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ANNUAL REPORT
FEATHER RIVER SALMON AND STEELHEAD HATCHERY
1974-75

by

Donald L. Schlichting
Region 2

Anadromous Fisheries Branch
Administrative Report No. 78-13

1978

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ABSTRACT

This report describes the operation of Feather River Hatchery from July 1, 1974 through June 30, 1975. Tables present the numbers of adult salmon and steelhead received, fish produced and planted, records of marked fish observed, and water temperatures and flow data.

^{1/} Anadromous Fisheries Branch Administrative Report No. 78-13.
Submitted April 1977.

INTRODUCTION

This report describes activities of Feather River Hatchery, during its eighth year of operation, July 1, 1974 to June 30, 1975.

The hatchery is located near the upper Thermalito Bridge in Oroville, California, and was constructed by the California Department of Water Resources as part of the California Water Project to compensate for loss of spawning area above Oroville Dam. It is operated by the Department of Fish and Game with funds provided by the Department of Water Resources.

PRODUCTION SUMMARY

Personnel from Feather River Hatchery trapped 5,626 king salmon (Oncorhynchus tshawytscha) and 758 steelhead (Salmo gairdnerii gairdnerii) during the 1974-75 season (Table 1). We took 13,659,159 salmon and 1,468,640 steelhead eggs and planted 12,748,829 salmon and 348,646 steelhead.

Table 1. Feather River Hatchery Production Summary,
1974-75 Season

Species/ brood year	Adults trapped or received	Females spawned	Eggs taken or received	Fish Planted		Estimate on hand 6/30/75
				fingerlings	yearlings	
King salmon, spring run						
1973 BY					175,100	0
1974 BY	198	29	155,332			105,300
King salmon, fall run						
1973 BY				[Spawning Ch. FR]		0
1974 BY	5,428	2,807 ^{a/}	13,503,827	2,050,900 ^{b/}	680,210	891,360
King salmon, winter run						
1974 BY				256,500	137,100	0
Steelhead (wild)						
1974 BY				204,000	101,510	0
1975 BY	758	289	1,153,626			1,001,750 ^{c/}
Steelhead (domestic)						
1974 BY					42,710	0
1975 BY		79	315,014			<u>c/</u>
Steelhead (domestic)						
Assorted years					426 (broodstock)	

- ^{a/} Includes 582 females in spawning channel.
^{b/} Includes 866,200 migrants from spawning channel.
^{c/} Domestic and wild fish were consolidated.

MARKING PROGRAMS

Personnel from Anadromous Fisheries Branch marked 187,407 1974 broodyear (BY) king salmon with an adipose fin clip and tagged them with coded wire nose tags (CWT). These fish were used to test the efficiency of the fish screen at the Tracy Pumping Plant.

In addition, approximately 200,000 fall-run salmon were marked with a "T" brand.

KING SALMON MAINTENANCE PROGRAM

History of the 1974-75 Runs

1974 BY Spring Run

The fish ladder was opened on September 3, 1974 to allow the spring-run king salmon adults to enter the hatchery. We received 198 spring-run fish between September 3 and September 5, 1974. The surviving spring-run adults were sexed on October 4, 1974. At that time we had 69 females and 83 males on hand. Of the 69 females, we successfully spawned 29 from October 4 through October 21, 1974. The spawning yielded 155,332 eggs for an average of 5,356 eggs/female.

An estimated 117,300 fingerlings were transferred to the ponds for an average fertility rate of 76%. Following losses of nearly 12,000 fish, primarily to infectious hemopoetic necrosis (IHN), approximately 105,300 fish remained on hand June 30, 1975. They were to be planted as yearlings the following season.

1974 BY Fall Run

The first fall-run king salmon entered the hatchery on September 22 and the last was received on December 23, 1974 (Appendix Table 1). The season total was 5,428 fish. We spawned 2,225 females this season, October 4 through November 21, 1974, and took 13,503,827 eggs, for an average of 6,069 eggs/female. Fry production totaled 10,929,505 for an overall eggs to fish ratio of 81%, with an estimated 1,460,300 loss to IHN. Between February 10 and June 26, 1975 we planted 8,577,819 fall-run fry. We had an estimated 891,360 fall-run salmon on hand June 30, 1975.

