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State of California The Resources Agency DEPARTMENT OF FISH AND GAME

ANNUAL REPORT IRON GATE SALMON AND STEELHEAD HATCHERY 1985-86

by

Curtis A. Hiser

Region 1, Inland Fisheries

Inland Fisheries

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Administrative Report No. 87-14

1987

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ABSTRACT

This report describes the operation of Iron Gate Salmon and Steelhead Hatchery from July 1, 1985 through June 30, 1986. Appendix tables present daily records of water temperatures, weekly numbers of salmonids entering the hatchery, total numbers of salmonids reared and released, and historical records.

There were 19,951 fall-run adult chinook salmon, <u>Oncorhynchus tshawytscha</u>, trapped, which produced 18,022,870 eggs. No spring-run chinook salmon were taken. The 2,269 adult coho salmon, <u>O. kisutch</u>, produced 2,897,620 eggs. A total of 3,165 (1,286 fall-run and 1,879 spring-run) steelhead trout, <u>Salmo gairdneri</u>, produced 1,944,482 eggs.

A total of 12,531,039 fingerling and 928,000 yearling chinook salmon, 179,760 yearling coho salmon, and 329,000 yearling steelhead was planted in FY 1985-86.

The production of steelhead from Bogus Rearing Pond has ranged from 10,850 in 1976 to 38,580 in 1981. No fish were raised in Bogus Pond in FY 1985-86.

a/ Inland Fisheries Administrative Report No. 87-14

Submitted August, 1986

INTRODUCTION

This report covers the 25th year of operation of the trapping facilities at Iron Gate Hatchery. These facilities were completed by the Pacific Power and Light Company in February, 1962 and have been operated by the Department of Fish and Game during the spring and fall of each year.

The hatchery was constructed by the Pacific Power and Light Company to compensate for spawning and nursery areas blocked by the Iron Gate Project. This is the 21st report since the hatchery was completed in February 1966. The Department of Fish and Game, under agreement with the Pacific Power and Light Company, began operating the hatchery in March, 1966. The trapping facilities and hatchery are located on the Klamath River, 8 miles east of Hornbrook, Siskiyou County.

This report summarizes the numbers of fish trapped and spawned, production of eggs and fish, and water temperatures from July 1, 1985 through June 30, 1986.

Bogus Rearing Pond is located near the mouth of Bogus Creek, which is immediately downstream from Iron Gate Hatchery. It was constructed in 1972 and was used to rear wild steelhead which were rescued from drying streams in the Klamath River system in the late spring and early summer. However, because of water quality and disease problems, this pond has been abandoned.

CHINOOK SALMON MAINTENANCE PROGRAM

History of the 1985 Run

Spring Run, 1985 Brood Year

No spring-run chinook salmon appeared at the trap in 1985.

Fall Run, 1985 Brood Year

A total of 22,110 fall-run chinook salmon was trapped: 10,073 males, 9,878 females, and 2,159 grilse (<56 cm or 22 inches FL) (Figure 1). There were 5,829 females spawned; they produced 18,022,870 eggs for an average of 3,092 eggs per female (Table 1). Prespawning mortality was 4,049 females (41%). Twenty lots of eggs were taken, with an average fertility of 79%. Approximately 1,100,000 chinook salmon fingerlings were on hand as of June 30, 1986.

Distribution of the 1984 Brood Year Chinook Salmon

There were 18,000 fingerlings transferred July 10, 1985 at 61/lb (Table 2). From October 23 through November 26, 1985, 928,000 yearlings were planted which ranged in size from 10 to 9/lb (Table 2). In cooperation with the University of California at Berkeley, about 360 salmon were sacrificed by hatchery personnel for smoltification studies.





