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The Resources Agency
DEPARTMENT OF FISH AND GAME

ANNUAL REPORT
VAN ARSDALE FISHERIES STATION 1979-80

by

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Region III, Inland Fisheries

Anadromous Fisheries Branch
Administrative Report No. 82-26

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ABSTRACT

This report describes the operation of Van Arsdale Fisheries Station (Snow Mountain Station) for the 1979-80 season. Counts of migratory steelhead, Salmo gairdneri, and chinook salmon, Oncorhynchus tshawytscha, have been made at this station annually since 1933.

Appendix tables summarize the number of adult fish trapped, eggs taken, and juveniles stocked.

INTRODUCTION

This report covers the operation of Van Arsdale (formerly Snow Mountain) Fisheries Station, Mendocino County during the 1979-80 season.

Van Arsdale Fisheries Station is located about 25 miles northeast of Ukiah, California, on the Eel River at Japehorn Dam, which forms Van Arsdale Reservoir. The station was constructed by the Snow Mountain Light and Power Company in 1907 and subsequently sold to Pacific Gas and Electric Company in 1930. The fish ladder is maintained by Pacific Gas and Electric Company; the counting station grounds and other facilities are maintained by the Department of Fish and Game.

METHODS

Temperatures were taken at 0900 each morning with a hand-held thermometer; water flow data are taken from Pacific Gas and Electric Company reports for the gauging station (E-111) just below Van Arsdale Dam. These readings are taken at various times during the day and will probably differ from the United States Geological Survey Report.

1979-80 STEELHEAD PROGRAM

The first steelhead entered the Station on 7 November 1979 and the last on 27 April 1980 (Appendix Table 1). A total of 87 steelhead was trapped (55 males and 32 females). A pre-spawning mortality of three males and one female occurred. Station personnel spawned 14 females, and the 48,473 eggs produced (an average of 3,462 eggs/female) were hatched at Van Arsdale Fisheries Station, with a fertility rate of 84%. Fifty-two males and 22 females were released upstream. A total of 15,489 steelhead ranging in size from 12.2 to 10.0/lb were planted in the Eel River (Appendix Table 2).

CHINOOK SALMON PROGRAM

The first chinook salmon entered the Station on 6 November 1979 and the last on 28 December 1979 (Appendix Table 1). There were 21 males, 51 females, and 12 grilse. All fish were released upstream except for 2 males and 3 females which were spawned. These fish produced 10,872 eggs, for an average of 3,624 eggs/female. The fertility rate was 73%.

DISEASES

Five thousand chinook salmon were received from Trinity River Hatchery on 3 July 1979. These fish were to be used for a bioassay of the water at Van Arsdale Fisheries Station to determine the feasibility of constructing rearing ponds. During the summer months these fish contracted bacterial gill disease and were successfully treated with Terramycin and Hyamine. In the late summer and fall these same fish contracted a condition known as LDG's. There is no known cause or cure and substantial losses were incurred. In October the losses stopped and the remaining chinook salmon were planted. (Appendix Table 3).

MARKED RETURNS

Two male steelhead marked with right pectoral clips returned to the Station this year. There were no marked chinook salmon returned this season.

APPENDIX TABLE 1. Van Arsdale Fisheries Station, Mendocino County, Fish Counting Data 1979-80 Season

Date	Chinook salmon				Steelhead			Weather	Water temperature (°F)	Eel River flow CFS
	M	F	Grilse	Total	M	F	Total			
1979										
Nov 1								rain		9.5
2								rain		16
3								rain	55	21
4								rain	55	20
5								rain	53	43
6	1	3	2	6				rain	53	119
7	2	9	6	17	1		1	rain	53	19
8		1	1	2				cloudy	53	20
9								cloudy	55	92
10	3	4		7				clear	54	100
11								clear	49	102
12								clear	50	98
13								clear	50	95
14					2		2	clear	50	88
15								cloudy	50	98
16		1		1	3		3	rain	50	605
17								pty cloudy	50	153
18								pty cloudy	50	133
19		2		2				cloudy	50	84
20	1		1	2				clear	46	82
21								cloudy	46	92
22								rain	46	220
23	2	6		8	2		2	cloudy	46	133
24	2	7		9	1		1	rain	48	200
25		6	1	7				rain	48	115
26	1	5		6				clear	47	303
27		1		1				cloudy	46	151
28	1			1				cloudy	48	53
29								clear	46	56
30	1			1	1		1	clear	46	104
TOTALS	14	45	11	70	10	0	10			

APPENDIX TABLE 1. (continued)

Date	Chinook salmon				Steelhead			Weather	Water temperature (°F)	Del River flow CFS
	M	F	Grilse	Total	M	F	Total			
1979										
Dec 1								clear	46	100
2	1	1		2				cloudy	46	105
3								cloudy	48	107
4								clear	46	102
5	1		1	2				clear	46	100
6					Station not attended					100
7					"	"	"			102
8	1	2		3				clear	46	105
9								clear	46	100
10								cloudy	46	98
11								clear	46	109
12								clear	46	105
13								clear	46	100
14								clear	45	98
15								clear	45	92
16								clear	46	102
17	1			1				clear	46	102
18	1			1				cloudy	45	102
19	1	1		2	1	1		rain	45	117
20	1			1		1		rain	46	131
21		1		1				rain	46	229
22					1	1		clear	46	123
23								rain	40	186
24								rain	40	566
25								rain	41	303
26					2	1	3	clear	42	125
27					1		1	clear	39	121
28		1		1				cloudy	42	140
29								clear	40	149
30								cloudy	42	1,620
31								rain	46	6,280
TOTALS	7	6	1	14	5	2	7			

APPENDIX TABLE 1. (continued)

