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The Resources Agency
DEPARTMENT OF FISH AND GAME

ANNUAL REPORT
MOKELUMNE RIVER HATCHERY 1985-86

by

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Inland Fisheries
Administrative Report No. 87-12

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ABSTRACT

This report describes the operation of the Mokelumne River Hatchery from July 1, 1985 through June 30, 1986. The installation consists of a hatchery building, concrete raceways, and rearing ponds for chinook salmon, Oncorhynchus tshawytscha, and steelhead trout, Salmo gairdneri.

The hatchery received 3,248,050 chinook salmon fingerlings of Feather River and American River origin for release when they reach 30/lb or larger. There were 1,786,999 chinook salmon fingerlings released during the 1985-86 season.

A total of 233,300 eyed steelhead trout eggs (1986 BY) was received from Nimbus Hatchery. There were 35,525 steelhead yearlings released in the Mokelumne River, and 17,675 yearlings planted in Lake Merced and other waters.

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INTRODUCTION

This is the 23rd annual report for operation of the Mokelumne River Hatchery. It describes operations of the hatchery from July 1, 1985 through June 30, 1986. 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. Remaining operational costs are funded by Salmon Stamp Project monies.

This report summarizes the number of fish trapped, eggs received, production of fish, and water conditions from July 1, 1985 to June 30, 1986.

PRODUCTION SUMMARY

There were 233,300 steelhead eggs received from Nimbus Hatchery for rearing to yearling size, and 3,248,050 chinook salmon fingerlings of Feather River and American River origin were received for rearing to advance fingerling size (Table 1).

TABLE 1. Mokelumne River Hatchery Production Summary, 1985-86

Species	Adults trapped	Eggs Taken or rec'd	Fingerlings received	Advanced fing. planted	Yearlings planted	Total lb planted
Chinook Salmon 1984-BY	959	0	3,074,200	1,524,014	0	101,375
Chinook Salmon 1985-BY	223	210,000	3,248,050	262,985	0	6,724
Steelhead 1985-BY	0	150,490	0	0	53,200	19,750
1986-BY	0	233,300	0	0	0	0
Totals	1,182	593,790	6,322,250	1,786,999	53,200	127,849

DISEASE

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

CHINOOK SALMON PROGRAM

History of the 1985-86 Season

There were 223 chinook salmon trapped at the hatchery this season; 119 adult males, 65 adult females and 39 grilse (less than 24 in. FL).

All fish entered the hatchery between November 4, 1985 and December 1985 (Appendix Table 1). Two fish with the adipose fin removed were recovered. Their heads were removed and sent to be checked for coded-wire tags.

Production

On July 1, 1985 there were 2,250,000 chinook salmon fingerlings (1984 BY) on hand. A total of 1,786,999 advanced fingerlings were released during the season (Table 2). No eggs were taken at the hatchery but 3,248,050 (1985 BY) fingerlings were received of Feather River and American River origin. On June 30, 1986 there were 2,514,600 (1985-BY) fingerlings on hand.