TABLE 1. Iron Gate Hatchery Production Summary, 1985-86

<u></u>	Adult trapp	ts ped	Eggs taken or received	Eggs transferred	Fingerlings planted and transferred	Yearlings planted	Total pounds planted and transferred
Chin	ook Sa	almon					
1984 1985	BY By 19	9,951	18,022,870		18,000 12,513,039	928,000	101,378 112,101
Coho	Salmo	on					
1984 1985	BY By 2	2,269	2,897,620	1,215,768		179,760	12,044
Stee	lhead						
1984 1985 1986	BY BY BY 3	1.165	1 944 492	428 900		80,000 249,000	40,000 27,667
T 200	DT 3	0'T02	1,744,482	428,900			

Distribution of the 1985 Brood Year Chinook Salmon

There were 12,204,669 fingerling salmon planted from April 13 to June 13, 1986 which ranged in size from 248 to 69/1b (Table 2). From June 16 to June 27, 1986, 270,110 fingerling salmon were transferred to the Klamath River Rearing Ponds (Table 2). Another 38,260 fingerling king salmon were transferred to rearing ponds on Cappell Creek and Tish Tang Creek for the Bureau of Indian Affairs.

Marked Chinook Salmon Recovered

Of the 5,808 marked chinook salmon trapped during 1985-86 (Table 3), 4,481 were Iron Gate marks, 2 were from the Klamath River Rearing Ponds, 107 from Klamath Glen, 20 from Trinity River Hatchery, 2 from Feather River Hatchery, 1 from Cole Rivers Hatchery in Oregon, and 1,195 (Ad) were of undetermined origin.

> COHO SALMON MAINTENANCE PROGRAM History of the 1985 Run

The first coho salmon entered the trap on October 14, 1985 and the last on January 16, 1986. A total of 2,677 fish was trapped: 1,041 males, 1,228 females, and 408 grilse (<56 cm or 22 inches FL). The 928 females spawned produced 2,897,620 eggs for an average of 3,122 eggs per female (Table 1). There were 1,215,768 eggs shipped to Mad River Hatchery. From July, 1985, through June, 1986, 4,000 fingerling and yearling coho were supplied to the University of California at Berkeley for smoltification studies. An additional 680 coho salmon were sacrificed at Iron Gate Hatchery by hatchery personnel for plasma sampling in cooperation with the University. Approximately 248,000 fingerling salmon were held for later release.

Race and	Date	Average	Number	Release	(Coded wire
brood year	released	size/lb.	released	site	tag No.)
Fall-run, 1984	Transferred	to Klamath	River Rearing	Ponds:	
	7/10/85	61	18,000	Perwan Creek	
	//10/05	QT.	10,000	FECWAII CLEEK	
	Planted:				
	10/23/85	9	623,000	IGH	
	10/23/85	9	100,000	IGH	(6-59-22)
	11/6-7/85	10	180,000	IGH	
	11/26/85	9	25,000	Klamath Glen	(6-59-53)
Total fingerlings			18,000		
Total yearlings			928,000		
Fall-run, 1985	Transferred	:			
	5/13/86	152	18,240	Cappell Ck. Pd.	(BIA)
	6/18/86	143	10,010	Tish Tang Ck. Pd	. (BIA)
				Hoopa Tribal Fis	heries
	6/20/86	143	10,010	Tish Tang Ck. Pd	. (BIA)
				Hoopa Tribal Fis	heries
	Transferred	to Klamath	ath River Rearing Ponds:		
	6/16/86	70	52,010	Indian Creek	
	6/17/86	70	40,040	Elk Creek	
	6/18/86	70	40,040	Camp Creek	
	6/19/86	70	20,020	Red Cap Creek	
	6/20/86	70	70,000	Bluff Creek	
	6/25/86	60	19,980	Red Cap Creek	
	6/27/86	60	28,020	Indian Creek	
	Planted:				
	4/18/86	179	716,000	IGH	
	4/23/86	160	480,000	IGH	
	4/28/86	248	2,233,250	IGH	
	5/2/86	188	806,128	IGH	
	5/5/86	228	600,000	IGH	
	5/6/86	120	973,800	IGH	
	5/7/86	138	300,012	IGH	
	5/8/86	130	609,960	IGH	
	5/9/86	160	860,320	IGH	
	6/2/86	81	1,205,199	IGH	

TABLE 2. Iron Gate Hatchery Chinook Salmon Distribution Data, 1985-86

Total fingerlings

12,513,039

1,205,199 3,233,000

187,000

IGH

IGH

6/13/86

6/13/86

69

69

5

(6-59-34)