In addition, 582 females spawned in the spawning channel producing an estimated 866,200 emigrants.

Recovery of Marked King Salmon

All king salmon entering the hatchery were examined for marks. We observed a total of 54 marked fish (Appendix Tables 2 & 3).

King Salmon Planting

We planted 11,756,419 fingerling and 992,410 yearling king salmon this season (Table 2).

Table 2. King Salmon Planting Summary, Feather River Hatchery, 1974-75

Brood year	Race	Month of release	Average size(g)	Number released	Mark	Release site
1973	Spring run	Oct. 1974	29	29,600		Feather R. @ Gridley
		Nov. 1974	32	56,000		"
		Dec. 1974	45	25,000		"
		Dec. 1974	45	64,500		Feather R. @ Marysville
		TOTAL		175,100		
	Fall run	Jul. 1974	11	16,000		Tehama-Colusa Spawn. Ch.
		Jul. 1974	5	2,034,900		Feather R. @ Hatchery
		Oct. 1974	28-41	332,140		Feather R. @ Gridley
		Nov. 1974	37-80	165,250		"
		Dec. 1974	50-64	182,820		"
		TOTAL		2,731,110		
1974	Winter run	Aug. 1974	4-5	202,500		Sacramento R. @ Rio Vista
		Nov. 1974	12	54,000		Feather R. @ Gridley
		Dec. 1974	22-34	137,100		"
		TOTAL		393,600		
	Fall run	Feb. 1975	0.5	1,811,760		Feather R. @ Hatchery
		Apr. 1975	3-4	436,300		Sacramento R. @ Rio Vista
		Apr. 1975	4	200,100	"T" brand	Sacramento R. @ Clarksburg
		Apr. 1975	4	112,500		Feather R. @ Oroville
		May 1975	4-7	2,326,150		Sacramento R. @ Rio Vista
		May 1975	5-6	94,665	Ad+(CWT)	Tracy Pumping Plant
		May 1975	5-6	189,192	Ad+(CWT)	San Joaquin R. @ Antioch
		Jun. 1975	5-7	1,919,664		Sacramento R. @ Rio Vista
		Jun. 1975	2-3	1,492,488		Feather R. @ Hatchery
		Jun. 1975	2	866,200		Feather R. from Spawn. Ch.
		TOTAL		9,449,019		

STEELHEAD MAINTENANCE PROGRAM

History of the 1974-75 Production

1975 BY (wild)

Steelhead were not counted or held until November 27, 1974. From November 11, 1974 through February 14, 1975, 178 marked and 2 tagged fish were counted and measured as they entered the hatchery (Appendix Tables 4 & 5).

The total run was 758 fish: 343 males and 415 females. We successfully spawned 289 females (Table 3) and took 1,153,626 eggs. An estimated 929,780 fry were transferred to the ponds for a survival rate of 81%. We consolidated our domestic and wild fry for a combined total of 1,001,750 fish.

1975 BY (domestic)

A total of 315,014 1975 broodyear eggs were taken from 79 domestic steelhead (steelhead hatched and reared at the installation). A total of 258,300 fish were transferred to the ponds for an egg to fingerling survival rate of 81.9%. This year we consolidated the domestic and wild fry, planted the remaining brood stock and terminated the domestic program.

Table 3. Steelhead Spawning Data

Wild fish			Domestic fish (Brood Stock)		
Date	Fish spawned		Date	Fish spawned	
	M	F		M	F
1/ 3/75	52	46	1/ 6/75	15	28
1/ 9/75	20	26	1/13/75	6	6
1/16/75	20	39	1/24/75	10	17
1/24/75	55	60	1/31/75	8	12
2/ 7/75	25	44	2/ 7/75	9	9
2/14/75	15	28	2/14/75	5	7
2/21/75	12	23			

Steelhead Planting

We planted 348,646 steelhead during the 1974-75 season (Table 4).

Table 4. Steelhead Planting Summary, Feather River Hatchery, 1974-75

Brood year	Stock	Month of release	Average size (g)	Number released	Release site
1974	Wild	Aug. 1974	3	156,000	Feather River @ hatchery
		Nov. 1974	28	48,000	Feather River @ Gridley
		Mar. 1975	60-73	101,510	Feather River @ Gridley
			TOTAL	305,510	
1974	Domestic	Mar. 1975	97-106	42,710	Feather River @ Gridley
Mixed Brood stock		Mar. 1975	1,140	426	Feather River @ Gridley

VISITOR USE

During the 1974-75 fiscal year 139,582 people visited this installation. In addition, 4,415 people were conducted through the hatchery on organized tours.

