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ANNUAL REPORT
VAN ARSDALE FISHERIES STATION 1981-82

by

Stephen W. Sanders, Fish Culturist
Region 3, Inland Fisheries

Anadromous Fisheries Branch
Administrative Report No. 82-32

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ABSTRACT

This report describes the operation of Van Arsdale Fisheries Station (Snow Mountain Station) for the 1981-82 season. Counts of migratory steelhead, Salmo gairdneri and chinook salmon, Oncorhynchus tshawytscha, have been made at this station annually since 1933. During the season, 175 chinook salmon and 646 steelhead were trapped at the station.

Appendix 1 summarizes the number of adult fish trapped, weather, water temperature, river flow, and numbers of juveniles stocked.

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INTRODUCTION

Van Arsdale Fisheries Station is located about 25 miles northeast of Ukiah, California, on the Eel River at Capenorn Dam, which forms Van Arsdale Reservoir. The station was constructed by 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-11) just below Van Arsdale Dam.

1981-82

Steelhead Program

The first steelhead entered the station on 6 November 1981 and the last on 24 May 1982. A total of 646 steelhead was trapped (199 males and 447 females). Three males and four females died in the trap. There were 109 fish marked (45 males and 64 females) and released downstream. Seven males and seven females were recaptured and released upstream. The marking program was used this year as part of the Federal Energy Regulatory Commission relicensing of Pacific Gas and Electric Company's Potter Valley Powerhouse to determine how well steelhead were able to find the entrance to the fish ladder.

There were 47,420 juvenile steelhead planted in the Eel River at Van Arsdale Dam (Table 1).

Table 1. Juvenile Steelhead Plants for Eel River at Van Arsdale, 1982

Date received	Date released	Number	Size/lb	Location of plant
Jan. 20*	Feb. 3	6,800	8.5	Van Arsdale Fish Ladder
Jan. 20*	Feb. 3	3,400	8.5	Van Arsdale Fish Ladder
Jan. 21*	Feb. 3	6,800	8.5	Van Arsdale Fish Ladder
Feb. 4*	Feb. 16	10,260	11.4	Van Arsdale Fish Ladder
Mar. 1		6,400	8	Van Arsdale Fish Ladder
Mar. 2		6,400	8	Van Arsdale Fish Ladder
Mar. 3		7,360	8	Van Arsdale Fish Ladder
TOTAL		47,420		

*Fish held at Van Arsdale Fisheries Station for approximately 14 days before release.

Chinook Program

The first chinook entered the trap on November 7, 1981 and the last on December 13, 1981. A total of 175 chinook was trapped (62 males, 20 females, 33 grilse). All chinook were released upstream except for 1 grilse which died in the trap.

APPENDIX 1. Van Arsdale Fisheries Station, Mendocino County
Fish Counting Data, 1981-82 Season

Date	Chinook salmon				Steelhead			Weather	Water temp. (°F)	Eel River flow (cfs)
	M	F	G	T	M	F	T			
1981										
Nov 1										
2									52	260
3								Cloudy	52	250
4								Cloudy		56.3
5								Cloudy		47.8
6					1		1	Clear	52	262
7	8	1	2	11	2	1	3	Clear	54	262
8	6	1	4	11		1	1	Clear	53	108
9		1	4	5	4		4	Pt.Cloudy	54	101
10			2	2				Rain	54	109
11	1	2	5	8	2		2	Cloudy	54	99.6
12	23	6	35	64				Rain	56	385
13	3		3	6	1	1	2	Lt.Rain	50	141
14	14	8	31	53				Cloudy	52	216
15	3		1	4	1		1	Rain	52	412
16	1		3	4	1		1	Cloudy	54	1880
17			2	2				Cloudy	52	1090
18								Clear	52	1480
19	1			1				Cloudy	52	1740
20								Cloudy	52	1265
21	1			1				Rain		
22										
23										13200
24								Clear	53	22000
25										4770
26	Station not attended									
27								Clear	53	12650
28								Clear	53	1950
29										1530
30								Cloudy	46	1110
Nov. Totals	61	19	92	172	12	3	15			
Dec 1								Clear	47	814
2								Clear	47	666
3								Clear	47	545
4	Station not attended									
5	Station not attended									
6	Station not attended									

Date	Chinook salmon				Steelhead			Weather	Water temp. (°F)	Eel River flow (cfs)	
	M	F	G	T	M	F	T				
Dec 7	Station not attended									767	
8			1	1	2	3	5	Clear	46	652	
9					2	5	7			557	
10	1	1		2	2	3	5			1520	
11						2	2	Clear	44	1190	
12	Station not attended										
13	Station not attended										
14	Station not attended										
15								Clear	48	2730	
16								Clear	46	2400	
17	Station not attended										
18	Station not attended								Rain	48	1970
19											
20											
21	Station not attended										
22								Clear	50		
23					1	3	4	Pt. Cloudy	49		
24					1	1	2	Rain			
25											
26					1	1	2	Clear		1880	
27											
28								Rain	49	1520	
29								Rain	49	6210	
30	Station not attended										5500
31										3690	
Dec. Totals	1	1	1	3	9	18	27				
1982											
Jan 1						2	2	Snow	47	4440	
2	Station not attended										3740
3	Station not attended										2660
4								Cloudy	44	3190	
5									44	3090	
6	Station not attended										2700
7	Station not attended										2160
8								Clear	42	1820	
9								Clear	42	1670	
10								Clear	42	1660	
11								Clear	42	1740	
12								Clear	42	1840	
13								Clear	42	1700	
14								Clear	42	1600	
15								Clear	41	1475	
16	Station not attended										1350
17					1	2	3	Lt. Rain	41	1235	
18								Rain	41	1150	
19								Snow	41	1210	
20								Snow	41	1190	
21					1	2	3	Hail	41	1065	

