

REF 90270

State of California  
The Resources Agency  
DEPARTMENT OF FISH AND GAME

ANNUAL REPORT  
MOKELUMNE RIVER HATCHERY, 1986-87

by

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Region 2

Inland Fisheries  
Administrative Report No. 87-21  
1987

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ABSTRACT

This report describes the operation of the Mokelumne River Hatchery from July 1, 1986 through June 30, 1987. The installation consists of a hatchery building, concrete raceways, and rearing ponds (channels) for chinook salmon, Oncorhynchus tshawytscha, and steelhead trout, Salmo gairdneri.

The Hatchery received 4,529,400 chinook salmon fingerlings of Feather River origin, to be reared and released when they reach 50/lb or larger. There were 2,742,015 chinook salmon fingerlings and 1,075,560 chinook salmon yearlings released during the 1986-87 season.

A total of 262,000 eyed steelhead trout eggs (1987 BY) was received from Nimbus Hatchery. There were 36,125 steelhead yearlings released in the Mokelumne River, with an additional 20,090 yearlings planted in Lake Merced and other waters.

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<sup>1/</sup> Inland Fisheries Administrative Report No. 87-21  
Submitted October 1987.

## INTRODUCTION

This is the 24th annual report for operation of the Mokelumne River Hatchery. It describes operations of the Hatchery from July 1, 1986 through June 30, 1987. Copies of previous annual reports are available upon request from Inland Fisheries Division, Rancho Cordova.

The Mokelumne River Hatchery is located on the south bank of the Mokelumne River at the base of Camanche Dam in San Joaquin County. Camanche Dam is presently the upper limit of anadromous fish migration in the Mokelumne River. The Mokelumne River enters the San Joaquin River about 61 miles downstream from Camanche Dam.

Mokelumne River Hatchery was constructed to compensate for the loss of fall-run chinook salmon and steelhead trout spawning and rearing areas inundated by Camanche Dam. The Hatchery is operated by the California Department of Fish and Game. The East Bay Municipal Utility District paid total construction costs of the Hatchery and also pays the annual operation and maintenance costs for all mitigation fish. Operational costs for enhancement fish are funded by the Commercial Salmon Trollers Stamp fund (Salmon Stamp).

This report summarizes the number of fish trapped, eggs received, and the production of fish. Appendix tables detail trapping data and water conditions from July 1, 1986 to June 30, 1987.

## PRODUCTION SUMMARY

There were 262,000 steelhead eggs received from Nimbus Hatchery for rearing to yearling size and 4,529,400 chinook salmon fingerlings of Feather River origin were received for rearing to advance fingerling size (Table 1).

TABLE 1. Mokelumne River Hatchery Production Summary, 1986-87

Species	Adults trapped	Eggs taken or rec'd	Fingerlings received	Advanced fing. planted	Yearlings planted	Total pounds planted	Fish on hand
<u>Chinook salmon</u>							
1985-BY	223	210,000	3,248,050	1,035,600	922,560	103,425	0
<u>Chinook salmon</u>							
1986-BY	1,913	370,000	4,529,400	1,706,415	153,000	65,855	1,100,000
<u>Steelhead</u>							
1986-BY	0	233,300	0	0	56,215	18,473	—
1987-BY	48	300,000	0	0	0	0	242,200

DISEASE

There were no significant mortalities from diseases at the Hatchery this season.

CHINOOK SALMON PROGRAM  
History of the 1986-87 Season

There were 1,913 chinook salmon trapped at the Hatchery this season; 434 adult males, 681 adult females and 798 grilse (> 24 inches FL).

All fish entered the Hatchery between October 15, 1986 and January 9, 1987.

Forty-six fish with the adipose fin removed were recovered in the trap. Their heads were removed and sent to be checked for coded-wire tags.

Production

On July 1, 1986 there were 2,514,000 chinook salmon fingerlings (1985 BY) on hand. A total of 2,742,015 advanced fingerlings was released during the season. There were 370,000 eggs taken at the Hatchery this season and 4,529,400 (1986 BY) fingerlings received from Feather River Hatchery. On June 30, 1987 there were 1,100,000 (1986-BY) fingerlings on hand.