Appendix Table 1
Feather River Salmon and Steelhead Hatchery
Weather, Water, and Fish Data Report
July 1, 1974 through June 30, 1975

July	Temperature (C) *				Weather	Fish Trapped				Steelhead
	Air		Water			King Salmon				
						Fall Run	Spring Run			
	Maximum	Minimum	Maximum	Minimum		Adults	Grilse	Adults	Grilse	
1	16.5	13.5	16.1	15.0	Clear					
2	24.5	18	16.1	15.0	Clear					
3	21	13.5	16.7	16.1	Clear					
4	30.5	12	16.1	15.6	Clear					
5	34.5	16.5	16.7	15.6	Clear					
6	33.5	18	16.7	16.1	Clear					
7	31	14.5	16.7	15.0	Clear					
8	31	11.5	16.1	15.6	Rain					
9	23	13	15.6	15.0	Rain					
10	28	13	15.6	15.0	Clear					
11	32	16.5	16.1	15.0	Clear					
12	33	17	16.1	15.6	Clear					
13	35	17	15.6	15.0	Clear					
14	31.5	16	15.6	15.0	Clear					
15	27	13	15.6	15.0	Clear					
16	37	16	15.6	15.0	Clear					
17	34	15	16.1	15.0	Clear					
18	36	16.5	16.1	15.6	Clear					
19	37	17.5	16.1	15.6	Clear					
20	37	20	16.1	15.6	Clear					
21	38	17	16.1	15.6	Clear					
22	37	16	16.1	16.1	Clear					
23	38	19	16.7	16.1	Clear					
24	40	23	17.2	16.1	Clear					
25	38	23	17.2	15.6	Clear					
26	36	21	15.6	15.6	Clear					
27	35	18	15.6	15.6	Clear					
28	37	16.5	16.1	15.6	Clear					
29	38.5	16	16.7	15.6	Clear					
30	37	17	16.7	16.1	Clear					
31	35	17.5	16.7	16.1	Clear					

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

						Fish trapped				Steelhead
Temperature (C)*						King salmon				
August	Air		Water		Weather	Fall run		Spring run		
	Maximum	Minimum	Maximum	Minimum		Adults	Grilse	Adults	Grilse	
1	39	18	16.7	16.1	Clear					
2	40	21.5	17.2	16.1	Clear					
3	39	20	16.1	15.0	Clear					
4	37	19.5	16.1	15.0	Clear					
5	34	21	16.7	15.0	Rain					
6	37	17.5	16.7	14.4	Clear					
7	35	19	15.0	13.9	Clear					
8	36	15	15.0	14.4	Clear					
9	38	17	15.0	14.4	Clear					
10	34	15	15.6	15.0						
11	33	15	15.6	15.0						
12	30	14	16.1	15.6	Clear					
13	29.5	12.5	16.1	15.6	Clear					
14	33	12	16.1	15.6	Clear					
15	33	14	16.7	15.0	Clear					
16	32.5	12.5	15.0	14.4	Clear					
17	34	13	15.0	14.4	Clear					
18	31.5	13	15.0	14.4						
19	29.5	12	15.0	13.9	Clear					
20	34.5	12	16.1	15.0	Clear					
21	36.5	16	16.1	15.6	Clear					
22	39	17	16.7	15.6	Clear					
23	39	19	16.1	15.0	Clear					
24	38	18	15.0	14.4	Clear					
25	34	16	15.6	14.4	Clear					
26	36.5	16	15.6	14.4	Clear					
27	35	15	15.0	14.4	Clear					
28	33	12.5	15.0	14.4	Clear					
29	31	13	15.0	13.3						
30	29	13	13.3	12.2	Clear					
31	31.5	13.5	13.3	12.8	Clear					

