

*Sumner*

COLUMBIA RIVER SEAL CONTROL PROGRAM

INTRODUCTION

ORS 506.316 provides legislative authority to conduct a seal control program in the Columbia River and requires the FCO to pay a bounty set between \$5 and \$25 for each seal killed. It is funded under provisions of ORS 508.290 requiring payment of an annual fee of \$2.50 from each Oregon gill-net fisherman and \$50.00 from each canner.

The Fish Commission has paid a bounty since 1936 and hired a seal hunter during 1959-70. No hunter was hired in 1971 because results of a questionnaire in 1970 indicated that 53% of the fishermen would support a trial period of 1 year without a hunter to evaluate the effectiveness of the seal control program. A followup questionnaire was sent to licensed gill-net fishermen and cannery after the 1971 fishing seasons to aid in this evaluation.

PROGRAM RESULTS

Revenues and Disbursements

Funds from the sale of seal certificates have not adequately supported the seal hunting program. The reserves or unexpended balance in the seal account decreased from \$24,639 in 1958 to a low of \$4,055 in 1970 (Table 1). The balance increased to \$5,204 during the first 6 months of FY 1972 because no seal hunter was hired and the bounty was decreased from \$25 to \$5 beginning in 1970.

The seal hunter has been paid \$40 per day plus gasoline for his boat and ammunition for his rifle.

Bounty System

The bounty program has resulted in 3,510 claims from 1936-71 (Table 2), with 67% (2,358) occurring in the first 12 years. The number of claims per year is related to available time open to commercial fishing and to

Table 1. Statement of Receipt and Disbursements, Seal Fund Account, July 1, 1957 to December 31, 1971

Fiscal Year	Fund Balance July 1	Receipts		Less 10% to General Fund	Amount Available	Disbursements		Unexpended Balance
		Gill Net	Canner			Bounties	Seal Hunter	
1958	\$25,467.74	\$1,562.50	\$350.00	\$191.25	\$27,188.99	\$2,550.00		\$24,638.99
1959	24,638.99	1,612.50	400.00	201.25	26,450.24	975.00	\$1,849.67	23,625.57
1960	23,625.57	1,595.00	350.00	194.50	25,376.07	1,150.00	3,153.01	21,073.06
1961	21,073.06	1,535.00	350.00	188.50	22,769.56	1,100.00	3,331.05	18,338.51
1962	18,338.51	1,467.50	350.00	181.75	19,974.26	2,650.00	3,163.43	14,160.83
1963	14,160.83	1,470.00	400.00	187.00	15,843.83	825.00	2,131.50	12,887.33
1964	12,887.33	1,130.00	400.00	153.00	14,264.33	425.00	3,794.82	10,044.51
1965	10,044.51	1,015.00	300.00	131.50	11,228.01	650.00	1,759.99	8,818.02
1966	8,818.02	1,085.00	350.00	143.50	10,109.52	575.00	1,648.34	7,886.18
1967	7,886.18	1,105.00	350.00	145.50	9,195.68	350.00	2,022.59	6,823.09
1968	6,323.09	1,450.00	300.00	175.00	8,398.09	525.00	2,612.82	5,260.27
1969	5,260.27	1,382.50	350.00	173.25	6,819.52	800.00	1,650.00	4,369.52
1970	4,369.52	1,535.00	350.00	188.50	6,066.02	235.00	1,775.95	4,055.07
1971	4,055.07	1,615.00	350.00	196.50	5,823.57	60.00	902.71	4,860.86
7/1- 12/31/71	4,860.86	157.50	350.00	-0-	5,368.36	25.00	139.00 <sup>1/</sup>	5,204.36

<sup>1/</sup> Cost of seal hunter questionnaire.

Table 2. Number of Bounty Claims and Amount of Payment From the Seal Fund, 1936-71<sup>1/</sup>

Year	Number	Rate <sup>2/</sup>	Amount	Days Open to Fishing (Calendar Year)
(Biennial Period Ending June 30)				
1936	63	5	315	
1938	410	5	2,050	\$ 272
1940	534	10	5,340	
1940)	101	5	505)	273
1942	667	10	6,670	272
1944	257	10	2,570	221
(Fiscal Year Ending June 30)				
1945	73	10	730	220
1946	114	10	1,140	208
1947	139	10	1,390	208
1948	77	10	770	208
1949	63	10	630	181
1950	58	10	580	174
1951	24	10	240	174
1952	25	10	250	157
1953	26	10	260	153
1954	47	15	705	
1954)	35	10	350)	153
1955	97	25	2,425)	
1955)	9	15	135)	159
1956	82	25	2,050	140
1957	70	25	1,750	125
1958	102	25	2,550	115
1959	39	25	975	98
1960	46	25	1,150	101
1961	44	25	1,100	101
1962	106	25	2,650	102
1963	33	25	825	98
1964	17	25	425	83
1965	26	25	650	77
1966	23	25	575	80
1967	14	25	350	70
1968	21	25	525	75
1969	32	25	800	78
1970	7	25	175	
1970) <sup>3/</sup>	12	5	60)	82
1971	12	5	60	77
7/1-12/31/71	5	5	25	
Total	3,510		\$43,750	

<sup>1/</sup> The law creating the Seal Fund (applying only to the Columbia River) was enacted at the Special Legislative Assembly, November 1935.

<sup>2/</sup> Commissions have altered the bounty rate several times, depending on availability of funds and need.

<sup>3/</sup> Rate changed from a \$25 bounty payment to a \$5 bounty payment on January 17, 1970.

the number of fishermen operating (Table 3). There appears to be no relationship between the number of bounties claimed and the rate paid.

