	50	53	51	clear	443						
26	91	49	53	51	clear	442						
27	99	48	53	51	clear	442						
28	99	50	53	51	clear	442						
29	94	49	53	50	clear	441						
30	87	51	53	51	clear-windy	441						
31	87	51	52	50	clear	451						
TOTALS							71					

*From USGS records.

CUMULATIVE TOTAL

Appendix Table 3 (Continued)

September	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped				
	Air Maximum	Air Minimum	Water Maximum	Water Minimum			Chinook salmon Adults	Chinook salmon Grilse	Coho salmon Adults	Coho salmon Grilse	Steelhead
1	92	51	52	50	clear-windy	415					
2	93	50	53	51	clear	415					
3	93	50	52	50	clear	416					
4	89	50	53	51	partly cloudy	416		126	11		
5	93	48	52	50	clear	412					
6	98	49	52	50	clear	411					
7	98	48	52	50	clear	409					
8	95	49	52	50	clear	409		160	12		
9	96	51	53	50	clear	409					
10	97	50	53	50	clear	409		51	1		
11	100	49	53	50	clear	403					
12	98	50	53	50	clear	388					
13	98	52	53	50	clear	388					
14	101	55	53	50	clear	387		194	6		
15	99	57	53	50	clear	388					
16	96	56	53	51	clear	371					
17	91	58	53	51	clear	326		213	8		
18	92	53	53	51	clear	327					
19	85	50	52	51	clear	325					
20	80	46	52	51	clear-windy	337					
21	73	43	54	52	clear-windy	447		354	17		
22	77	42	54	53	clear-windy	415					
23	78	42	54	53	cloudy	419					
24	60	46	50	50	cloudy-rain	418		258	16		
25	65	53	50	50	rain-cloudy	416					
26	60	46	49	49	rain	414					
27	65	53	50	49	rain-cloudy	415					
28	70	46	49	49	partly cloudy	414					
29	72	44	50	48	fog-clear	412		429	42		
30	81	40	50	48	fog-clear	403					
TOTALS							1,785	113			
*From USGS records.							CUMULATIVE TOTALS		1,856	113	

Appendix Table 3 (Continued)

October	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped					
	Air		Water				Chinook salmon	Coho salmon	Adults	Grilse		
	Maximum	Minimum	Maximum	Minimum			Adults	Grilse				
1	86	40	51	49	clear	312	128	25				
2	60	46	50	50	rain-cloudy	314						
3	66	42	50	49	cloudy	313						
4	68	42	51	49	cloudy	313						
5	85	40	51	49	cloudy	313	286	40				
6	66	40	52	50	cloudy-rain	313						
7	82	46	52	51	clear	313						
8	63	42	52	50	partly cloudy	313	154	46		1		
9	51	42	51	50	cloudy-rain	313						
10	64	42	51	51	sprinkles	314						
11	63	38	52	50	partly cloudy	313						
12	60	36	51	50	partly cloudy	313						
13	64	34	50	49	fog-cloudy	312	181	73	6	11		
14	84	34	51	49	fog-clear	312						
15	68	34	50	48	fog-clear	312	73	25	7	7		
16	72	32	51	49	fog-clear	313						
17	79	36	51	49	fog-clear	313						
18	85	40	51	49	fog-clear	313						
19	80	41	53	49	fog-clear	314	217	94	11	14		
20	81	40	51	49	fog-clear	314						
21	75	41	51	49	fog-clear	314						
22	78	41	52	49	fog-clear	312	293	133	20	67		
23	76	42	51	50	fog-clear	313						
24	75	38	51	50	fog-overcast	313						
25	72	41	50	49	fog-overcast	314	343	166	46	119		
26	54	44	50	50	cloudy	314						
27	53	48	50	49	rain	314						
28	52	44	50	49	cloudy	313						
29	57	38	49	48	partly cloudy	313	282	128	117	239		
30	64	37	50	48	clear	313						
31	68	40	50	49	fog-clear	313						
TOTALS							1,957	730	207	458		
*From USGS records.						CUMULATIVE TOTALS	3,813	843	207	458		

Appendix Table 3 (Continued)