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

Temperature (C)*						Fish trapped				Steelhead
September	Air		Water		Weather	King salmon				
	Maximum	Minimum	Maximum	Minimum		Fall run		Spring run		
						Adults	Grilse	Adults	Grilse	
1	39.5	13.5	13.3	12.8	Clear					
2	36	16	13.9	12.8	Clear					
3	35	17.5	13.3	12.8	Clear					
4	36	16	13.9	13.3	Clear					
5	36	12.5	13.9	12.8	Clear					
6	38	16.5	12.8	11.7	Clear					
7	37.5	21	12.8	12.2	Clear					
8	37	18	12.2	12.2	Clear					
9	35	14	12.8	12.2	Clear					
10	36.5	13	13.3	12.2						
11	35	14	14.4	12.8	Clear					
12	34	12.5	13.3	11.7	Clear					
13	33	11.5	12.2	11.1	Clear					
14	32	10.5	12.2	12.2	Clear					
15	32.5	12	12.8	12.2	Clear					
16	33	12	12.8	11.7	Clear					
17	35	12	13.3	12.8	Clear					
18	34.5	12.5	13.3	12.2	Clear					
19	34	12	13.3	12.8	Clear					
20	34.5	12	12.2	11.7	Clear					
21	34	12	12.2	11.7	Clear					
22	34	13.5	12.2	11.7	Clear	2	11			
23	34	12	12.8	12.2	Clear					
24	36	13	12.8	11.7	Clear					
25	30	13	13.3	11.7	Clear					
26	34	10.5	13.3	12.8	Clear	4	3			
27	32	11	13.3	13.3	Clear	4	11			
28	30	10	13.3	12.2	Clear					
29	30	10	12.8	11.7	Clear					
30	33.5	12	12.2	11.1	Clear	5	20			
Total						15	45			

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

October	Temperature (C)*				Weather	Fish trapped				Steelhead
	Air		Water			King salmon		198 (Inventory count)		
	Maximum	Minimum	Maximum	Minimum		Fall run	Spring run			
						Adults	Grilse		Adults	
1	37	13	12.8	11.1	Clear					
2	31	15.5	12.8	11.7	Clear	12	20			
3	26.5	12.5	12.8	11.7	Clear					
4	29	12	12.8	11.7	Clear	78	96			
5	38	18	11.7	11.1	Clear					
6	29.5	9.5	11.1	11.1						
7	31	11.5	12.2	11.1	Clear	91	73			
8	32	15	12.2	11.1	Clear					
9	31	9.5	12.8	11.7	Clear					
10	31	17	12.8	12.2	Clear	149	88			
11	31	10	14.4	12.8	Clear	97	48			
12	30	9	14.4	13.9	Clear					
13	33	12	13.9	12.2	Clear					
14	34	13	13.3	12.2	Clear					
15	29	12	13.9	12.8	Clear	320	132			
16	31	9.5	12.8	11.7	Clear					
17	31	17	13.3	12.2	Clear	223	59			
18	31	10	12.8	11.7	Clear	432	69			
19	30	9	11.7	11.1	Clear					
20	25	11.5	11.7	11.1	Clear					
21	26	12	12.2	11.1	Clear	217	40			
22	24	9.5	12.2	11.7	Clear					
23	21	10	12.2	10.6	Clear	413	52			
24	19	10	11.1	10.6	Clear					
25	23	10	11.1	11.1	Cloudy	213	43			
26	22	12	11.1	11.1	Cloudy					
27	18	11	11.1	11.1	Rain					
28	19	10	11.7	11.1	Rain	363	62			
29	20	11	11.7	11.1	Cloudy					
30	16	10.5	11.7	11.1	Cloudy	285	42			
31	11	9	11.1	11.1	Rain					
Total						2,893	824	198		