Mark

de sou 5903 IG	3 E		8	loase info	rmation			, өн	covery in	formati	uo	
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59 03 IG						0.1TC	YOAL	ACTUAL E	xpandeda	11210	Female	Unknown
	II 1979	6/	/16-19/80	189,420	77	IGN	81-82	16	16	b/	ł	10175
							82-83	169	225	ì		71(169
							8364 20 20	41	6 D	;	•	72(41)
							85186	- 1 -4	m	74(1)	67(2) 85/1)	
50 05							1	I				
יז יין דפ	1961 11	0	8-9/81	185,857	74	IGH	82-83	55	E /	!	1	52(55)
							83-84	97	143	ł	ł	62(97)
							84-85	20	21	70(8)	(01)16	
							99-59	m		72(2)	77(1)	
59 06 IG	11 1980	0 10,	/26-30/81	87,450	6	IGH	82-83	.1	31			
								114	140	!	1	10(12)
							84-85	75	501	711251	701291	
							85-86	26		89(12)	83(13)	
59 13 IGI	1 1980	1 10,	/26/81	1 800	, ,	Thomas a		•				
				>>> · · ·		radmpson ct.		.	-	!	ł	55(1)
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101 61 6c	1 1980	, 10,	/9/81	18,709	20.5	Red Cap Cr.	82-83	1	-1	ł	!	
							63-63	2	ę	i	1	57121
							84-85	~ `	7	r 1	71(2)	
							9 2 - G 6	П		;	87(1)	
59 04 IGI	1961	11/	/15-18/82	65,385	20.9	IGI	83-81	2	~			16166
							84~85	36	3.8	62(10)	161169	19166
							85-86	146	1	86(67)	(17)87	
59 07 IGH	1981	6/9	5 8 7 8 2 E 5	160 003								
			30/63-04	260,661	1.962	161	83-84	с ,	6	:	1	44(9)
							29-58 28-28	183	193	66(65)	64(83)	
										/	(9/1)//	
NDI BI 60	1961	11/	/15-18/82	25,586	20.9	IGH	82-83	2	m			
							83-84			1	1	10110
							64-85		- 1	66141	10103	
							85-86	125	•	84(56)	781671	
59 19 TGU	1981									•		
		/ 7 7	79/07-ct.	30,751	20.9	IGH	84-85	14	14	63(6)	62(7)	
							85-86	84	1	86(34)	78(50)	
50 10 IGH	1962	11/	7-9/83-	39,127	16.5	IGH	84-85	¥ C	5			
		12/	'5/83			•	85-86	376	3	75(197)	101121	•

-6-

Relosse information CWT Eqq Recovery information Brood Size coda source CWT recoveries Hean FL(cm) year Date Number (**1**/1b) Site Yoar Actual Expandeda/ Hale Female Unknown FALL CHIN (continued) 06 50 11 IGH 1982 11/7-9/83-36,997 16.5 IGH 84-85 34 36 50(28) 69(1) 12/5/83 85-86 261 75(143) 69(115) 06 56 07 TRH 1982 6/29/83 88.854 145.7 TRH 84-85 1 1 74(1) ___ 85-86 2 77(2) --06 56 09 TRH 1982 11/83 20,765 11.3 Steelbridge 85-86 3 72(2) 72(2) 06 56 10 TRH 1982 11/14/83 20,902 13.4 TRH 84-85 1 1 48(1) ___ 85-86 4 72(2) 72(2) 06 56 11 TRH 1982 11/83 21,223 11.0 Limo Point 85-86 6 71(5) 69(1) 06 59 08 IGH 1982 11/7-9/83-70,171 7.5 IGH 84-85 21 22 48(16) 65(1) 12/5/83 85-86 452 72(258) 69(192) 06 59 09 IGH 1982 6/27-28/83 158,824 66.0 IGH 84-85 9 10 49(7) ---85-86 112 75(39) 69(72) 06 59 10 IGH 1982 6/23/83 83,023 75.2 Klamath Glen 84-85 4 4 51(3) --85-86 35 72(13) 70(22) 06 59 11 IGH 1982 11/28-29/83 7,099 7.5 Klamath Glon 84-85 9 10 49(16) ___ 85-86 51 75(31) 71(20) 06 61 29 TRH 1982 11/83 96,583 6.1 TRI 84-85 1 1 -_ 85-86 8 74(5) 66(3) 06 03 06 FRH 1982 3/83 47,677 175.1 San Joaquin R. 85-86 1 72(1) --06 56 08 TRI 1983 6/19/84 91,153 Steelbridge 46.0 85-86 1 60(1) ---06 56 12 TRH 1983 6/20/84 97,311 49.0 Junction City 85-86 2 52(1) 68(1)06 56 13 TRH 1983 6/22/84 100,227 46.0 Lime Point 85-86 1 61(1) --06 59 23 IGI 1983 6/28/84 181,352 74.8 IGH 85-86 27 52(27) -----06 59 24 IGH 1983 6/25-29/84 97.566 89.8 Klamath Glen 85-86 18 52(18) ----06 59 25 IGII 1983 11/21/84 94.738 43.7 IGI 85-86 17 48(17) ---06 59 26 IGH 1983 11/14/84-23,725 43.7 Klamath Glen 85-86 3 62(3) 12/3/84 ---06 59 31 IGII 1943 11/21/84 22,599 43.7 IGH 85-86 10 45(10) ---