November	Temperature F				Weather	Flow of Trinity River (cfs)*	Fish trapped				
	Air		Water				Chinook salmon	Coho salmon	Adults	Grilse	Steelhead
	Maximum	Minimum	Maximum	Minimum							
1	70	39	50	49	fog-clear	311	344	123	183	320	
2	69	42	51	49	fog-clear	311					
3	67	40	51	49	fog-overcast	311					
4	68	43	51	50	fog-clear	311					
5	64	43	51	50	cloudy-rain	310	215	60	131	284	
6	69	44	52	51	cloudy	310					
7	64	45	51	50	fog-clear	311					
8	64	44	51	50	fog-clear	313					
9	70	39	51	50	fog-clear	313	159	72	269	293	
10	51	46	51	50	rain	312					
11	60	50	51	51	sprinkles	312					
12	63	51	51	51	rain	313	88	18	188	246	
13	51	42	51	50	rain	314					
14	52	41	50	50	cloudy	303					
15	52	45	50	50	rain	254					
16	59	50	50	50	rain	314	65	16	383	449	
17	54	44	50	49	showers	311					
18	54	35	50	49	fog-cloudy	309					
19	51	40	49	49	sprinkles	308	23	3	212	166	
20	54	40	49	49	partly cloudy	309					
21	55	46	50	49	rain	310					
22	51	42	49	49	cloudy-rain	311					
23	52	43	49	49	rain	313	16	10	146	132	24
24	48	41	48	48	partly cloudy	309					
25	47	34	48	48	partly cloudy	310					
26	42	33	47	47	fog-rain	311					
27	48	35	47	46	rain	311	4	1	92	57	8
28	50	31	47	46	fog-clear	310					
29	48	32	47	46	fog-clear	309					
30	46	34	46	46	fog-cloudy	307	1		48	51	3
TOTALS							915	303	1,652	1,998	35

*From USGS records.

CUMULATIVE TOTALS

4,728 1,146 1,859 2,456 35

Appendix Table 3 (Continued)

December	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped				
	Air Maximum	Air Minimum	Water Maximum	Water Minimum			Chinook salmon Adults	Chinook salmon Grilse	Coho salmon Adults	Coho salmon Grilse	Steelhead
1	53	35	47	46	partly cloudy	309					
2	54	37	47	47	partly cloudy	307					
3	58	47	47	47	partly cloudy	307					
4	54	40	47	47	fog-clear	309				17	21
5	47	41	48	47	cloudy	310					
6	45	42	47	47	rain	313					
7	56	41	47	47	partly cloudy	311					
8	54	39	47	47	partly cloudy	310					
9	50	45	47	47	partly cloudy	310				84	34
10	50	38	47	47	partly cloudy	310					6
11	50	37	47	47	partly cloudy	310					
12	40	37	47	47	rain	311					
13	44	39	46	40	rain	313					
14	49	44	47	47	cloudy-rain	311					
15	53	42	47	46	partly cloudy	311					
16	49	34	47	46	clear	309				19	15
17	52	36	47	46	partly cloudy	309					15
18	47	35	47	47	rainy	317				1	1
19	50	46	47	47	rainy	761					8
20	47	46	47	47	rain-cloudy	3910					
21	53	35	47	47	partly cloudy	3850				13	2
22	46	34	47	47	partly cloudy	3860				1	68
23	42	36	47	47	partly cloudy	3850					111
24	44	35	47	47	drizzles	3890					33
25	52	42	47	47	cloudy	3940					
26	53	46	47	47	cloudy-rain	3990					
27	43	36	47	47	clear	4030					
28	34	35	46	46	snow	3920					89
29	36	33	45	45	rain	3890					4
30	38	33	37	33	cloudy	3890					1
31	46	35	44	35	snow	2620					3
TOTALS							135	73	586		
*From USGS records.						CUMULATIVE TOTALS	4,728	1,146	1,994	2,529	621

Appendix Table 3 (Continued)

January	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped					
	Air Maximum	Air Minimum	Water Maximum	Water Minimum			Chinook salmon Adults	Chinook salmon Grilse	Coho salmon Adults	Coho salmon Grilse	Steelhead	
1	38	29	46	45	cloudy	2260						
2	35	31	45	45	snow	2270						
3	34	30	45	45	snow	2250						
4	34	32	45	44	snow-cloudy	2240					9	
5	43	33	45	45	fog-cloudy	2250						
6	39	23	46	45	fog-clear	2240						
7	39	19	45	45	clear	1920					12	
8	43	26	46	45	fog-clear	789						
9	44	32	46	45	fog-clear	358					10	
10	38	32	46	46	fog-clear	301						
11	40	32	46	46	fog-cloudy	301						
12	45	31	46	46	fog-clear	301					5	
13	47	29	46	45	fog-clear	301						
14	47	31	46	45	fog-clear	302					26	
15	41	30	46	45	fog-clear	304						
16	46	34	46	45	fog-clear	304					4	
17	48	36	46	45	rain	304						
18	44	31	45	45	cloudy-snow	304						
19	40	30	45	45	snow	302					3	
20	39	31	45	44	snow-rain	303						
21	42	27	45	44	partly cloudy	304					10	
22	33	24	45	44	cloudy-snow	305						
23	39	34	45	44	rain	307					2	
24	42	36	45	45	fog-cloudy	307						
25	53	36	45	45	partly cloudy	307						
26	44	34	45	45	rain-cloudy	308					3	
27	46	30	45	45	showers	308						
28	42	33	45	44	partly cloudy	309					13	
29	47	33	45	44	fog-clear	307						
30	46	33	45	45	fog-clear	310					5	
31	51	34	46	45	fog-clear	310						
TOTALS											102	
*From USGS records.							CUMULATIVE TOTALS	4,728	1,146	1,994	2,529	723

