

BIENNIAL REPORT OF THE
FISH COMMISSION
OF THE STATE OF OREGON, 1943



A FILLING LINE IN ONE OF OREGON'S MODERN CANNERIES
In this and similar plants in the State of Oregon millions of pounds of salmon, albacore tuna and other food fishes are canned annually.

BIENNIAL REPORT
OF THE
FISH COMMISSION
OF THE STATE OF OREGON
TO THE
GOVERNOR AND THE FORTY-SECOND
LEGISLATIVE ASSEMBLY
1943



FISH COMMISSION OF THE STATE OF OREGON
Hon. John C. Veatch, Chairman, Portland
Hon. Merle R. Chessman, Astoria
Hon. L. A. Cutlip, North Bend
M. T. Hoy, Secretary and Master Fish Warden

LETTER OF TRANSMITTAL

Portland, Oregon, July 1, 1942.

TO HIS EXCELLENCY, the GOVERNOR, and the MEMBERS
of the FORTY-SECOND LEGISLATIVE ASSEMBLY.

Gentlemen:

Herewith is transmitted the biennial report of the Fish Commission of the State of Oregon covering the period from July 1, 1940 to June 30, 1942.

FISH COMMISSION of the STATE OF OREGON

John C. Veatch, Chairman.

LETTER OF TRANSMITTAL

Portland, Oregon, July 1, 1942.

FISH COMMISSION OF THE STATE OF OREGON,
Portland, Oregon.

Gentlemen:

In accordance with the provisions of statute, I herewith submit for your consideration financial statement for the department covering the period July 1, 1940 to June 30, 1942. This statement includes all receipts and disbursements of the Fish Commission during the above period.

Respectfully submitted,

M. T. HOY,
Master Fish Warden.

HATCHERY FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS

For Biennial Period Ending June 30, 1942

	RECEIPTS	
	Fiscal Year Ending June 30, 1941	Fiscal Year Ending June 30, 1942
Licenses:		
Gillnet	\$ 8,055.00	\$ 7,215.00
Setnet	3,501.25	5,090.00
Boat Puller	680.00	625.00
Retail Fish Dealer	5,510.00	4,840.00
Peddler	280.00	135.00
Wholesale	3,325.00	3,275.00
Troll	152.50	170.00
Clam	1,725.00	735.00
Crab	910.00	1,620.00
Crawfish	100.00	55.00
Bagnet	225.00	470.00
Setline	89.00	71.00
Seine	1,809.60	1,224.30
Trap	925.00	1,125.00
Broker	150.00	150.00
Reduction Plant	150.00	175.00
Salmon Canner	225.00	300.00
Shellfish Canner	450.24	475.51
Delivery	7,277.50	7,580.00
Total License Receipts	\$ 35,540.09	\$ 35,330.81
Other Income:		
Poundage Fees	\$ 94,148.53	\$109,663.92
Privilege Tax—Pilchards	1,581.17	7,924.52
Fish and Crab Tags	1,658.26	1,585.67
Interest	476.79	250.47
Additional Fees on Crabs	3,465.70	3,678.71
Additional Fees on Clams	599.88	408.23
Fines	892.04	1,504.35
Sale of Confiscated Property	430.13	567.35
Sale of Stranded Fish	318.22	35.88
Sale of Properties	100.00	.....
Oyster Lease Rentals .....	.....	142.95
Refund Checks (Payment Stopped) .....	.....	11.74
Total Other Income	\$103,670.72	\$125,773.79
Total Revenue	\$139,210.81	\$161,104.60
Sundry—Tithe Exempt:		
Contribution for Oyster Research	\$ 500.00	\$ 150.00
Recovery of Filing Fees and Court Costs .....	.....	23.00
Sale of Land	1.00	.....
Sale of Scrap Materials .....	.....	83.04
Gasoline Tax Refunded	31.05	73.50
Refund on Automobiles Purchased	60.84	.....
Sale of Fish Food	187.35	.....
Sale of Automobile .....	.....	325.00
Sale of Boathouse and Filing Cabinet .....	.....	60.00
State Police Refund .....	.....	228.56
Total Sundry Receipts	\$ 780.24	\$ 943.10
Total Receipts	\$139,991.05	\$162,047.70

HATCHERY FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS—Continued

For Biennial Period Ending June 30, 1942

DISBURSEMENTS

Accounts	Fiscal Year Ending June 30, 1941		Fiscal Year Ending June 30, 1942	
Pilchard and Tuna Research:				
Salaries	\$ 3,475.00		\$ 3,608.00	
Traveling Expenses:				
Mileage and Fares	101.12		151.22	
Meals and Lodging	59.35		114.80	
Postage, Freight and Express	26.32		3.75	
State Compensation Insurance	46.92		45.10	
Laboratory Supplies	11.13		57.90	
Sundry Expenses	3.20		3.75	
Equipment:				
Repairs and Maintenance .....	.....		11.29	
Capital Outlays	81.00	\$ 3,804.04	23.95	\$ 4,019.76
Yaquina Bay Oyster Research:				
Contribution for Oyster Research.....	\$ 700.00		\$ 150.00	
Salary of Inspector	1,080.00		.....
Traveling Expenses:				
Mileage and Fares	47.40		.....
Meals and Lodging	2.75		.....
State Compensation Insurance	15.39	\$ 1,845.54	.....	\$ 150.00
Experimental Fisheries Products Research:				
Contributions	\$ 4,450.00		\$ 4,450.00	
Stream Pollution Research:				
Contributions	\$ 1,000.00		\$ 500.00	
General Research:				
Salaries	\$ 2,600.00		\$ 2,100.00	
Traveling Expenses:				
Mileage and Fares	332.97		124.13	
Meals and Lodging	378.70		178.45	
Office Supplies, Telephone and Telegraph	34.85		13.16	
Postage, Freight and Express	40.06		17.75	
Stationery and Printing	17.67		15.42	
Biennial Report	85.79		.....
Research Bulletins	105.06		33.16	
Rewards for Marked Salmon.....	21.50		358.00	
State Compensation Insurance	35.10		26.27	
Laboratory Supplies	110.66		15.66	
Restoration Fund .....	.....		2.10	
Equipment:				
Repairs and Maintenance	16.76		.....
Capital Outlays	146.81	\$ 3,925.93	.....	\$ 2,884.10