TABLE	3.	Coded-wire-tag (4	CWT)	Recoveries	for	Iron	Gate	Hatchery	(IGH)	With	Release	Data	(cont'd)
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								OH USTA (UDT) ÅID		(p.juoj) s
CHT	12			Release info	rmation			Haccost.	1	
code	5045CB	Vear Vear	Date	Number	5120 (4/1b)	Site	Year	CWT Fecoveries Actual Fronded		on An FL(cm)
FALL CHIN	(contin	(þen							77 1910	remain Unknown
06 59 32	IGH	1983	11/21/84	24,830	43.7	IGH	85-86	16	49(14)	85(1)
06 59 33	HOI	1983	11/21/84	23,766	43.7	IGH	85-86	\e	46(6)	
07 30 20	CRI	1983	9/84	24,295	6.5	Rogue River	85-86	1	58(1)	:
10 00 00d,		;	:	!	!	ł				
	ľ	;	1	i	1	P		83 112	!	1
	;	ľ	ł		;	1	82-84	129 196		:
	1		I.	1	ł	1	84-85	163 172	ļ	ļ
		1	1 1	ŗ	ł	!	85-86	1,245	76(603)	73(635)
20 00 000	1	ł	ł	ł	ļ	-			•	
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	;	1		1	1	2	84-85	65 69	1	-
		ł	1	ł	ł	1	65-86	23	71(11)	(21) (12)
40 00 00£/		;		;	ł	1	85-86	15	70(7)	18102
63 63 08h/	1	ļ	;	1	ł	!	85-86	-		
/566 66 66	}	ł	I		ł	1	85-86	00	75(21)	70(9)

Coded-wire-tag (CWT) Recoveries for Iron Gate Hatchery (IGH) With Release Data (Cont'd) TABLE 3.

			I	telease infor	mation				Racovery in	formation	n	
CWT	Egg	Brood			Size		C1	T Leco	vories	Heat	Lich	
code	Source	1994 L	Date	Number	(1/16)	Site	Tear	Actual	Expandeda/	Hale 1	Femalo	Unknown
<u>couo</u> 06 59 5	i4 'IGII	1981	3/28/83	19,335	12.0	IGH	83-84	13	14			39(13)
							85-86	1	• • • •			65(1)
06 56 4	7 TRI	1982	4/2/84	47,351	11.0	TRII	85-86	1				76(1)
06 59 5	6 IGH	1982	2/23/84	18,300	12.0	IGII	85-86	321		73(58)	71(35)	
06 59 5	i7 IGII	1982	4/1/84	18,640	11.0	IGH	84-85 85-86	16 413	25	44(15) 73(55)	 72(70)	
06 59 5	B IGN	1982	4/16/84	10,185	11.0	IGI	84-85 85-86	23 504	36	43(20) 72(76)	62(1) 73(68)	
06 59 5	9 IGII	1982	4/30/84	18,400	10.0 [°] 11.0	. IGH	84-85 85-86	39 569	61	43(35) 73(78)	69(3) 73(102	>
07 26 1	5 · CRH	1982	10/83	25,117	11.5	Rogue R.	85-86	8				
07 28 5	4 CRH	1982	9/84	27,149	11.4	Rogue R.	85-86	6				
06 56 5	I TRH	1983	3/21/85	22,331	7.5	TRH	85-86	1		48(1)		
06 59 3	0 IGH	1983	3/21/85	20,074	7.0	IGH	85-86	369		45(332)	55(7)	
10 00 0	0d/						84-85 85-86	5 235	4	50(102)		
20 00 0	0e/						85-86	16		49(12)	71(1)	
40 00 0	of/						85-86	8		62(4)	73(3)	
99 99 9	9g/				 .		85-86	2				
UNKNOWN	I											