Table 3. Comparison of Bounty Claims, Days Open to Fishing, and Gill-Net Licenses Issued, 1936-71

Years	Average Per Year		
	Claims	Days Open to Fishing	Gill-Net Licenses Issued
1936-47	197	242	1,012
1948-59	63	153	936
1960-71	33	85	745

#### Seal Hunter

A seal hunter was hired from 1959-70 to patrol 40 miles of the lower Columbia River. During 12 years of operation, he killed 468 seals and reported 487 as possibly killed or wounded (Table 4). The number of seals killed annually ranged from 26 in 1969 to 54 in 1968 and averaged 39. There is no obvious relation between the numbers killed in successive years. It is doubtful that the numbers of seals killed by the hunter has had an effect on the number of seals entering the Columbia annually. Hunting occurred on 671 of the 1,020 days open to gill-net fishing, or 64% of the time. Hunting occurred solely during the daylight hours.

Table 4. Columbia River Seal Hunting Program, 1959-70

Years	Days Open To Fishing	Days Hunted <sup>1/</sup>	Seals Killed	Possible Kills and Wounded	Total Seals
1959 (Feb-Sept)	98	74	43	59	102
1960 ( " " )	101	78	27	47	74
1961 ( " " )	101	94	34	45	79
1962 (Apr-Sept)	102	48	31	36	67
1963 (Feb-Sept)	98	64	47	75	122
1964 (Feb-Aug)	83	40	29	38	67
1965 ( " " )	77	39	30	35	65
1966 (Feb-Sept)	80	40	47	44	91
1967 ( " " )	70	56	49	30	79
1968 ( " " )	75	53	54	37	91
1969 ( " " )	78	37	26	20	46
1970 ( " " )	<u>82</u>	<u>48</u>	<u>51</u>	<u>21</u>	<u>72</u>
Total	1,045	671	468	487	955

<sup>1/</sup> Any portion of a day on which seal hunting took place is included as one hunting day.

#### Seal Questionnaire for 1971

The questionnaire in 1971 was sent to gillnetters and industry representatives to solicit their views on the effect of no seal hunting during 1971. Of the 653 questionnaires sent out, 234 or 36% were returned. The following questions were asked and responses received:

1. I think that discontinuing the seal hunting program in 1971 caused (an increase, a decrease, no change) in the amount of seal activity or damage in the Columbia River.

<u>Increase</u>	<u>Decrease</u>	<u>No Change</u>	<u>Did Not Answer</u>
151 (65%)	1 (0.4%)	32 (14%)	50 (21%)

2. I think the Fish Commission (should, should not, no comment) hire a seal hunter in 1972.

<u>Should</u>	<u>Should Not</u>	<u>No Comment</u>	<u>Did Not Answer</u>
169 (72%)	33 (14%)	13 (6%)	19 (8%)

## DISCUSSION

The purpose of the seal hunter program has been to actively harass seals during the open commercial seasons. The hunter's activities presumably drive seals from the river and reduce predation by seals on salmon held captive in the fisherman's nets. The bounty system is also intended to accomplish these purposes. However, we have no evidence that either the seal hunting program or the bounty system drives seals out of the Columbia River.

It is difficult to evaluate the effectiveness of a seal control program because we have no estimate of the seal population in the lower Columbia River, nor do we maintain any surveillance of the seal herds. The number of seals killed by the seal hunter changes appreciably among years, but does not seem related to the number of days of hunting. Also, the number of kills annually has remained relatively unchanged for the 12-year period.

There is reason to doubt that the seal hunting program reduces the predation by seals upon salmon held captive in gill nets, or harasses the seals away from individual fishing areas. Several hundred gillnetters operate in the lower 40 miles of the Columbia River. The efforts of one hunter are spread over this area on two-thirds of the fishing days. The hunter operates only during the daylight hours, and most gillnetting and catches of fish occurs at night. Harassment of seals by individual gillnetters in any one area is probably more effective and more frequent than that offered by the seal hunter.

It would seem that the bounty system would have little influence upon the amount of seal harassment by individual gillnetters. The incentive provided by the need to protect valuable fish in his gill net

would appear much greater than the value of a bounty. As shown in Table 2, there appears to be no relation between the number of bounties claimed and the bounty rate paid. The bounty system seems further ineffective since most seals sink when shot and are irretrievable, and those caught in gill nets would be disposed of irrespective of a bounty system.

Based on the seal questionnaire, fishermen believe seal activity increased in 1971 and want the seal hunter hired in 1972. It is possible that seal activity did increase in 1971. It is questionable that any increase in seal activity resulted from the lack of the seal hunter's presence in 1971. We further question whether the questionnaire accurately represents all of the fishermen's feelings. There is a tendency for individuals with strong feelings to reply to a questionnaire such as this while those who feel less strong fail to reply. Only 36% of the fishermen responded.

#### CONCLUSIONS AND RECOMMENDATIONS

The purpose of the seal control program is to harass seals in the Columbia River and reduce their predation upon salmon in the river, particularly those in fishermen's nets.

There is no evidence that the seal hunting program and the bounty system are effectively accomplishing their intended purpose, and there is reason to believe that the program is ineffective.

We recommend no seal hunting contract be awarded in 1972; but since the Fish Commission is required by statute to pay a bounty, we recommend that the bounty program be continued at the minimum rate of \$5 per claim.

Management and Research Division  
Fish Commission of Oregon  
March 9, 1972

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