Date	Chinook salmon				Steelhead			Weather	Water temperature (°F)	Eel River flow CFS
	M	F	Grilse	Total	M	F	Total			
1980										
Jan 1								pty cloudy	46	4,430
2								pty cloudy	46	2,500
3								clear	46	1,720
4								cloudy	46	1,210
5					2	2	4	cloudy	46	938
6								cloudy	46	817
7								cloudy	46	754
8						1	1	cloudy	46	670
9								rain	46	640
10					1	1	2	pty cloudy	46	938
11						1	1	rain	46	1,730
12								rain	52	18,300
13								rain	48	24,000
14								rain	46	18,300
15								rain	46	10,600
16								rain	46	8,160
17								pty cloudy	46	5,680
18						1	1	pty cloudy	46	4,090
19								clear	46	2,900
20						1	1	clear	46	2,220
21								clear	46	1,740
22								clear	46	1,400
23								clear	46	1,100
24								clear	46	930
25								clear	46	803
26								clear	46	689
27								pty cloudy	46	594
28								clear	42	504
29								clear	42	421
30								clear	41	372
31								cloudy	44	334
TOTALS					3	7	10			

APPENDIX TABLE 1. (continued)

Date	Chinook salmon				Steelhead			Weather	Water temperature (°F)	Pal River flow CFS
	M	F	Grilse	Total	M	F	Total			
1980										
Feb 1								cloudy	44	289
2						1	1	cloudy	44	252
3								rain	44	293
4								clear	44	309
5								cloudy	48	276
6						2	2	cloudy	48	239
7								clear	46	203
8								clear	44	160
9					2		2	clear	42	142
10								clear	42	121
11								cloudy	44	107
12								cloudy	44	90
13								cloudy	43	90
14								rain	43	109
15								rain	43	117
16								rain	45	296
17					3	2	5	rain	48	4,090
18								rain	48	14,300
19								rain	48	16,800
20					2		2	cloudy	48	9,410
21								pty cloudy	48	7,600
22								pty cloudy	49	5,760
23								pty cloudy	49	4,120
24								rain	48	3,020
25			Station not attended					cloudy		2,700
26			"	"	"			rain		2,240
27			"	"	"			rain		2,030
28			"	"	"			rain		3,530
29			"	"	"			cloudy		2,740
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TOTALS					7	5	12			

APPENDIX TABLE 1. (continued)

Date	Chinook salmon			Steelhead			Weather	Water temperature (°F)	Eel River flow CFS
	M	F	Grilse Total	M	F	Total			
1980									
Mar 1			Station not attended				cloudy		2,210
2			"	"	"		rain		1,880
3			"	"	"		cloudy		1,690
4							cloudy	46	1,510
5					2	2	rain	46	2,560
6							pty cloudy	46	3,140
7							pty cloudy	44	2,350
8							clear	43	1,930
9							clear	43	1,650
10							clear	44	1,370
11							clear	44	1,230
12							pty cloudy	45	1,150
13							rain	48	1,220
14							rain	48	1,600
15							pty cloudy	48	1,830
16							clear	47	1,430
17							rain	47	1,140
18							clear	49	1,050
19							rain	44	853
20							clear	44	734
21							clear	44	658
22					2	2	clear	49	583
23					3	4	clear	49	494
24							clear	45	383
25							lt rain	45	194
26							clear	50	168
27							clear	44	163
28					1	2	clear	44	163
29					3	2	clear	50	163
30					1	1	clear	50	163
31					1	1	clear	50	158
TOTALS					13	9	22		

APPENDIX TABLE 2. (continued)

Date	Chinook salmon			Steelhead			Weather	Water temperature (°F)	Eel River flow CFS
	M	F	Grilse Total	M	F	Total			
1980									
Apr 1				2		2	clear	51	149
2							clear	49	144
3							rain	50	135
4							rain	48	197
5				1		1	rain	48	623
6				1	2	3	rain	48	338
7				2	1	3	clear	48	163
8				1	1	2	cloudy	48	135
9				2	1	3	pty cloudy	48	135
10							clear	48	115
11							clear	48	146
12				2	2	4	clear	52	149
13				1		1	clear	49	149
14				3		3	rain	49	125
15							clear	49	125
16							clear	49	131
17				1		1	clear	50	127
18							clear	48	127
19				1	1	2	clear	50	131
20							rain	50	133
21							rain	48	131
22							cloudy	49	129
23							clear	49	131
24							clear	51	125
25							clear	51	129
26							clear	52	119
27					1	1	clear	52	115
28							clear	52	115
29							clear	52	111
30							clear	52	109
TOTALS				17	9	26			

APPENDIX TABLE 2. Van Arsdale Fisheries Station, Mendocino County
Steelhead Stocking Data for Eel River

<u>Date</u>	<u>Planted from:</u>	<u>Size</u>	<u>Number</u>	<u>Strain</u>
12/13/79	Van Arsdale	12.2/lb	1,989	Eel River ^{1/}
4/07/80	Mad River	10/lb	7,000	Eel River ^{2/}
4/08/80	Mad River	10/lb	6,500	Eel River ^{2/}

1/ Planted in fish ladder at Van Arsdale Fisheries Station.

2/ Planted in spawn house at Van Arsdale Fisheries Station and held for two weeks before being released in the fish ladder.

APPENDIX TABLE 3. Van Arsdale Fisheries Station, Mendocino County
Chinook Salmon Stocking Data

<u>Date</u>	<u>Planted from:</u>	<u>Size</u>	<u>Number</u>	<u>Strain</u>	<u>Planted at:</u>
10/30/79	Van Arsdale	9.2/lb	1,380	Trinity River	Trinity River