TABLE 3. Coded-wire-tag (CWT) Recoveries for Iron Gate Natchery (IGN) With Release Data (Cont'd)

10 00 00

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a/ In 1985-86 heads were removed from 5,840 salmon entering IGH and processed for CWTs. However, the count of Ad-clipped fish, i.e. those carrying a CWT, was only 5,357 fish (3,259 chinook and 2,098 coho). Therefore, an accurate expansion of the actual number entering the hatchery in 1985-86 cannot be made. However, we believe that virtually all the Ad-clipped fish were sampled and therefore the expanded number should be very close to the actual number.

~--

85-86

71

70(1)

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b/ --- = Data not available.

c/ Sampling size in parentheses.

d/ 10 00 00 = No CWT in head of Ad-marked fish.

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o/ 20 00 00 = CWT lost in head dissection.

f/40~00~00 = CWT unreadible.

g/ 99 99 99 = Data was recorded but CHT not found.

h/ 63 63 08 = Origin unknown.

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Planting 1984 Brood Year Coho Salmon

There were 179,760 coho salmon planted during the 1985-86 season (Table 4).

TABLE 4. Iron Gate Coho Salmon Planting Date, 1985-86

	Average		Brood	Release ()	Mark Coded wire
Date	size/lb	Number	year	site	tag No.)
2/28/86	17	28,000	1984	IGH	-
2/28/86	17	47,000	1984	IGH	(6-59-43)
4/10-14/86	15	25,380	1984	Elk Creek	LP
4/15-21/86	15	40,500	1984	Indian Creek	LP
4/22-24/86	12	38,880	1984	Beaver Creek	LP
Total yearli	ngs	179,760			· · · · · · · · · · · · · · · · · · ·

Marked Coho Salmon Recovered

Of the 2,098 marked coho salmon recovered in the trap (Table 5) 1,801 were of Iron Gate origin, 2 from Trinity River Hatchery, 6 from Cole Rivers Hatchery, and 289 (Ad) were of undetermined origin.

TABLE 5. Marked Coho Salmon Recovered, 1985-86

a/

Mark					Releas	se Data		
(Coded wire tag No.)	Number trapped	Brood year	Race	Number released	Date released	Mean FL (mm)	Average size/lb	Release site
Ad (6-56-47)	1	1982	FRSS	47,351	4/2/84	-	_	TRH
Ad (6-56-51)	1	1983	FRSS	22,331	3/21/85	-	-	TRH
Ad (6-59-54)	1	1981	FRSS	20,015	3/28/83	-	12	IGH
Ad (6-59-56)	314	1982	FRSS	20,000	2/23/84	-	12	IGH
Ad (6-59-57)	413	1982	FRSS	19,000	4/1/84	-	10	IGH
Ad (6-59-58)	504	1982	FRSS	19,042	4/16/84	-	11	IGH
Ad (6-59-59)	569	1982	FRSS	20,000	4/30/84	-	11	IGH
Ad (7-28-54)	6	1982	FRSS	27,149	4/84	-	_	Roque R.
Ad (?)	289	-	-	-	· _	-	-	-

<u>a</u>/ Information supplied by Ivan Paulsen, Fisheries Biologist; Dennis Lee, Associate Fisheries Biologist; Joe Lesh, Marine Biologist; and Iron Gate files.

STEELHEAD TROUT MAINTENANCE PROGRAM

History of the 1985-86 Run

Between September 13 and December 31, 1985, 1,286 steelhead entered the trap and were held for later spawning. An additional 1,879 steelhead were trapped between January 16 and March 20, 1986 (Figure 1).

The 849 females spawned produced 1,944,482 eggs for an average of 2,290 eggs per female. There were 428,900 eggs shipped to Trinity River Hatchery (Table 1). Approximately 538,000 steelhead fingerlings from the 1986 brood year were on hand June 30, 1986.

