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ANNUAL REPORT
VA ARSDALE FISHERIES STATION 1978-79

by

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

Anadromous Fisheries Branch
Administrative Report No. 80-11

1980

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ABSTRACT

This report describes the operation of Van Arsdale Fisheries Station (Snow Mountain Station) for the 1978-79 season. Five chinook (king) salmon (Oncorhynchus tshawytscha) and 106 steelhead (Salmo gairdneri gairdneri) were trapped. An estimated 116,070 yearling steelhead were released.

^{1/} Anadromous Fisheries Branch Administrative Report No. 80-11.
Submitted May 1980.

INTRODUCTION

This report covers the operation of Van Arsdale Fisheries Station (Snow Mountain Station), Mendocino County, for the 1978-79 season.

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 dam was constructed by the Snow Mountain Light and Power Company in 1907 and sold to Pacific Gas and Electric Company in 1930. The fish ladder is maintained by the Pacific Gas and Electric Company; and the counting station, grounds and other facilities are maintained by the Department of Fish and Game.

Copies of previous reports are available from the Anadromous Fisheries Branch, Rancho Cordova.

SUMMARY OF OPERATIONS

We trapped 106 steelhead and 5 chinook salmon during 1978-79 (Table 1, Appendix Table 1) and planted 116,070 juvenile steelhead (Table 2).

TABLE 1. Summary of Operations, Van Arsdale Fisheries Station, 1978-79

Species	total trapped	Females spawned	Number eggs taken	Prespawning mortality		Number released above dam			Number of juveniles planted	
				Males	Females	Males	Females	Grilse		
Steelhead	106	39	180,660	0	0	23	28	16	67	116,070
Chinook salmon	5	0	0	0	0	4	0	1	5	0

TABLE 2. Steelhead Plants at Van Arsdale Fisheries Station, 1978-79

Date	Egg source	Rearing location	Size	Pounds	Number
3/27/79	Van Arsdale	Mad River Hatchery	4.6	1,500	6,900
3/28/79	Van Arsdale	Mad River Hatchery	4.7	1,500	7,050
3/29/79	Van Arsdale	Mad River Hatchery	4.8	1,800	8,640
3/30/79	Van Arsdale	Mad River Hatchery	9.3	1,200	11,160
3/31/79	Van Arsdale	Mad River Hatchery	8.9	1,500	13,350
3/31/79	Van Arsdale	Mad River Hatchery	9.8	1,800	17,640
4/ 1/79	Van Arsdale	Mad River Hatchery	9.1	1,200	10,920
4/ 1/79	Van Arsdale	Mad River Hatchery	9.9	1,900	18,810
4/ 3/79	Van Arsdale	Mad River Hatchery	10.0	1,230	12,300
3/24/79	Van Arsdale	Talmage Ponds, Mendocino County	6.2	1,500	9,300
TOTALS				15,130	116,070

MARKED FISH RETURNS

Two marked female steelhead of unknown origin were trapped: one LV and one LV-RV. In addition, 29 fish were trapped that had worn dorsal fins: 5 males, 18 females, and 6 grilse (<22 in. FL). These comprised 27% of the total steelhead run and are believed to come from eggs taken at Van Arsdale Station, hatched and reared at Mad River Hatchery, and planted at Van Arsdale in 1976 and 1977.

APPENDIX TABLE 1. Van Arsdale Fisheries Station, Mendocino County
Daily Weather and Fish Counts, 1978-79

Date	Chinook salmon				Steelhead				Weather	Water temp.	Eel River flow
	Male	Female	Grilse	Total	Male	Female	Grilse	Total		°F	CFS
1978											
December											
15									Clear	39	2
16									Clear	40	240
17									Clear	40	240
18									Clear	40	240
19	1			1					Clear	40	240
20									Clear	39	40
21									Clear	38	40
22									Clear	38	40
23									Clear	38	40
24									Clear	39	40
25									Clear	39	40
26									Clear	40	40
27									Lt. Rain	40	40
28									Clear	40	
29									Clear	40	
30									Clear	40	
31									Clear	40	
TOTALS	1	0	0	1	0	0	0	0			

APPENDIX TABLE 1 (continued). Van Arsdale Fisheries Station, Mendocino County
Daily Weather and Fish Counts, 1978-79