HATCHERY FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS—Continued

For Biennial Period Ending June 30, 1942

DISBURSEMENTS

Accounts	Fiscal Year Ending June 30, 1941	Fiscal Year Ending June 30, 1942
Pilchard and Tuna Inspection Service:		
Salaries	\$ 1,966.00	\$ 2,495.50
Traveling Expenses:		
Mileage and Fares	86.12	132.78
Meals and Lodging	256.15	238.75
Automobile Expenses:		
Gasoline, Oil and Grease	244.84	142.10
Tires and Tubes	32.40	25.88
Repairs and Renewals	36.86	57.29
Insurance	23.09	.....
State Compensation Insurance	26.54	31.20
Telephone and Telegraph	52.45	18.95
Sundry	11.50	15.42
Capital Outlay—Automobile .....	.....	1,000.00
Hand Tally Counter .....	.....	5.00
	\$ 2,735.95	\$ 4,162.87
General Patrol Service:		
Salaries	\$ 9,529.00	\$ 6,538.50
Traveling Expenses:		
Mileage and Fares	165.68	109.86
Meals and Lodging	362.21	497.75
Automobile Expenses:		
Gasoline, Oil and Grease	342.33	367.41
Tires and Tubes	47.17	34.79
Repairs and Renewals	84.99	114.91
Insurance	23.09	.....
Storage	60.70	62.00
Boats:		
Moorage and Berthage	349.46	350.25
Gasoline, Oil and Grease	91.30	70.79
Tools, Repairs and Maintenance	205.07	94.78
Flamo	12.11	7.38
Food Supplies for Crew	183.36	112.38
Other Expenses:		
Telephone and Telegraph .....	.....	33.15
Postage, Freight and Express	30.82	21.00
State Compensation Insurance	127.85	81.74
Sundry	5.91	15.13
Capital Outlay—Auto Trade-in	623.14	.....
	\$ 12,244.19	\$ 8,511.82
Fishways:		
Salaries	\$ 24.00	.....
Tools, Material and Supplies	150.65	\$ 3.12
Films, Printing and Developing	14.96	.57
State Compensation Insurance .....	.32	.....
	\$ 189.93	\$ 3.69

HATCHERY FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS—Continued

For Biennial Period Ending June 30, 1942

DISBURSEMENTS

Accounts	Fiscal Year Ending June 30, 1941	Fiscal Year Ending June 30, 1942
Master Fish Warden:		
Salary	\$ 4,200.00	\$ 4,200.00
Traveling Expenses:		
Mileage and Fares.....	362.56	324.64
Meals and Lodging	111.55	177.20
Telephone and Telegraph.....	3.05	2.21
Surety Bond Premium	45.00	45.00
State Compensation Insurance	56.70	52.50
	\$ 4,778.86	\$ 4,801.55
Commissioners:		
Per Diem	\$ 495.00	\$ 560.00
Traveling Expenses:		
Mileage and Fares	267.50	256.43
Meals and Lodging	105.85	195.05
	\$ 868.35	\$ 1,011.48
Office and Miscellaneous— Department of Administration:		
Salaries	\$ 7,502.79	\$ 9,229.62
Traveling Expenses:		
Mileage and Fares	216.80	156.04
Meals and Lodging	64.65	53.80
Stationery and Printing	620.01	910.94
Office Supplies	292.03	147.79
Towel Service	21.00	21.00
Notarial Commission Fee, Seal, Bond....	17.00	.....
Telephone and Telegraph	322.81	331.72
Postage, Freight and Express.....	639.52	591.34
Biennial Report	218.03	.....
Field Signs	4.09	.....
Office and Equipment Rent.....	2,257.08	2,264.08
Surety Bond Premium	30.00	30.00
Audit	297.35	300.00
Newspapers and Periodicals	40.05	39.95
Commercial Fisheries Codes .....	.....	566.59
Maps, Films, Prints, Developing.....	16.51	29.95
Tools and Light Globes	5.35	1.92
Restoration Fund	16.70	16.25
Fish and Crab Tags	454.20	413.10
State Compensation Insurance	101.29	115.37
Filing Fees and Court Costs.....	.....	118.75
Office Furniture and Equipment:		
Repairs and Maintenance	14.15	112.85
Capital Outlays	413.08	123.40
	\$ 13,564.49	\$ 15,574.46
Total Disbursements	\$159,067.84	\$144,792.76
Balance	(\$ 19,076.79)	\$ 17,254.94
Balance at Beginning of Period.....	\$ 7,409.66	(\$ 11,667.13)
Balance at End of Period.....	(\$ 11,667.13)	\$ 5,587.81