Date	Chinook salmon				Steelhead			Weather	Water temp. (°F)	Eel River flow (cfs)
	M	F	G	T	M	F	T			
Jan 22					4	3	7	Cloudy	40	888
23					7	18	25	Cloudy	41	830
24					3	14	17	Clear	40	1005
25					1	6	7	Pt. Cloudy	41	1050
26						2	2	Rain	42	1930
27						3	3	Pt. Cloudy	42	2030
28						3	3	Rain	42	2000
29					2	3	5	Clear	42	1330
30					3	2	5	Clear	41	1515
31	—	—	—	—	2	4	6	Clear	41	1250
Jan. Totals					24	64	88			
Feb 1					1	11	12	Clear	41	1070
2					2	12	14	Clear	41	967
3					1		1	Clear	41	880
4					4	2	6	Clear	43	838
5					2	4	6	Clear	40	715
6						1	1	Clear	41	581
7								Cloudy	41	516
8					6	2	8	Cloudy	41	462
9					1	3	4	Cloudy	41	412
10	Station not attended									
11					17	22	39	Clear	42	317
12					2	7	9	Cloudy	40	276
13					4	20	24	Rain	41	317
14					4	11	15	Rain	44	3790
15								Lt.Rain	44	9815
16					4	4	8	Cloudy	47	20840
17					2	5	7		47	10540
18					2	4	6	Cloudy	46	856
19					1	2	3	Pt.Cloudy	48	3260
20					3	5	8	Pt.Cloudy	47	2640
21					4	6	10	Cloudy	47	2250
22					2	5	7	Clear	47	1910
23					3	7	10	Clear	46	1630
24					1	8	9	Clear	45	1350
25					1	6	7	Cloudy	46	1090
26					1	2	3	Lt.Rain	46	1040
27					1	13	14	Clear	46	1190
28	—	—	—	—	7	27	34	Lt.Rain	46	976
Feb. Totals	0	0	0	0	76	189	265			
Mar 1					4	8	12	Rain	47	2160
2					4	3	7	Rain	46	3900
3					5	6	11	Cloudy	46	2960

Date	Chinook salmon				Steelhead			Weather	Water temp. (°F)	Eel River flow (cfs)
	M	F	G	T	M	F	T			
Mar 4					4	20	24	Clear	46	2285
5								Clear	44	1920
6					6	5	11	Clear	45	1650
7					5	11	16	Cloudy	46	1350
8					1	6	7	Lt. Rain	46	1230
9					2	5	7	Cloudy	47	1240
10					5	14	19	Rain	48	1810
11					3	7	10	Rain	48	2040
12					9	12	21	Clear	48	1960
13					3	10	13	Cloudy	48	1650
14					3	6	9	Cloudy	48	1440
15						4	4	Pt. Cloudy	46	1240
16						3	3	Cloudy	47	1090
17								Cloudy	46	1010
18						2	2	Rain	46	914
19					5	7	12	Cloudy	46	575
20					2	1	3	Cloudy	46	775
21					8	18	26	Cloudy	45	687
22					1	1	2	Clear	45	539
23						4	4	Clear	48	483
24						7	7	Clear	46	441
25					4	9	13	Cloudy	47	412
26						1	1	Cloudy	46	398
27								Cloudy	46	193
28								Rain	46	264
29								Snow	43	224
30								Snow	44	398
31	Station not attended				—	—	—	Rain		6000
Mar. Totals	0	0	0	0	74	170	244			
Apr 1								Snow	44	4460
2								Rain	44	3450
3								Cloudy	44	5340
4								Cloudy	44	5850
5								Rain	44	3590
6								Cloudy	44	2770
7	Station not attended									
8								Clear	44	563
9								Clear	44	1680
10								Rain	45	2000
11								Rain	45	16700
12								Cloudy	46	13200
13								Rain	46	8730
14	Station not attended									8730
15								Clear	46	6940
16								Clear	46	4970
17								Clear	46	4100
18								Clear	46	3460

Date	Chinook salmon				Steelhead			Weather	Water temp. (°F)	Eel River flow cfs
	M	F	G	T	M	F	T			
Apr 19								Clear	48	3060
20								Clear	49	2740
21	Station not attended									
22								Clear	49	2660
23								Clear	49	2560
24								Clear	50	2060
25								Pt. Cloudy	49	2335
26						1	1	Clear	51	2130
27								Pt. Cloudy	51	1960
28								Cloudy	51	1770
29								Clear	48	252
30								Clear	50	241
Apr. Totals	0	0	0	0	0	1	1			
May 1								Clear	49	226
2								Clear	49	149
3								Clear	50	141
4								Clear	50	118
5	Station not attended									91.4
6								Clear	51	83.7
7								Clear	51	80
8								Clear	50	71.7
9								Clear	49	69.7
10								Clear	50	67.1
11					1		1	Clear	50	67.1
12	Station not attended									64.6
13						1	1	Pt. Cloudy	51	75
14								Clear	52	71.7
15								Clear	55	59.2
16								Clear	55	53
17								Cloudy	56	62.1
18								Clear	54	46.8
19	Station not attended									142
20					1	1	2	Clear	57	161
21								Clear	58	175
22					1		1	Pt. Cloudy	59	72.3
23								Clear	60	47.5
24					1		1	Pt. Cloudy	63	39.4
25								Clear	64	31.4
26	Station not attended									29.9
27								Clear	61	80.7
28								Clear	62	64.6
29								Pt. Cloudy	62	15.1
30	Station not attended									
31	Station not attended									
May Totals	0	0	0	0	4	2	6	6		