TABLE 2. Chinook Salmon Plants

Date	Release site	Average size/lb	Number	Mark
7/29/85	Maritime Academy	23.3	20,414	Ad-cwt 06-48-28
7/29/85	Maritime Academy	20.7	22,770	Ad-cwt 06-48-29
7/30/85	Berkeley Marina	24	19,200	Ad-cwt 06-48-27
9/11/85	Benicia Ramp	12	24,000	
9/12/85	Benicia Ramp	12	24,000	
9/16/85	Benicia Ramp	13	26,000	
9/17/85	Benicia Ramp	11	23,100	
9/18/85	Benicia Ramp	11	23,100	
9/19/85	Benicia Ramp	13	27,300	
9/20/85	Benicia Ramp	13	13,000	
9/24/85	Benicia Ramp	13.3	13,300	
9/25/85	Benicia Ramp	13.3	27,930	
9/26/85	Benicia Ramp	22	48,400	
9/27/85	Benicia Ramp	22	46,200	
9/30/85	Benicia Ramp	16	33,600	
10/1/85	Benicia Ramp	16	51,200	
10/2/85	Benicia Ramp	18	100,800	
10/3/85	Benicia Ramp	17	103,700	
10/4/85	Benicia Ramp	17	159,800	
10/7/85	Benicia Ramp	14	92,400	
10/8/85	Benicia Ramp	14	93,800	
10/9/85	Rio Vista	13	27,300	
10/9/85	Benicia Ramp	13	59,800	
10/10/85	Benicia Ramp	13	74,100	
10/11/85	Benicia Ramp	13	28,600	
10/17/85	Benicia Ramp	11	24,200	
10/18/85	Benicia Ramp	11	35,200	
10/18/85	Hatchery Area	11	24,200	
10/21/85	Benicia Ramp	14	44,200	
10/21/85	Hatchery Area	16	48,000	
10/22/85	Benicia Ramp	14	42,000	
10/23/85	Hatchery Area	18	122,400	
5/5/86	Delta Fish Facility	105	15,015	(spray-dyed blue)
5/6/86	Delta Fish Facility	105	15,015	(spray-dyed blue)
5/7/86	Delta Fish Facility	105	15,015	(spray-dyed blue)
5/19/86	Delta Fish Facility	92	15,180	(spray-dyed blue)
5/20/86	Delta Fish Facility	92	15,180	(spray-dyed blue)
5/21/86	Delta Fish Facility	92	15,180	(spray-dyed blue)
6/25/86	Benicia Ramp	28	50,400	
6/26/86	Benicia Ramp	28	56,000	
6/27/86	Benicia Ramp	33	66,000	

Total

1,786,999

Chinook Salmon Tagging and Marking Programs

There were three groups of CWT chinook salmon released in July 1985. These fish were released at the Maritime Academy and Berkeley Marina. They were made to test releases during high and low tides.

During June 1986, two groups of 50,000 CWT chinook salmon were received from Feather River Hatchery for release at a later date.

Personnel from the Bay-Delta Fishery Project spray-dyed 90,585 chinook salmon with blue paint. They were released in six groups on May 5,6,7 and on May 19, 20 and 21, 1986. The first three groups were trucked to the State Delta Fish Facility and the other three groups were trucked to the Federal Delta Fish Facility.

STEELHEAD TROUT PROGRAM

No steelhead were trapped nor eggs taken at the hatchery this season. On February 7, 1986, 233,300 eyed steelhead eggs were received from Nimbus Hatchery.

A total of 53,200 yearling steelhead was released during the season (Table 3) and there were 120,000 steelhead on hand June 30, 1986.

PUBLIC RELATIONS

During the 1985-86 season 8,636 persons visited the Mokelumne River Hatchery. Tours were conducted for special interest groups and talks given to sports and civic organizations upon request.