Planting 1984 Brood Year Steelhead

We planted 80,000 steelhead from the 1984 brood year during the 1985-86 fiscal year (Table 6).

TABLE 6. Iron Gate Hatchery Juvenile Steelhead Planting Data, 1985-86

Strain	Brood	Date	Average	Number	Release	Mark
	year	released	size/lb	released	site	Brand
KR	1984	2/10/86	2	80,000	IGH	-

Planting 1985 Brood Year Steelhead

We planted 249,000 steelhead yearlings in 1985-86 (Table 7).

TABLE 7. Iron Gate Hatchery Juvenile Steelhead Planting Data, 1985-86

Strain	Brood	Date	Average	Number	Release	Mark
	year	released	size/lb	released	site	Brand
KR	1985	4/25/86	9	249,000	IGH	-

Marked Steelhead Trapped

A total of 30 marked steelhead was trapped this season (Table 8). Of these, four were Trinity River Hatchery marks and 26 were of undetermined origin.

					Release Data			
Mark Brand	Number trapped	Brood year	Race	Number released	Date released	Mean FL (mm)	Average size	Release site
RP	1	1978	IGHXTRH	67,570	4/04/7 9	183	-	TRH
LP	2	1978	IGH	324,774	3/22/79	175	-	TRH
RVLP	1	1979	TRH	139,211	4/80	174	18.9/k	TRH
Ad	16	-	-	-	-	-	-	-
RV	7	-	-	-	-	-	-	-
LV	3	-	-	-	-	-	-	-

TABLE 8. Marked Steelhead Recovered at Iron Gate Hatchery 1885-86 $\frac{a}{}$

 $\frac{a}{}$ Information supplied by Ivan Paulsen, Fisheries Biologist, and Iron Gate Files.

BOGUS REARING POND

No fish were reared in Bogus Pond in 1985-86. Water quality and fish disease problems have brought about the abandonment of Bogus Rearing Pond.

PUBLIC RELATIONS

During the 1985-86 fiscal year, 3,555 people visited the hatchery, including 275 people in organized groups.

	Fall-tr	apped			Fall run			Spring-	trappeć
	Spring	run*			Total		Total	Spring	run≭
Season	Adults	Grilse	Males	Females	Adults	Grilse	Fall run	Adults	Grilse
1962-63	÷						1,339		
1963-64					1,723	448	2,171		
1964-65			837	1,651	2,488	110	2,598		
1965-66			141	224	365	313	678		
1966-67			1,129	1,610	2,739	325	3,064		
1967-68			850	1,275	2,125	562	2,687		
1968-69			946	1,690	2,636	72	2,708	50	6
1969-70	8	3	518	436	954	1,914	2,868	51	0
1970-71	2	0	2,889	7,395	10,284	219	10,503	10	0
1971-72	16	0	4,412	6,031	10,443	325	10,769	80	0
1972-73	97	4	1,125	1.897	3,023	476	3,499	49	0
1973-74	18	5	3,273	4,135	7,408	1,294	8,702	4	0
1974-75	19	8	4,024	5.371	9,395	410	9,805	0	0
1975-76	25	28	3,131	4,571	7,702	3,425	11,127	0	0
1976-77	13	0	4,604	7,991	12,595	1,130	13,725	0	0
1977-78	0	0	1,514	2,799	4,313	520	4,833	0	0
1978-79	17	0	3.027	3.918	6,945	925	7,870	0	0
1979-80	0	Ó	1.003	1.298	2,301	257	2,558	0	0
1980-81	Ō	Ó	948	1.464	2,412	451	2,863	0	0
1981-82	ō	Ō	904	1.151	2,055	540	2,595	0	0
1982-83	ō	Ō	3.805	4,548	8.353	1,833	10,186	0	0
1983-84	õ	ō	3.927	4 444	8.371	514	8.885	0	0
1984-85	ō	õ	2,484	2.846	5.330	764	6.094	0	0
1985-86	õ	õ	10.073	9,878	19,951	2,159	22,110	0	0
	-	-		- ,	- •	•	•		_

APPENDIX TABLE 1. Summary of Chinook Salmon Runs to Iron Gate Salmon and Steelhead Hatchery

* Fall-trapped spring-run chinook salmon are the same brood year as the springtrapped spring-run salmon of the preceding reporting period. Spring run not differentiated from fall run prior to 1968-69.