HATCHERY FUND

COMPARATIVE SCHEDULE OF LICENSES ISSUED

For Fiscal Years Ending on June 30th

Licenses	Rate	1942	1941	1940	1939	1938	1937
Gillnet	\$7.50	962	1074	1108	1124	1132	1139
Setnet	*\$3.75- 5.00	1018	912	1186	1052	1038	1107
Trap	25.00	45	37	41	32	33	37
Seine	Various	25	38	41	40	45	45
Troll	2.50	68	61	45	56	68	52
Boatpuller	2.50	250	272	318	359	378	485
Retail Fish Dealer and Peddler.....	5.00	995	1158	1187	1210	1173	1159
Wholesale Fish Dealer.....	25.00	131	133	140	139	152	123
Broker	50.00	3	3	4	3	4	3
Salmon Canner	25.00	12	9	9	6	7	9
Shellfish Canner	Various	13	10	7	10	17	8
Reduction Plant	25.00	7	6	10	8	6	6
Boat and Scow	2.00	.....	.....	.....	.....	18	108
Bagnet	5.00	94	45	62	127	122	164
Clam	5.00	147	345	321	376	329	182
Crab	5.00	324	182	228	282	343	325
Crawfish	5.00	11	20	23	27	27	29
Oyster	5.00	.....	.....	.....	5	2	2
Setline	1.00	71	89	106	116	152	103
Delivery	Various	877	889	783	134	.....	.....
Supplemental Delivery	Various	29	24	19	1	.....	.....
Total Licenses.....		<u>5082</u>	<u>5307</u>	<u>5638</u>	<u>5107</u>	<u>5046</u>	<u>5086</u>

* The 1941 Legislature, by statutory amendment of section 83-615, O. C. L. A., increased the setnet license fee from \$3.75 to \$5.00, effective June 14, 1941.

HATCHERY FUND

SALMON PROPAGATION

For Fiscal Year Ending June 30, 1941

Station or Account	General, Operating, Maintenance		Capital Outlays		Total
	Salaries	Expenses	Salaries	Materials Sundries	
McKenzie	\$ 4,837.46	\$ 741.89	\$ 100.54	\$ 25.16	\$ 5,705.05
Willamette	3,682.00	634.67	.....	.....	4,316.67
North Santiam	3,465.43	486.63	71.82	613.43	4,637.31
Bonneville	6,557.77	1,616.32	.....	60.35	8,234.44
Klaskanine	3,163.50	551.09	.....	7.50	3,722.09
Trask	2,957.27	590.99	188.73	97.81	3,834.80
Coos	3,073.08	192.41	.....	.....	3,265.49
Mill Creek	483.00	68.61	21.00	.....	572.61
Umpqua	3,266.50	201.10	.....	.....	3,467.60
South Santiam	2,025.23	107.29	121.77	37.48	2,291.77
Rogue	1,120.50	90.80	.....	18.58	1,229.88
Ox Bow	2,437.50	99.69	.....	125.00	2,662.19
Alsea	1,911.00	527.99	.....	40.63	2,479.62
Ten Mile	663.50	171.09	.....	.....	834.59
Coquille	1,151.41	343.04	212.95	185.09	1,892.49
Nehalem	2,028.74	361.91	16.76	31.10	2,438.51
Yaquina	1,381.35	221.30	220.65	71.82	1,895.12
Deschutes	458.74	277.29	851.26	363.50	1,950.79
Siletz	1,368.36	184.04	109.14	121.22	1,782.76
North Lake	225.00	186.49	.....	.....	411.49
Sandy	2,479.24	103.27	290.26	20.48	2,893.25
Siuslaw	1,074.96	52.27	355.04	4.90	1,487.17
Calapooya	417.00	143.21	933.00	915.18	2,408.39
Tillasqua	1,575.00	486.27	.....	.....	2,061.27
Shad Propagation—Scappoose ...	65.00	75.50	.....	.....	140.50
Shad Propagation—Brandy Bar ..	98.39	99.10	.....	.....	197.49
Undistributed:					
Fish Food Cost	216.50	4,864.45	.....	.....	5,080.95
Restoration Fund .....	.....	197.52	.....	.....	197.52
State Compensation Insurance..	.....	765.95	.....	.....	765.95
Totals	\$52,183.43	\$14,442.18	\$ 3,492.92	\$ 2,739.23	\$72,857.76
Disbursements refunded (Sundry Receipts)...		212.65			212.65
		\$14,654.83			\$73,070.41

HATCHERY FUND

SALMON PROPAGATION

For Fiscal Year Ending June 30, 1942

Station or Account	General, Operating, Maintenance		Capital Outlays		Total
	Salaries	Expenses	Salaries	Materials Sundries	
McKenzie	\$ 4,370.00	\$ 983.20	\$	\$ 16.00	\$ 5,369.20
Willamette	3,669.99	736.82	.....	5.25	4,412.06
North Santiam	2,439.00	431.52	.....	.....	2,870.52
Bonneville	5,242.75	1,855.01	.....	281.50	7,379.26
Klaskanine	3,346.24	533.48	.....	.....	3,879.72
Trask	2,869.50	894.60	.....	.....	3,764.10
Coos	2,509.00	137.68	.....	(25.00)	2,621.68
Mill Creek	588.00	343.25	.....	.....	931.25
Umpqua	3,271.00	437.47	.....	(10.94)	3,697.53
South Santiam	1,891.50	383.22	.....	15.90	2,290.62
Rogue	120.00	50.00	.....	.....	170.00
Ox Bow	2,864.00	431.05	.....	.....	3,295.05
Alsea	1,787.00	744.82	.....	12.90	2,544.72
Ten Mile	269.00	3.28	.....	.....	272.28
Coquille	891.16	155.15	.....	.....	1,046.31
Nehalem	2,297.50	398.27	.....	.....	2,695.77
Yaquina	1,572.00	413.95	.....	.....	1,985.95
Deschutes	1,050.00	339.54	.....	.....	1,389.54
Siletz	1,570.50	412.87	.....	.....	1,983.37
Sandy	1,675.00	295.64	.....	3.00	1,973.64
Siuslaw	1,348.07	269.23	196.93	.....	1,814.23
Calapooya	351.87	31.38	240.13	94.87	718.25
Tillasqua	1,864.16	342.22	.....	1,069.46	3,275.84
Shad Propagation—Scappoose ...	130.00	50.96	.....	.....	180.96
Shad Propagation—Brandy Bar ..	.....	3.73	.....	.....	3.73
Undistributed:					
Restoration Fund .....	.....	194.59	.....	.....	194.59
State Compensation Insurance..	.....	604.18	.....	.....	604.18
Totals.....	\$47,987.24	\$11,477.11	\$ 437.06	\$ 1,462.94	\$61,364.35
Disbursements refunded (Sundry Receipts) ..		85.00	.....	54.44	139.44
		\$11,562.11		\$ 1,517.38	\$61,503.79