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

						Fish trapped				Steelhead	
Temperature (C)*						King salmon					
						Fall run		Spring run			
						Adults	Grilse	Adults	Grilse	M	F
Air						Water					
Maximum Minimum Maximum Minimum Weather											
November											
1	18	10	11.7	11.1	Clear	200	37				
2	19	5	12.2	11.1	Clear						
3	19	5	12.2	11.7	Clear						
4	17	9	12.2	11.7	Rain	157	26				
5	18.5	7	11.7	11.1	Clear						
6	21	7.5	11.7	11.1	Clear						
7	23	9	11.1	11.1	Rain						
8	19	4	11.7	10.6	Clear	203	31				
9	17	4	11.7	11.1							
10	19	7	11.7	11.1							
11	18	6	11.7	11.1							
12	20	6	11.1	11.1	Clear	142	28				
13	19	10	11.1	10.6	Clear						
14	20	9.5	11.7	11.1	Clear						
15	20	11	11.7	11.1	Foggy	58	22				
16	15	9	11.1	11.1	Foggy						
17	12	6.5	11.1	11.1	Foggy						
18	12	9	11.1	10.6	Foggy	87	9				
19	19	6	12.2	10.6	Clear						
20	14	5.5	12.2	11.7	Clear						
21	14.5	6.5	12.2	10.0	Rain						
22	13.5	5.5	11.1	10.0	Clear	176	12				
23	13.5	4.5	11.7	11.7	Clear						
24	13.5	4.5	11.1	11.1	Rain						
25	14.5	5.5	11.1	10.6	Clear						
26	16	5.5	11.7	10.6	Clear						
27	14.5	5.5	11.7	11.1	Clear	109	12			54	49
28	14.5	6	11.1	11.1	Clear						
29	15	4.5	11.1	11.1	Clear						
30	13.5	3.5	11.1	10.6	Clear						
Total						1,132	177			54	49

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

December	Temperature (C) *					Fish trapped				Steelhead	
	Air		Water		Weather	King salmon				M	F
	Maximum	Minimum	Maximum	Minimum		Fall run	Spring run				
						Adults	Grilse	Adults	Grilse		
1	14.5	4.5	11.1	10.6	Clear						
2	12	3.5	11.1	10.6	Rain	112	6			25	30
3	10	8.5	11.1	10.6	Rain	29	5			8	10
4	11	9	10.6	8.3	Cloudy						
5	14.5	6	10.6	10.0	Clear						
6	10.5	5.5	10.6	10.6	Clear						
7	14.5	6.5	10.6	10.0	Clear						
8	15	4.5	10.6	10.6	Fog						
9	10	4.5	10.6	10.0	Fog	93	0			46	37
10	11	4.5	10.6	10.0	Fog						
11	5.5	4.5	10.0	10.0	Fog	25	0			16	30
12	8	4	10.0	9.4	Fog						
13	11	6	9.4	9.4	Fog						
14	11	3	9.4	9.4	Fog						
15	17.5	5	9.4	9.4	Fog						
16	11	6	9.4	8.9	Clear						
17	15.5	4	8.9	8.3	Fog						
18			9.4	8.3	Fog	59	0			17	28
19			9.4	8.9	Fog						
20	6	5	8.9	8.3	Fog						
21	8	0	8.3	7.8							
22	10	1.5	7.8	7.8							
23	10.5	1	7.8	7.8	Clear	13	0			6	6
24	10	1	7.8	7.8	Clear						
25	9	1	8.3	7.8	Clear						
26	9.5	6	8.3	7.8							
27	7	4	8.3	8.3	Rain						
28	13	0	7.8	8.3							
29	11	1	8.3	7.8							
30	13	1	8.3	7.8	Clear						
31	13.5	1.5	8.3	8.3	Clear						
Total						331	11			118	141

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

January	Temperature (C) *					Fish trapped				Steelhead	
	Air		Water		Weather	King salmon				M	F
	Maximum	Minimum	Maximum	Minimum		Fall run	Spring run				
						Adults	Grilse	Adults	Grilse		
1	8	0	8.3	8.3	Clear						
2	13	0	8.3	8.3	Clear						
3	8	6.5	8.3	8.3	Clear					23	14
4	11	3	8.3	8.3	Clear						
5	9	6.5	8.3	7.8	Rain						
6	18	1	7.8	7.8	Rain					14	20
7	10.5	7	7.8	7.8	Fog						
8	13	7	7.8	7.8	Clear						
9	8	6.5	7.8	7.2	Clear					18	23
10	7	2	7.2	7.2	Overcast						
11	13	2.5	7.2	7.2	Clear						
12	13.5	5	7.2	7.2	Clear						
13	15	7	7.8	7.2	Clear					9	10
14	15	1	7.8	7.8	Fog						
15	10	3	7.8	7.8	Fog						
16	16	2	7.8	7.8	Fog					43	39
17	5	1	7.8	7.8	Fog						
18	12	3	7.8	7.8	Fog						
19	6	1.5	7.8	7.8	Fog						
20	11	1	7.8	7.8							
21	15	1.5	7.8	7.2							
22	15	14	7.8	7.2	Fog						
23	15	3	7.8	7.8	Fog						
24	16	4.5	7.8	7.8	Fog					37	62
25	14	5.5	7.8	7.8	Clear						
26	12	2	7.8	7.8	Clear						
27	12	2	7.8	7.8	Clear						
28	10	1.5	7.8	7.8	Clear						
29	10	2	7.8		Clear						
30	10	14	7.8	7.2	Cloudy						
31	9	4	7.2	7.2	Cloudy high Wind					9	17
Total										153	185