Appendix Table 3 (Continued)

February	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped				
	Air		Water				Chinook salmon	Coho salmon	Adults	Grilse	Steelhead
	Maximum	Minimum	Maximum	Minimum							
1	56	31	46	45	fog-clear	310					2
2	59	30	46	45	fog-clear	309					
3	58	32	46	45	fog-clear	308					10
4	49	27	45	45	fog-clear	308					
5	55	20	45	44	clear	308					2
6	52	20	45	44	clear	308					
7	43	30	45	44	cloudy	308					
8	56	27	45	44	fog-clear	671					3
9	50	27	45	44	cloudy	746					8
10	56	33	45	44	partly cloudy	595					6
11	53	27	45	44	fog-cloudy	327					5
12	53	26	45	44	fog-cloudy	309					3
13	53	40	45	45	cloudy-rain	312					
14	50	36	45	45	cloudy-rain	315					
15	53	44	45	45	cloudy-rain	318					2
16	60	40	46	45	partly cloudy	313					6
17	63	44	46	45	partly cloudy	313					42
18	55	40	46	45	fog-cloudy	312					19
19	67	44	48	46	rain-clear	315					19
20	60	52	47	47	cloudy	312					
21	50	50	46	46	cloudy-rain	312					
22	55	29	45	45	clear	312					37
23	55	28	45	44	clear	1680					12
24	61	28	45	44	clear	2670					2
25	57	30	45	44	partly cloudy	2670					7
26	48	31	45	44	cloudy-rain	2670					16
27	56	41	45	44	cloudy-clear	2630					
28	51	40	45	45	rain-cloudy	2650					
TOTALS											201
*From USGS records.							CUMULATIVE TOTALS				
							4,728	1,146	1,994	2,529	924

Appendix Table 3 (Continued)

March	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped				
	Air Maximum	Air Minimum	Water Maximum	Water Minimum			Chinook salmon Adults	Chinook salmon Grilse	Coho salmon Adults	Coho salmon Grilse	Steelhead
1	57	46	45	44	rain-cloudy	2640					9
2	55	37	45	45	cloudy-rain	2630					
3	54	37	45	45	rain	2630					15
4	59	33	45	44	partly cloudy	2640					
5	64	32	45	45	fog-clear	2620					7
6	60	29	45	45	clear-cloudy	2630					
7	52	34	45	45	cloudy	2630					
8	56	42	45	44	rain	2610					24
9	61	45	45	45	cloudy	2340					
10	54	45	45	45	rain	1090					8
11	60	43	46	45	partly cloudy	429					
12	65	32	47	45	fog-clear	319					2
13	54	36	47	45	fog-cloudy	329					
14	54	38	46	45	partly cloudy	329					
15	49	29	47	45	clear-cloudy	329					5
16	44	33	45	45	snow	329					
17	52	28	45	45	fog-cloudy	329					6
18	52	32	45	45	cloudy-rain	329					
19	54	32	46	45	fog-cloudy	329					1
20	60	32	46	44	fog-clear	329					
21	59	34	46	45	partly cloudy	329					
22	67	29	47	46	fog-clear	329					1
23	70	30	48	46	clear	329					
24	70	30	49	46	clear	330					1
25	55	33	48	46	cloudy	333					
26	50	35	47	46	cloudy	333					1
27	50	40	47	46	cloudy-rain	333					
28	44	38	46	46	cloudy-snow	334					
29	46	31	45	45	snow	335					1
30	39	33	45	45	snow	336					
31	50	33	45	44	cloudy	338					1
TOTALS											82
*From USGS records.							CUMULATIVE TOTALS				
							4,726	1,146	1,994	2,529	1,006

Appendix Table 3 (Continued)