HATCHERY FUND

COMPARATIVE STATEMENT OF LICENSES ISSUED

For License Years Ending on March 31st

Licenses	Rate	1942	1941	1940	1939	1938	1937
Alsea Bay and River							
Gillnet	\$ 7.50	49	59	48	41	41	45
Setnet	\$3.75- 5.00	166	165	162	159	181	168
Boat Puller	2.50	4	8	3	10	8	24
Retail Fish Dealer and Peddler ..	5.00	42	45	40	39	48	19
Wholesale Fish Dealer.....	25.00	4	3	3	4	5	5
Shellfish Canner	Various	...	1	2	1	1	1
Salmon Canner	25.00	...	...	...	...	...	1
Clam	5.00	19	20	20	18	14	17
Crab	5.00	29	22	31	46	31	30
Setline	1.00	...	...	...	8	2	2
Total Alsea Bay and River..		313	323	309	326	331	312
Brookings Harbor							
Wholesale Fish Dealer	\$25.00	...	...	1	1	...	...
Retail Fish Dealer	5.00	...	2	1	1	...	...
Total Brookings Harbor....		...	2	2	2	...	...
Clatsop Beaches							
Retail Fish Dealer and Peddler..	\$ 5.00	1	1	2	4	13	12
Wholesale Fish Dealer	25.00	...	...	...	...	4	2
Shellfish Canner	Various	2	1	3	6	3	3
Clam	5.00	192	238	243	202	107	135
Total Clatsop Beaches.....		195	240	248	212	127	152
Columbia River and Tributaries							
Gillnet	\$ 7.50	629	667	680	713	709	757
Setnet	\$3.75- 5.00	187	178	176	155	151	134
Trap	25.00	40	39	38	32	32	38
Seine	Various	32	36	37	32	46	47
Troll	2.50	73	61	42	56	64	39
Boat Puller	2.50	217	244	290	307	386	348
Retail Fish Dealer and Peddler ..	5.00	838	837	849	803	805	834
Wholesale Fish Dealer	25.00	70	67	74	64	68	65
Broker	50.00	3	4	3	3	2	4
Shellfish Canner	10.00	2	...	...	...	1	1
Salmon Canner	25.00	7	8	6	6	6	6
Reduction Plant	25.00	6	6	8	5	3	4
Boat and Scow	2.00	...	...	...	...	71	62
Bagnet	5.00	81	60	61	145	161	150
Clam	5.00	...	...	...	...	...	1
Crab	5.00	20	10	12	12	21	16
Crawfish	5.00	16	23	24	31	24	32
Setline	1.00	66	79	91	92	74	62
Total Columbia River.....		2287	2319	2391	2456	2624	2600

HATCHERY FUND

COMPARATIVE STATEMENT OF LICENSES ISSUED—Continued

For License Years Ending on March 31st

Licenses	Rate	1942	1941	1940	1939	1938	1937
Coos Bay and River							
Gillnet	\$ 7.50	21	30	27	32	25	28
Setnet	\$3.75- 5.00	73	89	79	65	73	65
Seine	15.00	...	...	2	6	3	3
Boat Puller	2.50	4	5	1	9	10	3
Retail Fish Dealer and Peddler ..	5.00	42	63	63	60	33	32
Wholesale Fish Dealer	25.00	11	11	11	12	12	9
Reduction Plant	25.00	...	...	2	3	3	4
Boat and Scow	2.00	...	...	...	...	3	2
Shellfish Canner	10.00	3	2	3	3	1	...
Salmon Canner	25.00	...	...	1	...	...	1
Clam	5.00	12	26	27	34	28	29
Crab	5.00	65	65	82	114	110	75
Setline	1.00	...	...	...	5	...	...
Broker	50.00	...	...	...	1	...	...
Total Coos Bay and River...		231	291	298	344	301	251
Coquille River							
Gillnet	\$ 7.50	60	67	60	59	53	54
Setnet	\$3.75- 5.00	69	90	83	77	53	56
Seine	15.00	...	...	...	...	...	1
Boat Puller	2.50	17	10	7	10	15	5
Retail Fish Dealer and Peddler ..	5.00	14	22	19	11	33	37
Wholesale Fish Dealer	25.00	4	5	4	4	3	3
Boat and Scow	2.00	...	...	...	...	3	1
Clam	5.00	3	4	2	3	4	1
Crab	5.00	3	3	4	5	9	13
Salmon Canner	25.00	...	1	1	...	...	...
Total Coquille River		170	202	180	169	173	171
Depoe Bay							
Retail Fish Dealer and Peddler ..	\$ 5.00	16	13	27	18	3	5
Wholesale Fish Dealer	25.00	5	6	4	4	3	2
Crab	5.00	1	...	...	...	1	1
Total Depoe Bay.....		22	19	31	22	7	8
Floras Creek							
Setnet	\$ 3.75	...	...	...	12	26	28
Boat Puller	2.50	...	...	...	...	1	...
Total Floras Creek.....		...	...	...	12	27	28
Hunters Creek							
Setnet	\$ 3.75	...	...	...	1	...	...
Total Hunters Creek.....		...	...	...	1	...	...
Lincoln County Beaches							
Clam	\$ 5.00	8	5	7	10	...	...
Total Lincoln County Beaches		8	5	7	10	...	...

