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ANNUAL REPORT
VAN ARSDALE FISHERIES STATION 1980-81

by

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Region 3, Inland Fisheries

Anadromous Fisheries Branch
Administrative Report No. 82-11

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ABSTRACT

This report describes the operation of Van Arsdale Fisheries Station for the 1980-81 season. Counts of migratory steelhead, Salmo gairdneri, and chinook salmon, Oncorhynchus tshawytscha, have been made each year since 1933.

Appendix tables summarize the numbers of adult fish trapped, weather conditions, water temperature, and water flow over Van Arsdale Dam.

^{1/} Anadromous Fisheries Branch Administrative Report No. 82-11
Submitted April 1982.

INTRODUCTION

Van Arsdale Fisheries Station is located about 25 miles northeast of Ukiah, California, on the Eel River at Capehorn 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; the counting station grounds and other facilities are maintained by the Department of Fish and Game.

METHODS

Temperatures were taken by hand held thermometers at about 9:00 a.m. Water flow data are taken from Pacific Gas and Electric Company preliminary reports (Appendix Table 1).

WATER RELEASES

A minimum water release of 50 cfs began on December 4, 1980, and continued all season. It is believed to have caused the early return run of steelhead this season.

STEELHEAD PROGRAM

The first steelhead entered the station on December 15, 1980, and the last on April 13, 1981. There were 828 males and 1,138 females trapped, for a total of 1,966. Eight-hundred-eighteen males and 1,112 females were released upstream to spawn. Six males and seven females died while still in the station.

Twenty-three steelhead, 10 males and 13 females, were tagged and released downstream to determine length of time to ascend the fish ladder. None of these fish returned.

Thirteen females were spawned and released downstream. The 74,360 eggs collected were shipped green to Silverado Field Operations Base, Napa County. The fertility rate was 90%. These fish will be planted in the Eel River at Van Arsdale Dam in the spring of 1982.

There were 11,860 steelhead smolts placed in a holding pen and held for 13 days. These fish were all marked with orange fluorescent dye. These are the remaining fish used in the 1979-80 bioassay work done at Van Arsdale Fisheries Station, and were released on April 1, 1981.

MARKED FISH RETURNS

There were 146 males and 217 females with worn or missing dorsal fins observed this season. These are believed to be hatchery-reared fish. One male and one female with right pectoral clips and one male with an adipose clip were also trapped this season.

CHINOOK SALMON

No chinook salmon were trapped this year, although many were sighted in the Eel River between Tomki Creek (approximately 1.5 miles downstream of Van Arsdale Station) and Van Arsdale Station.

VANDALISM

The spawning house was broken into at least twice this season. Many times dam boards were removed from the fish ladder and fish taken. One arrest was made and two tickets written for trespassing.

APPENDIX TABLE 1. Numbers of Steelhead Trapped, Water Flows and Climatological Data, Van Arsdale Station, Mendocino County, 1980-81

Date	Steelhead			Weather	Water	Eel River
	Male	Female	Total		temperature °F	flow ft ³ /s
1980						
Dec.						
15	1	1	2	Clear	46	56
16		1	1	Clear	45	51
17				Pt. cloudy	42	47
18				Pt. cloudy	43	49
19				Clear	43	47
20				Clear	43	47
21					43	72
22	7	9	16	Pt. cloudy	44	47
23	17	20	37	Pt. cloudy	42	45
24	40	23	63	Cloudy	44	47
25	40	48	88	Pt. Cloudy	45	49
26	23	29	52	Pt. cloudy	45	49
27	6	19	25	Rain	44	49
28	10	7	17	Clear	46	49
29	16	14	30	Clear	50	48
30	16	18	34	Clear	42	47
31	7	7	14	Clear	42	48
Dec.						
Total	183	196	379			
1981						
Jan.						
1	7	12	19	Clear	40	47
2	4	7	11	Clear	42	46
3	17	29	46	Lt. Rain	43	54
4	Station not checked					52
5	22	36	58	Clear	42	47
6	5	13	18	Clear	42	48
7	8	16	24	Cloudy	43	49
8	3	10	13	Cloudy	43	49
9	3	9	12	Clear	43	48
10	2	4	6	Clear	42	48
11	Station not checked					50
12	2	8	10	Cloudy	46	56
13	2	5	7	Clear	42	74
14	8	18	26	Clear	42	102
15	29	27	56	Pt. cloudy	43	101
16	37	47	84	Rain	44	104
17	26	57	83	Rain	43	110
18	19	35	54	Cloudy	44	96
19	60	72	132	Rain	46	97
20	64	69	133	Rain	44	102