TABLE 2. Chinook Salmon Plants

Date	Release site	Weight (lbs)	Number	Mark-Ad
July 1986	Benicia Ramp	36,550	1,000,400	
August 1986	Berkeley Ramp	10,200	170,100	
	Bennett's Marina (Rodeo)	2,200	39,600	
	Mare Island	2,200	39,600	
	Hatchery Area	1,800	27,000	
Sept. 1986	Benicia Ramp	25,210	319,430	(49,680) cwt cwt 06-48-25
	Bennett's Marina (Rodeo)	2,300	50,600	
	Mare Island	16,150	191,500	
	Fort Baker	2,215	48,730	cwt 06-48-24
	Hatchery Area	1,600	35,200	
October 1986	Hatchery Area	3,000	36,000	
April 1987	Benicia Ramp	13,455	601,665	
May 1987	Benicia Ramp	14,850	398,700	
June 1987	Benicia Ramp	11,300	208,050	
	Bennett's Marina (Rodeo)	15,300	391,100	
	Mare Island	10,950	259,900	
	TOTAL	169,280	3,817,575	

### Chinook Salmon Tagging and Marking Programs

There were two groups of chinook salmon, tagged with coded-wire tags and their adipose fins removed, released in September 1986. One group of 49,680 (tagged 06-48-25) were released at Benicia Ramp on September 3, 1986 and another group of 48,730 (tagged 06-48-24) were released at Fort Baker on September 2, 1986 (Table 2).

During the week of April 20-24, 1987 two groups of chinook salmon were tagged with coded-wire tags and their adipose fin removed. One group of 53,294 were tagged 06-48-26 and another group of 53,254 were tagged 06-48-30. These fish remained in the raceways until May 20, 1987, when they were checked for tag retention. They were then placed with the production fish in Channel 1 on May 21, 1987. Several truck loads were released in June 1987; the remainder will be released at a later date.

### STEELHEAD TROUT PROGRAM

There were 48 steelhead trapped at the Hatchery this season; 31 adult males and 17 adult females. All fish entered the Hatchery between December 19, 1986 and February 3, 1987. The river flow was reduced to 175 cfs on February 2, 1987 and that ended the steelhead run into the Hatchery.

A total of 38,000 eggs was taken from fish trapped at the hatchery; they yielded about 28,000 fingerlings. There were an additional 262,000 steelhead eggs received from Nimbus Hatchery on February 4, 1987. They yielded about 232,000 fingerlings, for a total of 260,000 fingerlings to be ponded.

A total of 56,215 yearling steelhead was released during the season (Table 3) and there were 242,200 steelhead on hand June 30, 1987.

TABLE 3. Steelhead Trout Plants

Date	Release site	Average size/lb	Number
July 1986	Mokelumne River	3.0	3,000
August 1986	Mokelumne River	2.4	3,140
Sept. 1986	Mokelumne River	1.5	825
Dec. 1986	Rancho Seco Lake	4.5	3,350
Jan. 1987	Oak Grove Lake	3.7	6,040
Jan. 1987	Rancho Seco Lake	3.8	2,900
Jan. 1987	Mokelumne River	3.8	9,690
Feb. 1987	Oak Grove Lake	3.5	2,800
Feb. 1987	Mokelumne River	3.4	3,740
March 1987	Lake Merced North	3.1	5,000
March 1987	Mokelumne River	3.4	5,670
May 1987	Mokelumne River	2.2	4,492
June 1987	Mokelumne River	2.0	5,568
TOTAL			56,215