HATCHERY FUND

COMPARATIVE STATEMENT OF LICENSES ISSUED—Continued

For License Years Ending on March 31st

Licenses	Rate	1942	1941	1940	1939	1938	1937
Nehalem River							
Gillnet	\$ 7.50	69	69	75	68	68	72
Setnet	\$3.75- 5.00	116	132	126	129	143	135
Boat Puller	2.50	5	6	9	7	9	11
Retail Fish Dealer and Peddler ..	5.00	15	18	16	11	5	5
Wholesale Fish Dealer	25.00	3	4	7	6	5	2
Boat and Scow	2.00	...	...	...	...	2	2
Clam	5.00	1	2	5	9	6	4
Crab	5.00	10	8	12	11	12	8
Total Nehalem River.....		219	239	250	241	250	239
Nestucca River							
Retail Fish Dealer and Peddler ..	\$ 5.00	1	3	1	7	1	...
Shellfish Canner	10.00	...	...	...	1	1	1
Clam	5.00	4	1	7	6	6	7
Crab	5.00	1	3	3	3	3	3
Crawfish	5.00	...	...	...	...	...	1
Total Nestucca River.....		6	7	11	17	11	12
Netarts Bay							
Setnet	\$3.75- 5.00	6	4	5	3	5	5
Retail Fish Dealer and Peddler ..	5.00	5	5	11	9	6	7
Shellfish Canner	Various	...	...	...	1	1	1
Crab	5.00	11	9	19	19	15	12
Wholesale Fish Dealer	25.00	...	...	1	...	...	...
Total Netarts Bay.....		22	18	36	32	27	25
Pistol River							
Setnet	\$ 3.75	...	...	...	4	3	...
Retail Fish Peddler	5.00	...	...	...	1	...	...
Total Pistol River .....		...	...	...	5	3	...
Port Orford							
Retail Fish Dealer and Peddler ..	\$ 5.00	1	4	3	3	7	5
Wholesale Fish Dealer	25.00	1	4	...	4	3	...
Crab	5.00	14	17	15	29	14	16
Shellfish Canner	Various	...	1	1	1	...	...
Total Port Orford.....		16	26	19	37	24	21
Rogue River							
Retail Fish Dealer and Peddler ..	5.00	...	...	...	19	19	2
Wholesale Fish Dealer	25.00	...	...	...	2	...	...
Salmon Canner	25.00	...	...	...	...	...	1
Total Rogue River.....		...	...	...	21	19	3
Salmon River							
Gillnet	\$ 7.50	...	1	1	...	...	...
Setnet	\$3.75- 5.00	20	24	19	20	23	18
Boat Puller	2.50	...	1	3	...	...	...
Retail Fish Dealer and Peddler ..	5.00	6	5	6	8	7	7
Wholesale Fish Dealer	25.00	2	2	1	2	1	2
Crab	5.00	1	...	...	1	4	1
Setline	1.00	...	...	...	...	1	...
Total Salmon River.....		29	33	30	31	36	28
Sand Lake							
Setnet	\$3.75- 5.00	5	4	7	...	...	...
Retail Fish Peddler	5.00	...	...	1	...	...	...
Total Sand Lake.....		5	4	8	...	...	...

HATCHERY FUND

COMPARATIVE STATEMENT OF LICENSES ISSUED—Continued

For License Years Ending on March 31st

Licenses	Rate	1942	1941	1940	1939	1938	1937
Siletz River							
Gillnet	\$ 7.50	7	6	6	4	10	14
Setnet	\$3.75- 5.00	101	116	97	85	97	107
Boat Puller	2.50	2	5	3	3	9	14
Retail Fish Dealer and Peddler	5.00	16	23	19	25	10	13
Wholesale Fish Dealer	25.00	5	7	4	5	5	4
Clam	5.00	...	...	...	...	3	4
Setline	1.00	...	...	...	1	1	...
Crab	5.00	...	...	...	1	...	...
Total Siletz River		131	157	129	124	135	156
Siuslaw River							
Gillnet	\$ 7.50	48	53	41	32	27	32
Setnet	\$3.75- 5.00	36	52	47	89	104	92
Boat Puller	2.50	7	11	11	7	9	13
Retail Fish Dealer and Peddler	5.00	20	33	28	28	32	26
Wholesale Fish Dealer	25.00	3	3	3	4	5	1
Clam	5.00	7	7	6	6	5	5
Crab	5.00	4	3	3	6	12	15
Setline	1.00	...	...	...	2	8	1
Total Siuslaw River		125	162	139	174	202	185
Ten Mile Lake							
Crawfish	\$ 5.00	...	...	...	...	1	1
Total Ten Mile Lake		...	...	...	...	1	1
Tillamook Bay							
Gillnet	\$ 7.50	62	72	70	70	65	79
Setnet	\$3.75- 5.00	174	166	172	156	166	197
Boat Puller	2.50	2	...	...	3	1	10
Retail Fish Dealer and Peddler	5.00	41	34	38	41	30	32
Wholesale Fish Dealer	25.00	10	7	7	9	9	6
Salmon Canner	25.00	1	...	1	...	1	2
Shellfish Canner	Various	1	...	...	...	...	...
Boat and Scow	2.00	...	...	...	...	3	2
Clam	5.00	23	29	19	20	13	10
Crab	5.00	41	28	33	41	35	47
Setline	1.00	...	...	...	2	1	1
Total Tillamook Bay		355	336	340	342	324	386
Umpqua River							
Gillnet	\$ 7.50	75	112	108	108	104	109
Setnet (Smith River)	\$3.75- 5.00	62	81	74	55	58	48
Seine	15.00	...	...	1	...	...	2
Troll	2.50	...	...	1	...	2	2
Boat Puller	2.50	3	15	16	18	25	34
Retail Fish Dealer and Peddler	5.00	21	24	34	44	46	49
Wholesale Fish Dealer	25.00	8	6	8	12	12	6
Shellfish Canner	Various	2	1	1	1	1	1
Boat and Scow	2.00	...	...	...	...	12	7
Clam	5.00	11	3	8	5	13	10
Crab	5.00	3	5	10	24	17	26
Reduction Plant	25.00	...	...	...	1	1	1
Total Umpqua River		185	247	261	268	291	295