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

Feburary	Temperature (C)*					Fish trapped				Steelhead		
	Air		Water		Weather	King salmon				M	F	
	Maximum	Minimum	Maximum	Minimum		Fall run	Spring run					
						Adults	Grilse	Adults	Grilse			
1			7.2	6.7	Rain							
2			6.7	6.7	Rain							
3		-1.5	6.7	6.7	Cloudy							
4	11	3	6.7	6.7	Rain							
5	8	5	6.7	6.7	Cloudy							
6	13	7	6.7	6.7	Rain							
7	13	9.5	6.7	6.7	Rain					10	19	
8	10	9	7.2	6.7	Rain							
9			7.2	7.2	Rain							
10			7.2	7.2	Cloudy							
11			7.8	7.2	Rain							
12			7.8	7.2	Rain							
13	14	4	7.8	7.2	Rain							
14	12.5	1.2	7.8	7.8	Clear					5	16	
15	15	10	7.8	7.8	Clear							
16	14	1	7.8	7.8	Clear							
17	13	5	7.8	7.8	Clear							
18	11.5	8	7.8	7.8	Clear							
19	20	7	7.8	7.8	Rain							
20	10	4	7.8	7.8	Clear							
21	12.5	-1	7.8	7.8	Clear					3	5	
22	13	5	7.8	7.2	Clear							
23	18	3	7.2	7.2	Clear							
24	17.5	4	7.2	7.2	Clear							
25	18	5.5	7.8	7.2	Clear							
26	17	6	7.8	7.2	Clear							
27	18	8	7.8	7.2	Clear							
28	15	11.5	7.8	7.2	Clear							
29												
30												
Total											18	40

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

						Fish trapped				Steelhead	
Temperature (C) *						King salmon					
						Fall run		Spring run			
						Adults	Grilse	Adults	Grilse		
March	Air		Water		Weather						
	Maximum	Minimum	Maximum	Minimum							
	1	13	10	7.8		7.2	Rain				
	2	18	14	7.8		7.2	Cloudy				
	3	20.5	8	8.3		7.8	Clear				
	4	18	10	8.3		7.8	Clear				
	5	12	10	7.8		7.8	Rain				
	6	14	10	7.8		7.8	Rain				
	7	13	8	7.8		7.8	Rain				
	8			7.8		7.8	Rain				
	9	13	6	7.8		7.8	Cloudy				
	10	13	6	8.3		7.8	Cloudy				
	11	8	3	8.3		7.8	Cloudy				
	12	16	8	8.3		7.8	Cloudy				
	13	14	10	8.3		7.8	Rain				
	14	8	4	8.3		7.8	Clear				
	15	14	8	7.8		7.8	Cloudy				
	16			7.8		7.2	Clear				
	17	10	4	8.3		7.8	Rain				
	18	13	8.5	7.8		7.8	Rain				
	19	9.5	8	7.8		7.8	Rain				
	20	16	10	7.8		7.8	Clear				
	21	13.5	4.5	7.8		7.8	Rain				
	22	14	14	7.8		7.8	Rain				
	23	7	4.5	7.8		7.8	Cloudy				
	24	10	4	7.8		7.8	Rain				
	25	13	8.5	7.8		7.8	Cloudy				
	26	9.5	8	7.8		7.8	Rain				
	27	16	10	8.3		7.8	Clear				
	28	13.5	4.5	8.3		8.3	Clear				
29	11	4	8.9	8.3	Clear						
30	23	7	8.9	8.3	Clear						
31	21	7	9.1	8.9	Clear						