April	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped					
	Air Maximum	Air Minimum	Water Maximum	Water Minimum			Chinook salmon Adults	Chinook salmon Grilse	Coho salmon Adults	Coho salmon Grilse	Steelhead	
1	45	31	45	44	snow-cloudy	335						
2	44	32	44	44	snow-rain	335						
3	47	42	44	44	cloudy	335					1	
4	54	36	45	44	clear-cloudy	334						
5	47	33	45	45	cloudy-snow	337						
6	47	28	45	44	snow-rain	336						
7	50	38	45	44	partly cloudy	337						
8	60	32	46	44	clear-cloudy	337						
9	68	29	49	46	clear	337						
10	49	41	47	47	rain	336						
11	52	50	47	47	rain	338						
12	56	41	47	47	cloudy	338						
13	56	43	48	47	rain	338						
14	54	37	48	47	showers	338						
15	60	28	50	47	clear	335						
16	68	29	50	48	fog-clear	334						
17	68	44	50	49	clear	334						
18	68	43	53	48	clear	334						
19	73	31	53	52	clear	335						
20	74	38	54	53	clear	337						
21	82	32	55	52	clear	337						
22	83	34	55	52	clear	338						
23	80	38	52	51	clear	450						
24	70	52	51	49	clear	960						
25	68	47	50	49	partly cloudy	992						
26	74	35	49	47	clear	991						
27	80	40	49	47	fog-clear	993						
28	73	45	49	47	cloudy-clear	993						
29	79	33	49	48	clear	993						
30	76	36	49	47	clear	724						
TOTAL											1	
*From USGS records.							CUMULATIVE TOTALS	4,726	1,146	1,994	2,529	1,007

Appendix Table 3 (Continued)

May	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped					
	Air		Water				Chinook salmon	Coho salmon				
	Maximum	Minimum	Maximum	Minimum			Adults	Grilse				
1	76	42	50	47	clear	299						
2	79	39	49	47	clear	296						
3	81	40	49	47	clear	296						
4	79	37	49	48	clear	298						
5	86	37	50	48	clear	299						
6	88	41	50	48	clear	294						
7	78	44	50	48	clear	295						
8	80	42	51	48	cloudy	293						
9	67	33	49	48	clear	295						
10	72	34	48	47	clear	294						
11	70	36	48	47	clear	292						
12	80	39	49	47	clear	292						
13	79	44	49	47	clear	293						
14	80	45	49	48	clear	296						
15	82	40	50	49	clear	292						
16	85	41	50	48	clear	291						
17	67	55	50	48	sprinkles	291						
18	75	34	49	48	clear	289						
19	85	37	50	47	clear	289						
20	84	42	51	47	clear	287						
21	87	46	52	48	clear	288						
22	84	49	51	49	partly cloudy	288						
23	93	46	52	49	clear	288						
24	96	50	51	48	clear	286						
25	100	50	54	51	clear	285						
26	87	52	54	52	clear	287						
27	72	40	53	51	clear	285						
28	73	37	51	50	clear	285						
29	81	41	51	49	clear	282						
30	80	42	54	49	clear	283						
31	72	41	51	50	sprinkles	285						

*From USGS records.

CUMULATIVE TOTALS

Appendix Table 3 (Continued)

June	Temperature F				Weather	Flow of Trinity River at Lewiston (cfs)*	Fish trapped					
	Air		Water				Chinook salmon	Coho salmon				
	Maximum	Minimum	Maximum	Minimum			Adults	Grilse	Adults	Grilse	Steelhead	
1	76	49	54	51	cloudy-clear	421						
2	75	40	51	50	clear	487						
3	74	39	53	52	partly cloudy	477						
4	63	47	53	52	partly cloudy	467						
5	70	33	54	52	clear-cloudy	463						
6	76	38	54	52	cloudy-clear	458						
7	79	36	54	52	clear	458						
8	86	41	56	52	clear	459						
9	91	42	54	53	clear	454						
10	90	48	57	53	clear	454						
11	76	53	54	53	showers	458						
12	78	51	56	52	showers	457						
13	83	52	53	51	partly cloudy	456						
14	93	49	54	51	clear	454						
15	95	53	55	51	clear	452						
16	100	56	55	53	clear	452						
17	102	58	55	52	clear	450						
18	90	58	56	51	showers	453						
19	91	62	54	51	cloudy-clear	453						
20	87	61	53	51	cloudy	454						
21	89	54	53	50	partly cloudy	453						
22	93	60	53	49	fog-clear	454						
23	91	54	52	50	clear-cloudy	452						
24	82	58	52	50	partly cloudy	451						
25	77	54	52	50	partly cloudy	449						
26	72	61	52	51	cloudy-rain	451						
27	82	54	55	51	partly cloudy	454						
28	69	56	53	51	cloudy-rain	455						
29	69	53	53	51	partly cloudy	455						
30	80	51	54	52	fog	454						

*From USGS records.