Date	Chinook salmon				Steelhead				Weather	Water temp.	Eel River flow	
	Male	Female	Grilse	Total	Male	Female	Grilse	Total		°F	CFS	
1979												
January												
1										Clear	41	15
2										Clear	41	15
3										Cloudy	41	15
4										Rain	42	15
5										Rain	42	15
6										Cloudy	42	
7										Cloudy	42	20
8										Cloudy	42	2
9										Cloudy	42	2
10										Rain	43	2
11										Rain	43	2
12	2		1	3						Rain	43	10
13										Rain		
14										Rain		
15					2	5		7		Rain	43	2
16										Clear	43	2
17										Clear	43	2
18	1			1						Clear	43	2
19										Clear	43	2
20										Clear	43	2
21										Clear	43	2
22										Clear	43	2
23										Clear	43	2
24										Cloudy	41	2
25										Clear	40	2
26										Clear	40	2
27										Clear	40	2
28										Pt. Cloudy	40	2
29										Cloudy	40	2
30										Clear	40	2
31										Clear	40	2
TOTALS	3	0	1	4	2	5	0	7				
Season												
Totals	4	0	1	5	2	5	0	7				

APPENDIX TABLE 1 (continued). Van Arsdale Fisheries Station, Mendocino County
Daily Weather and Fish Counts, 1978-79

Date	Chinook salmon				Steelhead				Weather	Water temp.	Eel River flow
	Male	Female	Grilse	Total	Male	Female	Grilse	Total		°F	CFS
1980											
February											
1									Clear	40	2
2									Clear	40	2
3									Clear		2
4									Clear		2
5									Clear	41	2
6									Clear	41	2
7									Clear	40	2
8									Clear	40	2
9									Clear	40	2
10									Lt. Rain	41	2
11									Lt. Rain	41	2
12									Rain		
13									Rain	42	785
14					4	5		9	Lt. Rain	42	300
15					2	6		8	Lt. Rain	42	100
16					2	1		3	Cloudy	44	580
17					4	11	2	17	Cloudy	41	100
18					1	6	1	8	Rain	41	1,100
19						1		1	Cloudy	41	700
20					2	5	5	12	Rain	41	
21					1	1		2	Cloudy	42	300
22									Rain	40	300
23									Rain	42	300
24						5	2	7	Cloudy	42	100
25					1	3	1	5	Cloudy		
26									Rain	41	1,000
27									Cloudy	43	1,400
28									Rain	44	2,000
TOTALS					17	44	11	72			
Season											
totals	4	0	1	5	19	49	11	79			

APPENDIX TABLE 1 (continued). Van Arsdale Fisheries Station, Mendocino County
Daily Weather and Fish Counts, 1978-79

Date	Chinook				Steelhead				Weather	Water temp.	Eel River flow
	Male	Female	Grilse	Total	Male	Female	Grilse	Total		°F	CFS
1979											
March											
1									Clear	42	4,000
2						1		1	Lt. Rain	42	4,000
3							1	1	Cloudy	43	1,700
4						5	1	6	Clear	46	1,600
5									Clear	46	1,600
6									Clear	46	1,800
7					3	5		8	Clear	46	2,100
8									Clear	46	1,600
9						4	1	5	Clear	46	900
10									Clear	46	
11									Clear	47	
12						1	1	2	Clear	46	400
13									Clear	46	390
14					1		1	2	Cloudy	46	
15									Lt. Rain		
16									Lt. Rain	45	
17					Station not attended						
18					"						
19					"						
20					"						
21					"				Cloudy		120
22					"				Cloudy		100
23					"				Pt. Cloudy		70
24					Station not attended						
25					"				Rain		
26					"				Rain		65
27						1		1			400
28						1		1	Cloudy	46	3,000
29		End of Season									
30											
31											
TOTALS					4	18	5	27			
Season											
totals	4	0	1	5	23	67	16	106			

APPENDIX TABLE 2. Annual Steelhead and Chinook Salmon Counts
Van Arsdale Fisheries Station

Year	Steelhead	Chinook salmon	Year	Steelhead	Chinook Salmon
1933-34	3,247		1974-75	1,126	1
1934-35	2,255		1975-76	1,077	2
1935-36	6,310		1976-77	39	0
1936-37	6,861		1977-78	590	23
1937-38	3,413		1978-79	106	5
1938-39	4,786				
1939-40	3,990				
1940-41	2,228				
1941-42	No records				
1942-43	No records				
1943-44	No records				
1944-45	9,528				
1945-46	5,054				
1946-47	4,409				
1947-48	178				
1948-49	2,433				
1949-50	No records				
1950-51	1,091				
1951-52	5,444				
1952-53	2,197				
1953-54	2,590				
1954-55	6,131				
1955-56	3,719				
1956-57	4,109				
1957-58	5,151				
1958-59	3,335				
1959-60	2,206				
1960-61	1,130	0			
1961-62	1,693	0			
1962-63	2,030	9			
1963-64	846	3			
1964-65	921	108			
1965-66	423	94			
1966-67	534	119			
1967-68	531	0			
1968-69	340	0			
1969-70	719	15			
1970-71	1,863	47			
1971-72	696	0			
1972-73	586	0			
1973-74	1,040	12			