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

						Fish trapped				Steelhead
Temperature (C) *						King salmon				
						Fall run		Spring run		
						Adults	Grilse	Adults	Grilse	
						Maximum	Minimum	Maximum	Minimum	Weather
April	1	17.2	2	9.4	8.3	Clear				
	2	17	6	9.4	8.3	Cloudy				
	3	15	8	8.9	8.3	Cloudy				
	4	12	5.5	8.9	8.3	Cloudy				
	5	18	4	8.3	8.3	Rain				
	6	12	5	9.4	8.3	Rain				
	7	8	5	8.9	8.3	Rain				
	8	13	3	8.9	8.3	Rain				
	9	20	5	8.3	8.3	Clear				
	10	18	4.5		8.3	Clear				
	11	23	6.5	10.0	8.3	Clear				
	12	23	5	10.0	8.3	Clear				
	13	19	8	10.0	8.3	Clear				
	14	13	4	10.0	8.3	Rain				
	15	14	4	10.0	8.3	Cloudy				
	16	15	14	9.4	8.3	Clear				
	17	18.5	5	9.4	8.3	Clear				
	18	17.5	9	9.4	8.3	Clear				
	19	17.5	13	10.0	8.3	Clear				
	20	20	11	11.1	8.9	Clear				
	21	22.5	6	11.7	9.4	Cloudy				
	22	14	8	10.6	8.3	Cloudy				
	23	15.5	11	8.3	8.3	Cloudy				
	24	14	3.5	8.9	8.3	Rain				
	25	14.5	3.5	8.9	8.3	Clear				
	26	19.5	6	10.0	8.9	Clear				
	27	22	5	10.0	9.4	Clear				
	28	20	8	10.0	9.4	Clear				
	29	21	10.5	10.0	10.0	Clear				
	30	25	11	10.6	10.0	Clear				

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

May	Temperature (C) *					Fish trapped				Steelhead
	Air		Water		Weather	King salmon				
	Maximum	Minimum	Maximum	Minimum		Fall run	Spring run			
						Adults	Grilse		Adults	
1			10.0	9.4	Rain					
2			10.0	9.4	Clear					
3			9.4	8.3	Rain					
4	37	17	10.0	8.3	Clear					
5	33.3	15	10.6	10.0	Clear					
6	31	12	10.6	10.0	Clear					
7	32	13.5	10.6	10.0	Clear					
8	34	17	10.6	10.0	Clear					
9	36	18	10.6	10.0	Clear					
10	36	16		10.0	Clear					
11	37	17	10.6	9.4	Clear					
12			11.1	10.6	Clear					
13	33	12	11.7	11.1	Clear					
14	23	7	11.1	10.6	Clear					
15	23	9	11.1	10.0	Clear					
16	30	10.5	12.2	11.1	Clear					
17	31	14	12.2	11.1	Clear					
18	32	12	12.8	11.1	Clear					
19	26	9	12.2	11.7	Clear					
20	27	9	13.3	11.7	Clear					
21	27	10	13.3	11.7	Clear					
22	16	4	12.2	11.7	Clear					
23	30	10.5	12.2	11.7	Clear					
24	32	10	12.8	11.7						
25	31	19	12.8	12.2						
26	33	13.5	13.3	12.8	Clear					
27		18	13.3	12.2	Clear					
28			13.3	12.8	Clear					
29			13.9	12.8	Clear					
30			13.3	12.8	Clear					
31			13.3	12.2	Clear					

* Temperature measured in F and converted to C.

Appendix Table 1 (Continued)