TABLE 3. Steelhead Trout Plants

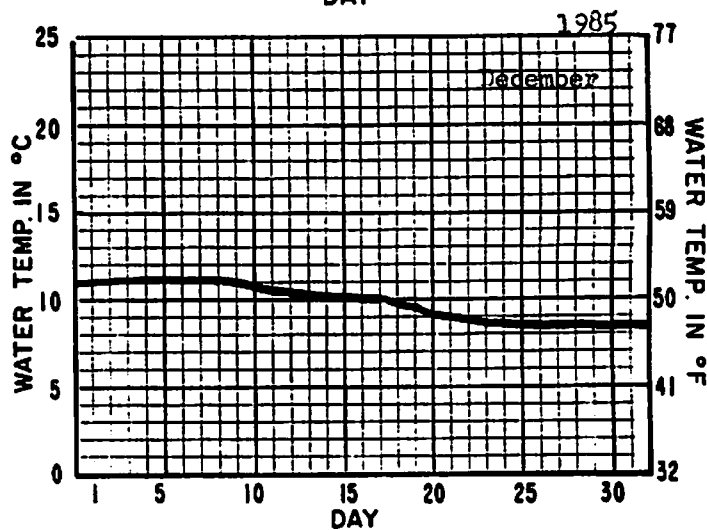
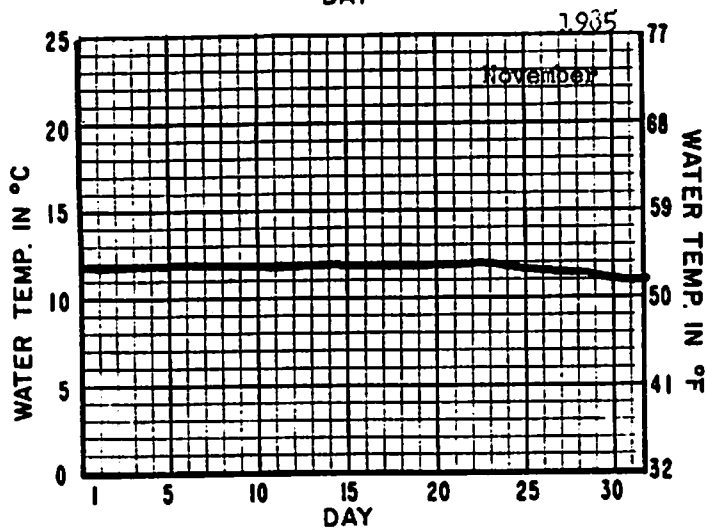
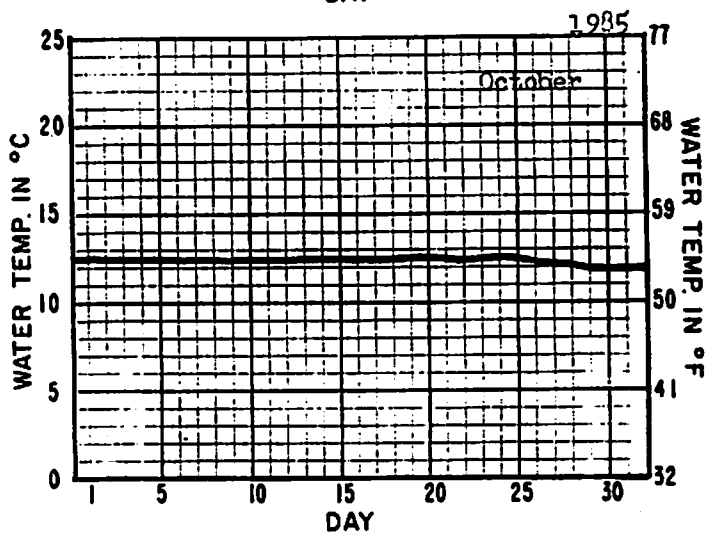
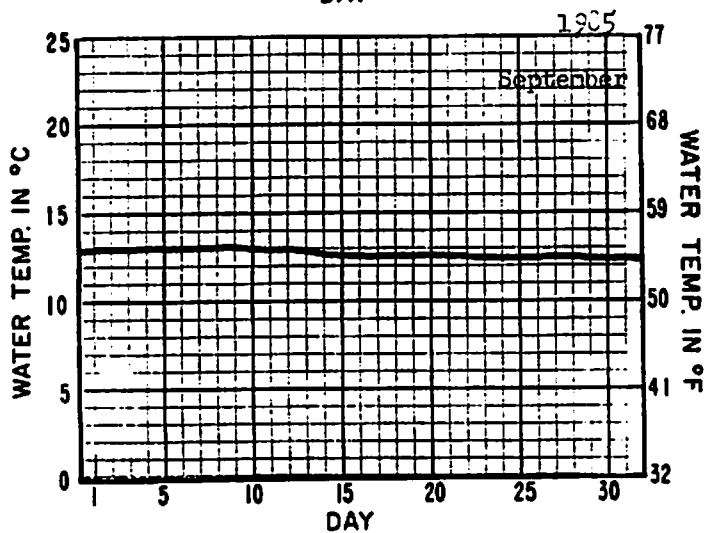
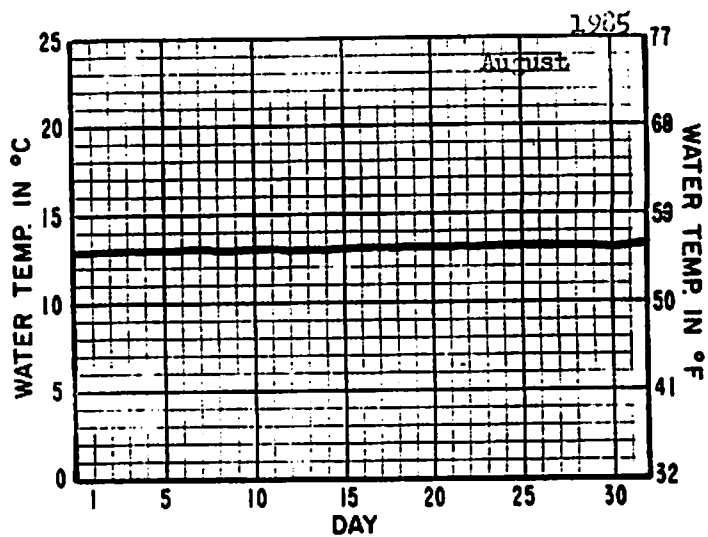
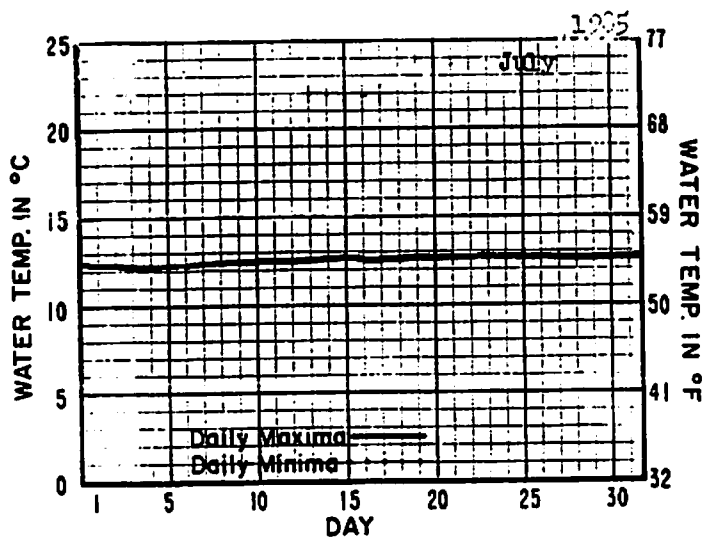
Date	Release site	Average size/lb	Number
July 1985	Mokelumne River	2.2	6,895
August 1985	Mokelumne River	1.8	11,800
Sept. 1985	Mokelumne River	1.5	750
January 1986	Oak Grove Lake	4.2	6,125
January 1986	Rancho Seco Lake	4.2	3,150
April 1986	Mokelumne River	3.8	9,240
April 1986	Lake Merced North	3.5	8,400
May 1986	Mokelumne River	3.0	3,600
June 1986	Mokelumne River	3.2	3,240
Total			53,200

APPENDIX TABLE 1. Weekly Adult Salmon and Steelhead Trapping Data for Mokelumne River Hatchery, 1985.

<u>Week</u>	<u>Chinook Salmon</u> <u>Adults</u>	<u>Salmon</u> <u>Grilse</u>	<u>Coho Salmon</u> <u>Adults</u>	<u>Salmon</u> <u>Grilse</u>	<u>Steelhead Trout</u> <u>Males</u>	<u>Trout</u> <u>Females</u>
Nov. 3-9	9	4				
Nov. 10-16	78	25				
Nov. 17-23	16	3				
Nov. 24-30	44	3				
Dec. 1-7	7	0				
Dec. 8-14	21	2				
Dec. 15-21	9	2				
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Season Totals	184	39				
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Appendix Figure 1. Daily water temperatures for Mokelumne River Hatchery from July 1, 1985 through June 30, 1986

DAILY WATER TEMPERATURES BY MONTH



DAILY WATER TEMPERATURES BY MONTH