PUBLIC RELATIONS

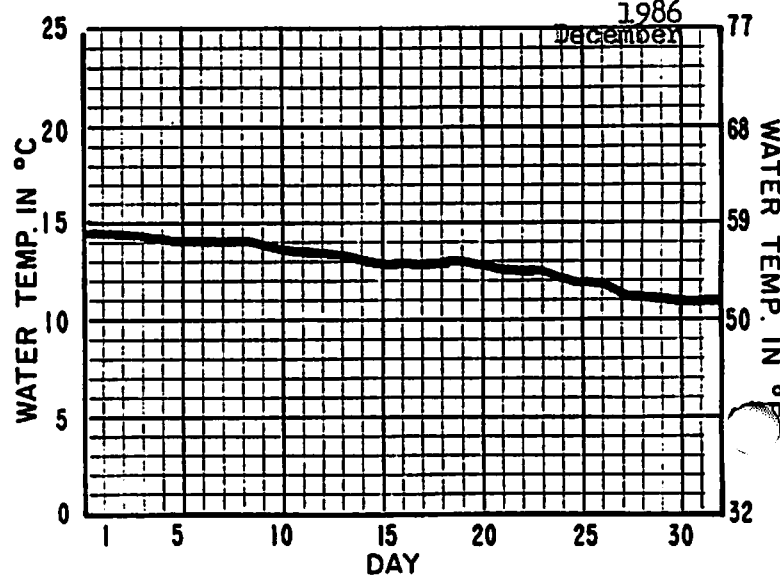
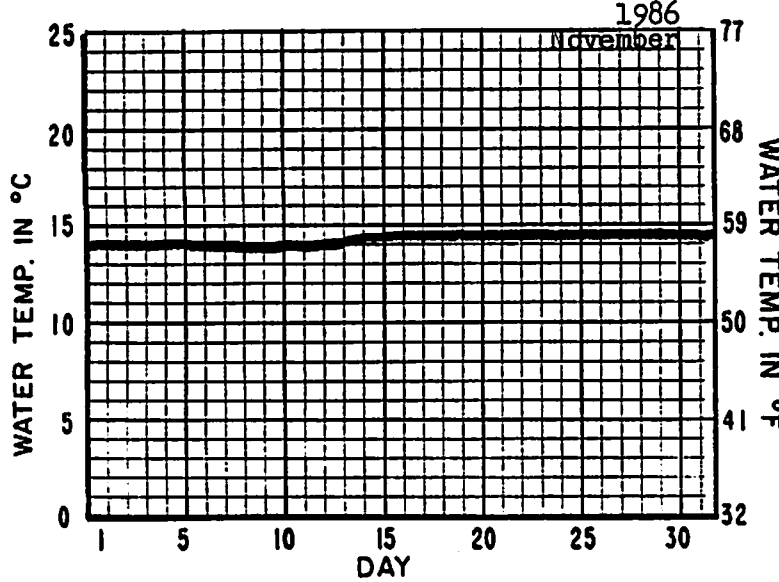
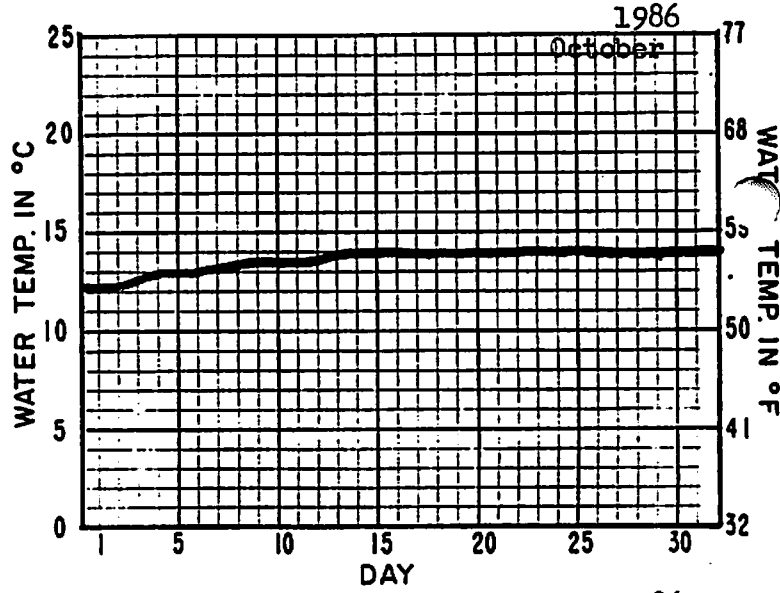
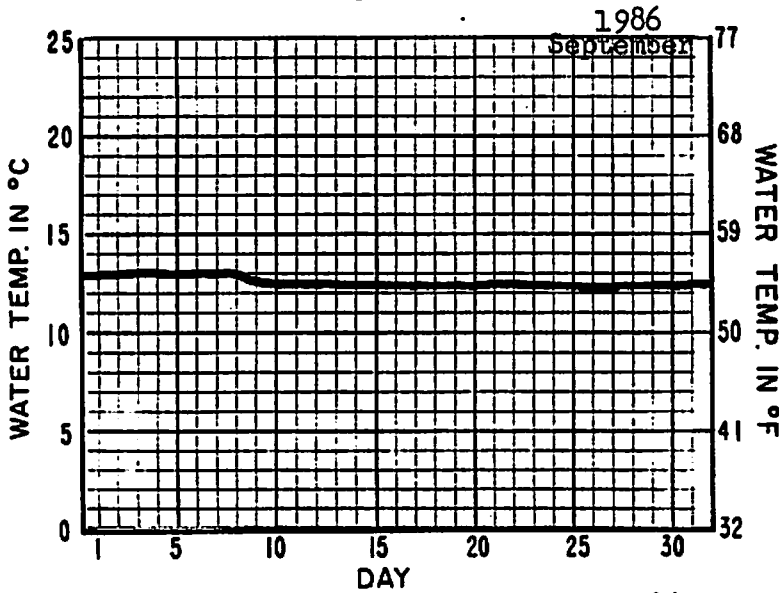
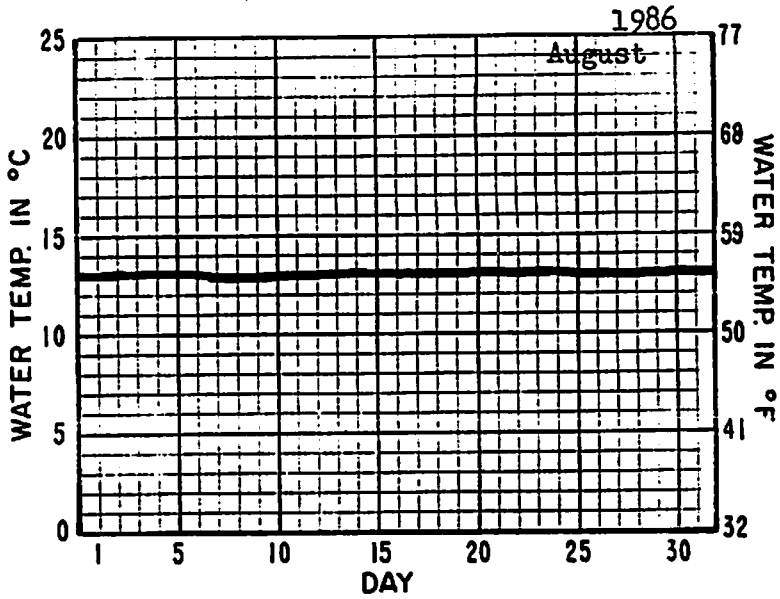
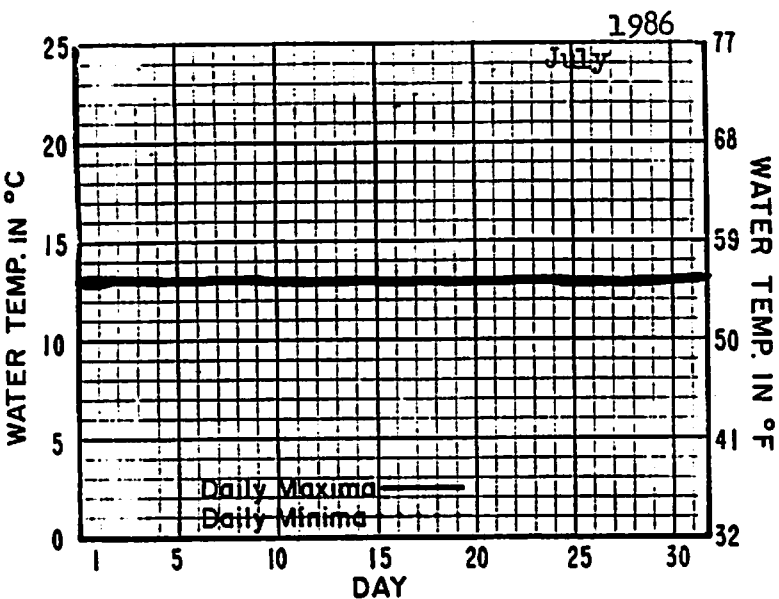
During the 1986-87 season, 12,689 persons visited the Mokelumne River Hatchery. Tours were conducted for special interest groups and talks given to sports and civic organizations upon request.

APPENDIX TABLE 1. Weekly Adult Salmon and Steelhead Trapping Data for Mokelumne River Hatchery, 1986-87

<u>Week</u>	<u>Chinook salmon</u>		<u>Coho salmon</u>		<u>Steelhead trout</u>	
	<u>Adults</u>	<u>Grilse</u>	<u>Adults</u>	<u>Grilse</u>	<u>Males</u>	<u>Females</u>
Oct. 12-18	5	22				
Oct. 19-25	27	50				
Oct 26-Nov 1	94	188				
Nov. 2-8	253	193				
Nov. 9-15	294	194				
Nov. 16-22	198	60				
Nov. 23-29	133	38				
Nov 30-Dec. 6	66	30				
Dec. 7-13	19	6				
Dec. 14-20	19	11			4	1
Dec. 21-27	5	2			6	2
Dec. 28-Jan. 3	2	2			3	1
Jan. 4-10	--	2			7	4
Jan. 11-17	--	--			5	5
Jan. 18-24	--	--			3	3
Jan. 25-31	--	--			2	1
Feb. 1-7	--	--			1	--
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Season Totals	1,115	798			31	17
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# DAILY WATER TEMPERATURES BY MONTH



# DAILY WATER TEMPERATURES BY MONTH