+ Blanks indicate data not available.

					Steel			
		Coho sa	lmon		Fall-trapped	Spring-trapped		
Season	Males	Females	Adults	Grilse	Total	early run	late run	Total
1963-64	81	95	176	14	190			1,542
1964-65	0	0	0	0	0			1,065
1963-66	2	0	2	0	2			227
1966-67	2	2	4	0	4			299
1967-68	27	24	51	28	79			984
1968-69	14	10	24	333	357			370
1969-70	84	118	202	749	951	381	813	1,194
1970-71	716	671	1,387	236	1,623	292	2,073	2,365
1971-72	74	52	126	21	147	174	3,583	3,757
1972-73	38	18	56	35	91	226	1,060	1,286
1973-74	201	212	413	428	84 <u>1</u>	665	1,200	1,865
1974-75	193	263	456	41	497	1,962	2,165	3,227
1975-76	45	37	82	478	560	423	1,100	1,523
1976-77	581	795	1.376	381	1,757	695	1,246	1,941
1977-78	92	159	251	375	626	3,197	1,214	4,411
1978-79	253	236	499	250	749	812	1,267	2,079
1979-80	213	282	495	1,906	2,401	505	1,152	1,657
1980-81	580	1,220	1.800	251	2,051	359	888	1,247
1981-82	402	502	904	93	997	1,903	358	2,261
1982-83	499	634	1.133	496	1,629	1,267	1,436	2,703
1983-84	128	90	218	71	289	470	362	832
1984-85	444	350	794	211	1.005	373	1,012	1,385
1985-86	1,041	1,228	2,269	408	2,677	1,286	1,879	3,165

APPENDIX TABLE 2. Summary of Coho Salmon and Steelhead Trout Runs to Iron Gate Salmon and Steelhead Hatchery

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* Fall-trapped steelhead not differentiated from spring-trapped prior to 1969-70.

	Number	trapped	
Length	Males	Females	
40	1		
40 41	2	2	
42	1	4	
43	2	7	
44	-	10	
44	4	18	
46	3	13	
40	8	15	
48	6	17	
49	12	13	
50	7	10	
51	8	12	
52	8	4	
53	7	4	
54	2	5	
55	1		
56	5	1	
57	2		
58	1	3	
59	1		
60	1		
61			
62			
63			
64		1	
Average	50.0	47.4	

APPENDIX TABLE 3. Fork Length (to nearest cm) of Steelhead Measured at Iron Gate Salmon and Steelhead Hatchery-1/

 $\frac{1}{1}$ Information supplied by Ivan Paulsen, Fisheries Biologist, Yreka.

	Ir	on Gate	Salmon	and Sta	elhead	Hatchery, 198	5-86.
Week	Chinook	salmon		Coho s	salmon	Steell	nead trout
	Adults	Grilse		Adults	Grilse	Fall	Soring
						3	
9/8-14	67	1				5 97	
9/15-21	503	10				27	
9/22-28	3652	90				107	
9/29-10/5	6222	295				280	
10/6-12	6431	772		-	10	200	
10/13-19	2531	708		5	40	50 50	
10/20-26	478	243		12	48	2C 107	
10/27-11/2	59	26		176	124	197	
11/3-9	6	14		419	100	190	
11/10-16	2			664	55	76	
11/17-23				486	22	24	
11/24-30				187	6	20	
12/1-7				245	10	25	
12/8-14				56	3	15	
12/15-21				12		4	
12/22-28							
12/29-1/4							
1/5-11							
1/12-18				9			/5
1/19-25							853
1/26-2/1							388
2/2-8							155
2/9-15							125
2/16-22							118
2/23-3/1							78
3/2-8							55
3/9-15							22
3/16-22							10
				1940		1786	1879
Season Totals	<u> 16651</u>	2109		2722	400		

APPENDIX TABLE 4. Weekly Adult Salmon and Steelhead Trapping Data for Inon Cata Salmon and Steelhead Hatchery, 1985-86.



Daily Water Temperatures for Iron Gate Salmon and Steelhead Hatchery, 1985-86.

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DAILY WATER TEMPERATURES BY MONTH



APPENDIX FIGURE 1 (Cont'd)