HATCHERY FUND

COMPARATIVE STATEMENT OF LICENSES ISSUED—Continued

For License Years Ending on March 31st

Licenses	Rate	1942	1941	1940	1939	1938	1937
Yaquina Bay and River							
Gillnet	\$ 7.50	22	31	21	23	20	19
Setnet	\$3.75- 5.00	1	6	5	5	1	20
Seine	15.00	...	...	2	1	1	1
Boat Puller	2.50	3	5	6	10	8	7
Retail Fish Dealer and Peddler ..	5.00	44	53	49	41	20	25
Wholesale Fish Dealer	25.00	7	11	11	11	5	6
Boat and Scow	2.00	...	...	...	...	1	...
Clam	5.00	17	16	14	16	10	7
Crab	5.00	33	29	38	45	42	40
Oyster	5.00	...	...	3	4	2	2
Setline	1.00	17	18	22	31	27	27
Shellfish Canner	Various	2	...	...	...	...	...
Salmon Canner	25.00	1	...	...	...	...	...
Total Yaquina Bay and River		147	169	171	187	137	154
Miscellaneous							
Vehicle (State Highways)	\$ 2.00	...	...	...	...	14	28
Troll (Pacific Ocean)	2.50	...	...	...	...	3	6
Delivery	Various	877	823	655	...	...	...
Total Miscellaneous.....		877	823	655	...	17	34
Grand Totals		5343	5622	5515	5033	5067	5061
Recapitulation							
Gillnet	\$ 7.50	1042	1167	1137	1150	1122	1209
Setnet	*\$3.75- 5.00	1016	1107	1052	1015	1084	1073
Trap	25.00	40	39	38	32	32	38
Seine	Various	32	36	42	39	50	54
Troll	2.50	73	61	43	56	69	47
Boat Puller	2.50	264	310	349	384	481	469
Retail Fish Dealer and Peddler ..	5.00	1123	1185	1207	1173	1118	1110
Wholesale Fish Dealer	25.00	133	136	139	144	140	113
Broker	50.00	3	4	3	4	2	4
Salmon Canner	25.00	9	9	9	6	7	11
Shellfish Canner	Various	12	6	10	14	9	8
Reduction Plant	25.00	6	6	10	9	7	9
Boat and Scow	2.00	...	...	...	...	109	104
Bagnet	5.00	81	60	61	145	161	150
Clam	5.00	297	351	358	329	209	230
Crab	5.00	236	202	262	357	326	303
Crawfish	5.00	16	23	24	31	25	34
Oyster	5.00	...	...	3	4	2	2
Setline	1.00	83	97	113	141	114	93
Delivery	Various	877	823	655	...	...	...
Totals.....		5343	5622	5515	5033	5067	5061

* The 1941 Legislature, by statutory amendment of section 83-615, O. C. L. A., increased the setnet license fee from \$3.75 to \$5.00, effective June 14, 1941.

SEAL FUND
STATEMENT OF RECEIPTS AND DISBURSEMENTS

For Biennial Period Ending June 30, 1942

RECEIPTS

From Sale of Seal Certificates:

Number	License	Rate	Amount	Total
1163	Gillnet	\$ 2.50	\$ 2,907.50	
152	Setnet	2.50	380.00	
129	Troll	2.50	322.50	
63	Seine	20.00	1,260.00	
82	Trap	10.00	820.00	
16	Canner	50.00	800.00	
Total Receipts.....				\$6,490.00
Less: Tithe of 10% to State General Fund.....				649.00
Balance receipts after payment of tithe.....				\$5,841.00

DISBURSEMENTS

For Bounties Paid on Seals Destroyed:

Paid to	Address	\$10.00	Amount
Alskog, Matt	Astoria, Oregon	2	\$ 20.00
Anderson, Arthur J.	Skamokawa, Wash	11	110.00
Anderson, Earle	Astoria, Oregon	2	20.00
Armstrong, A. L.	Mayger, Oregon	2	20.00
Beckman, John	Portland, Oregon	1	10.00
Begleries, Leon	Clifton, Oregon	1	10.00
Bernhoff, Axel	Astoria, Oregon	1	10.00
Bjorklund, Axel	Astoria, Oregon	1	10.00
Brown, Henry	Chehalis, Wash.	2	20.00
Bryant, Ralph	Astoria, Oregon	3	30.00
Cann, Charles F.	Cathlamet, Wash.	1	10.00
Carlson, Victor O.	Astoria, Oregon	1	10.00
Christensen, Niels	Astoria, Oregon	1	10.00
Dahl, Einar M.	Astoria, Oregon	1	10.00
Danielovich, Rocco	Astoria, Oregon	1	10.00
Davis, Stuart	Chinook, Wash.	7	70.00
Diklich, Peter	Astoria, Oregon	1	10.00
Eastland, Carl	Astoria, Oregon	3	30.00
Eilertson, Arnold	Astoria, Oregon	1	10.00
Elliott, E. C.	Astoria, Oregon	1	10.00
Empi, Henry	Rosburg, Wash.	1	10.00
Engstrom, J.	Altoona, Wash.	3	30.00
Ennis, John	Astoria, Oregon	1	10.00
Erickson, Edward	Astoria, Oregon	2	20.00
Erickson, Fred	Chinook, Wash.	4	40.00
Ervasti, Kalle	Astoria, Oregon	1	10.00
Forbes, Paul	Astoria, Oregon	1	10.00
Grable, Ralph	Iiwaco, Wash.	1	10.00
Graham, W. A.	Iiwaco, Wash.	5	50.00
Gunnari, Roy	Astoria, Oregon	1	10.00
Gustin, Ernest	Astoria, Oregon	1	10.00
Hagerup, Edward	Astoria, Oregon	1	10.00
Haglund, Oscar	Astoria, Oregon	1	10.00
Hansen, Carl	Astoria, Oregon	1	10.00
Hansen, H. A.	Chinook, Wash.	16	160.00
Harju, Adolph	Iiwaco, Wash.	1	10.00
Hayes, Aro	Astoria, Oregon	1	10.00
Heikkinen, Peter	Clatskanie, Oregon	1	10.00
Hendrickson, Victor G.	Clatskanie, Oregon	1	10.00
Henry, Chris K., Jr.	Pillar Rock, Wash.	1	10.00
Hillsbery, D. M.	Altoona, Wash.	2	20.00

SEAL FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS—Continued

For Biennial Period Ending June 30, 1942

Paid to	Address	\$10.00	Amount
Hummasti, Paul	Astoria, Oregon	1	10.00
Hunsinger, George	Astoria, Oregon	1	10.00
Ingalls, D. K.	Astoria, Oregon	6	60.00
Isaakson, William	Clatskanie, Oregon	1	10.00
Jensen, Henry	Chinook, Wash.	10	100.00
Jenson, Ole	Astoria, Oregon	2	20.00
Johnson, Alfred	Astoria, Oregon	5	50.00
Johnson, John	Astoria, Oregon	1	10.00
Johnson, Theodore	Ilwaco, Wash.	2	20.00
Johnson, Wilmer	Altoona, Wash.	3	30.00
Jolma, Jacob	Clatskanie, Oregon	1	10.00
Josephson, Anton	Astoria, Oregon	1	10.00
Juntti, Frederick	Astoria, Oregon	1	10.00
Juola, Antti	Astoria, Oregon	1	10.00
Juola, Thomas	Astoria, Oregon	1	10.00
Kaarle, Ralph R.	Astoria, Oregon	1	10.00
Kantola, Albert	Astoria, Oregon	1	10.00
Korpila, Matt	Astoria, Oregon	1	10.00
Koskela, Jorma	Ilwaco, Wash.	1	10.00
Koskela, Uno	Astoria, Oregon	2	20.00
Kruckman, George	Astoria, Oregon	12	120.00
Lasich, Nick	Clifton, Oregon	1	10.00
Lasich, Tony	Clifton, Oregon	1	10.00
Lilleeng, Victor	Astoria, Oregon	1	10.00
Loppakka, Sakari	Astoria, Oregon	1	10.00
Marincovick, Andrew	Clifton, Oregon	1	10.00
Martinson, Carl	Cathlamet, Wash.	1	10.00
Mattison, Herman	Astoria, Oregon	1	10.00
Mattson, Aldrick	Astoria, Oregon	3	30.00
Mattson, Arnold	Astoria, Oregon	2	20.00
Miles, Ben	Astoria, Oregon	3	30.00
Miles, C. R.	Astoria, Oregon	11	110.00
Moore, Walter	Astoria, Oregon	2	20.00
Munson, Frans D.	Rosburg, Wash.	1	10.00
Nedelec, Jack	Cosmopolis, Wash.	2	20.00
Nelson, Frank	Astoria, Oregon	5	50.00
Niemela, Ernest	Clatskanie, Oregon	2	20.00
Nikka, Henry	Astoria, Oregon	2	20.00
Nilsen, Olaf	Cathlamet, Wash.	1	10.00
Nordgren, Carl	Astoria, Oregon	1	10.00
North, Alfred	Astoria, Oregon	1	10.00
Nousson, Jafet	Brownsmead, Oregon	13	130.00
Nystrom, Gus	Knappa, Oregon	1	10.00
Olson, John	Astoria, Oregon	1	10.00
Osborne, C. L.	Chinook, Wash.	12	120.00
Parker, H. K.	Astoria, Oregon	1	10.00
Penttila, Armos	Brownsmead, Oregon	1	10.00
Penttila, Ilo	Astoria, Oregon	4	40.00
Peterson, E. L.	Astoria, Oregon	2	20.00
Pice, Henry	Astoria, Oregon	7	70.00
Pitkanen, Gilbert	Astoria, Oregon	1	10.00
Powell, Lawrence	Cathlamet, Wash.	1	10.00
Pulliam, Earl S.	Altoona, Wash.	2	20.00
Puustinen, Toivo	Svensen, Oregon	41	410.00
Puustinen, W. Wm.	Svensen, Oregon	6	60.00
Raihala, Reno	Astoria, Oregon	2	20.00
Sandelson, George	Chinook, Wash.	3	30.00
Sarajarvi, Alex	Astoria, Oregon	1	10.00
Severson, Arvi	Astoria, Oregon	1	10.00
Severson, Chris	Astoria, Oregon	4	40.00