June	Temperature (C)*					Fish trapped				Steelhead	
	Air		Water		Weather	King salmon				M	F
	Maximum	Minimum	Maximum	Minimum		Fall run	Spring run				
						Adults	Grilse	Adults	Grilse		
1			12.8	12.2	Cloudy						
2			12.8	12.2	Clear						
3			12.8	12.2	Clear						
4	37	17	14.4	12.8	Clear						
5	33.3	15	14.4	13.3	Clear						
6	31	12	13.3	13.3	Clear						
7	32	13.5	13.3	12.8	Clear						
8	34	17	15.0	13.3	Clear						
9	36	18	15.6	14.4	Clear						
10	36	16	15.0	14.4	Clear						
11	32	17	14.4	13.9	Clear						
12	35	22	14.4	13.3	Clear						
13	40	17	15.0	13.3	Clear						
14	37	15.5	15.0	14.4	Clear						
15	30	13	15.0	14.4	Clear						
16	28	12.5	15.0	14.4	Clear						
17	28	10	14.4	13.9	Clear						
18	27	12.5	15.0	14.4	Cloudy						
19	18	11	14.4	13.9	Cloudy						
20	28	13	14.4	13.9	Clear						
21	30	12.5	14.4	14.4	Clear						
22	32	13	15.0	13.9	Clear						
23	24.5	11	15.0	14.4							
24	17	10	14.4	12.8	Rain						
25	27	12	15.0	12.8	Clear						
26	30.5	14	15.0	14.4	Clear						
27	30	15.5	15.0	15.0	Clear						
28	33	13.5	15.0	14.4	Clear						
29	31	12.5	15.6	14.4	Clear						
30	27	9.5	16.1	13.9							
Season total						4,371	1,057	198		343	415

* Temperature measured in F and converted to C.

Appendix Table 2. Probable Origin of Marked King Salmon Recovered at Feather River Hatchery
1974-75 Season

Mark	Brood year	Number recovered	Release data			Number released	Origin
			Area	Size (g)	Date		
Ad-RV	1969	6	Sacramento R. @ Rio Vista	5	May 1970	327,000	Coleman Hatchery
	1970		Sacramento R. @ Rio Vista	5	Mar. 1971	368,000	Coleman Hatchery
An-LP	1969	28	[1/2 Feather R. @ hatchery & 1/2 Sacramento River @ Rio Vista]	61	Feb. 1971	40,000	Feather R. Hatchery
	1970			76	Feb. 1972	110,000	Feather R. Hatchery
LV	?	2					
RP	1970	18	Feather River	65	Nov. 1971	60,200	Feather R. Hatchery

Appendix Table 3. Fork Lengths of Marked King Salmon Trapped at Feather River Hatchery, 1974-75 Season

Length (inches)	AD-RV		AN-LP		LV		RP	
	M	F	M	F	M	F	M	F
17								
18								
19								
20								
21								
22								
23								
24								
25				2				
26								
27								3
28		1					1	
29	1	1		4				
30				4				
31		1	2	3	1			3
32			1	4				7
33		1		4				3
34		1	2	1				
35						1		1
36								
37			1					
Totals	6		28		2		18	

Appendix Table 4. Probable Origin of Marked Steelhead Recoveries, Feather River Hatchery, 1974-75 Season

Mark	Brood year	Number recovered	Area	Average size (g)	Date	Number released	Origin
Ad-LV-RP	1971	} 60	Feather River	?	Fall 1971	34,450	Feather R. Hatchery
	1972		Feather River	89	Mar. 1973	30,000	Feather R. Hatchery
Ad-RV-LP	1971	} 106	Feather River	?	Fall 1971	30,400	Feather R. Hatchery
	1972		Feather River	87	Mar. 1973	30,000	Feather R. Hatchery
LV-RP	1971	4	Sacramento R. @ Clarksburg	72-86	Feb. 1972	40,233	Nimbus Hatchery
LP	1970	3	Sacramento R. @ Clarksburg	57	Apr. 1971	60,170	Nimbus Hatchery
LP-RP	?	1					
RP	1970	4	American & Sacramento Rivers	142	Jun.-Jul. 1970	12,780	Nimbus Hatchery

Appendix Table 5, Fork Lengths of Steelhead Trapped at
Feather River Hatchery, 1974-75 Season

Length (inches)	Ad-LP-RV		Ad-RP-LV		RP		RP-LV		LP		LP-RP		Tags	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
14														
15	1													
16	1		1											
17			2											
18			3		1	1							1	
19			1	1										
20	1	2												
21	2		1	2										
22	4	10	1	4										
23	12	17	4	8		1								
24	10	13	4	13				1						
25	5	11	2	3				1		1				
26	7	1	3	4	1			1		2				1
27	3	2	1		1						1			
28	2	2		2										
29														
30														
31														
32														
33														
34														
35														
Totals	106		60		4		4		3		1		2	