Date	Steelhead			Weather	Water	Eel River
	Male	Female	Total		temperature of	flow ft ³ /s
1981						
Jan. (cont.)						
21	48	75	123	Rain	46	108
22	21	40	61	Rain	47	381
23	26	28	54	Rain	47	120
24	4	3	7	Clear	46	111
25	Station not checked					97
26	1	5	6	Rain	46	112
27	12	17	29	Rain	44	1,030
28	4	4	8	Rain	44	1,730
29	5	12	17	Rain	43	565
30		1	1	Clear	43	158
31	2		2	Clear	46	137
Jan. Total						
	441	659	1,100			
Feb.						
1				Clear	46	163
2	1	2	3	Pt. cloudy	44	129
3	1	2	3	Clear	41	113
4	9	15	24	Clear	41	108
5	3	7	10	Cloudy	42	108
6	2	6	8	Clear	41	106
7	1	2	3	Clear	42	98
8	Station not checked					94
9	24	58	82	Clear	43	99
10	17	24	41	Cloudy	43	106
11	6	10	16	Rain	43	108
12	4		4	Clear	44	102
13	2	4	6	Rain	45	582
14	Station not checked					4,020
15				Clear	44	2,650
16	2	1	3	Rain	46	1,780
17	15	14	29	Clear	45	1,630
18	8	14	22	Clear	46	1,140
19	3	4	7	Rain	46	833
20	36	35	71	Clear	46	650
21	Station not checked					472
22	15	18	33	Clear	46	350
23				Clear	46	273
24	10	8	18	Rain	45	409
25	1		1	Rain	45	493
26				Rain	45	504
27	1	4	5	Rain	44	545
28	2	3	5	Cloudy	45	497
Feb. Total						
	163	231	394			
March						
1	1	1	2	Cloudy	45	440
2				Clear	46	390

Date	Steelhead			Weather	Water	Eel River
	Male	Female	Total		temperature °F	flow ft ³ /s
Mar. (cont)						
3	3	2	5	Pt. cloudy	45	346
4	4	4	8	Rain	46	507
5		2	2	Clear	46	556
6	1	2	3	Clear	46	455
7	6	4	10	Rain	48	369
8	Station not checked					
9		1	1	Clear	45	249
10	2	1	3	Clear	45	212
11	4	5	9	Clear	45	199
12	5	10	15	Clear	46	183
13		3	3	Cloudy	46	202
14	Station not checked					203
15	Station not checked					226
16	2	4	6	Clear	48	232
17	2	3	5	Cloudy	49	199
18				Rain	47	198
19				Pt. cloudy	47	187
20	1		1	Cloudy	46	201
21	Station not checked					303
22	Station not checked					269
23	3	1	4	Clear	50	213
24				Cloudy	47	173
25	1	3	4	Rain	47	
26	1	2	3	Cloudy	45	
27				Clear	48	
28	Station not checked					
29	1	1	2	Cloudy	47	
30				Clear	50	
31				Cloudy	47	
March						
Total	37	49	86			
April						
1				Clear	47	
2				Clear	46	
3				Clear	47	
4	Station not checked					
5	Station not checked					
6	1	2	3	Clear	48	
7	1		1	Clear	48	
8				Clear	48	
9				Clear	48	
10		1	1	Clear	48	
11	Station not checked					
12	Station not checked					
13	2		2	Clear	48	
14				Clear	49	
15				Clear	49	
16				Clear	49	
17				Pt. cloudy	50	
18	Station not checked					
19	Station not checked					

Date	<u>Steelhead</u>			Weather	Water	Eel River
	Male	Female	Total		temperature	flow
					^o F	ft ³ /s
April (cont.)						
20				Cloudy	49	
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
April Total	4	3	7			
SEASON TOTALS	828	1,138	1,966			