SEAL FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS—Continued

For Biennial Period Ending June 30, 1942

Paid to	Address	\$10.00	Amount
Silverberg, Axel	Astoria, Oregon	1	10.00
Simmons, Al	Ilwaco, Wash.	1	10.00
Siverson, Chris	Astoria, Oregon	4	40.00
Smith, Chesley	Astoria, Oregon	2	20.00
Smith, David T.	Astoria, Oregon	1	10.00
Smith, O. L.	Chinook, Wash.	339	3,390.00
Soter, Nick	Clifton, Oregon	1	10.00
Stanovich, Jack	Astoria, Oregon	1	10.00
Stephen, Edson, Jr.	Altoona, Wash.	1	10.00
Stephen, E. W., Sr.	Altoona, Wash.	1	10.00
Strandholm, John	Astoria, Oregon	1	10.00
Takalo, Bob	Brownsmead, Oregon	1	10.00
Takko, Matt	Astoria, Oregon	1	10.00
Timmen, Lee	Chinook, Wash.	2	20.00
Tooley, H. A.	Svensen, Oregon	3	30.00
Tuom, Matt	Woodson, Oregon	2	20.00
Vlastilica, Max	Astoria, Oregon	2	20.00
Wahl, Peter	Astoria, Oregon	1	10.00
Wainonen, Paul	Astoria, Oregon	1	10.00
Watts, Francis	Astoria, Oregon	8	80.00
Whitten, E. R.	Willamette, Oregon	1	10.00
Whitten, Lloyd E.	Willamette, Oregon	1	10.00
Whitten, Wm.	Altoona, Wash.	3	30.00
Wilson, Jalmar	Astoria, Oregon	1	10.00
Yadro, Larry	Astoria, Oregon	1	10.00
Yaakola, Emil	Astoria, Oregon	1	10.00
Yeager, Charles	Hammond, Oregon	1	10.00
Ysland, C. V.	Cathlamet, Wash.	1	10.00
Total Seals Destroyed		<u>677</u>	
Total Disbursements for Biennium			<u>\$6,770.00</u>
Excess Disbursements over Receipts			(929.00)
Balance at Beginning of Biennium			8,122.28
Balance at End of Period			<u>\$7,193.28</u>

NOTE: The law creating the Seal Fund (applying only to the Columbia River) was enacted at the Special Legislative Assembly November, 1935; statutory amendment by the 1939 Legislature increased the bounty from \$5.00 to \$10.00.

ARRESTS FOR VIOLATIONS OF COMMERCIAL FISHERIES CODE

For Fiscal Year Ending June 30, 1941

Dealing in food or shellfish without a license	31
Failure to file fisherman's catch reports	2
Failure to file reports of fish purchased	2
Fishing during closed seasons or periods	19
Fishing in closed waters	9
Fishing without a license	37
Falsifying fisherman's catch reports	1
Possession of under-size sturgeon	2
Possession of under-size and over-limit of clams	8
Illegal possession and transportation of clams	1
Possession of illegally caught salmon	4
Possession of female crawfish	3
Selling salmon caught during closed season	3
Shooting, molesting, gaffing or foul-hooking food fish	35
Setting net more than one-third distance across stream	2
Setting net within 150 feet of another set net	1
Miscellaneous illegal use of fishing gear	2
Stream pollution	1
Trespassing on fishway	2
Contempt of Court	1

Total arrests..... 166

ARRESTS AND DISPOSITION OF CASES

For Fiscal Year Ending June 30, 1941

COUNTY	Number of Arrests	Number of Convictions	Number Pending, Dismissed or Not Guilty	Amount of Fines Imposed	Amount of Fines Remitted or Suspended	Number Paroled or Suspended in Whole or Part
Baker	1	1	..	\$ 50.00	\$ 25.00	1
Clackamas	19	12	7	1,250.00	888.80	12
Clatsop	12	12	..	528.00	55.00	2
Columbia	11	10	1	1,250.00	755.00	9
Coos	21	19	2	1,451.00	1,050.00	15
Curry	4	4	..	200.00	200.00	3
Douglas	6	6	..	250.00	170.00	6
Hood River	3	3	..	90.00	50.00	1
Jackson	3	3	..	100.00	100.00	3
Josephine	2	2	..	125.00	..	..
Lane	6	6	..	600.00	340.00	5
Lincoln	29	26	3	2,000.00	1,513.00	24
Linn	5	5	..	335.00	280.00	5
Marion	4	4	..	550.00	535.00	4
Multnomah	6	3	3	300.00	175.00	3
Polk	1	1	..	100.00	100.00	1
Tillamook	18	17	1	641.45	97.50	2
Umatilla	4	4	..	260.00	190.00	3
Union	1	1	..	25.00	..	..
Wasco	5	5	..	275.00	253.46	5
Washington	3	3	..	150.00	34.50	1
Wheeler	2	2	..	100.00	96.00	2
Totals	166	149	17	\$10,630.45	\$ 6,908.26	107

ARRESTS FOR VIOLATIONS OF COMMERCIAL FISHERIES CODE

For Fiscal Year Ending June 30, 1942

Dealing in food or shellfish without a license.....	22
Failure to file fisherman's catch reports.....	32
Failure to file reports of fish purchased.....	5
Fishing during closed seasons or periods.....	4
Fishing in closed waters	5
Fishing without a license	34
Possession of under-size sturgeon	2
Possession of under-size and over-limit of clams.....	4
Possession of illegally caught salmon.....	4
Selling salmon caught during closed season.....	1
Shooting, molesting, gaffing or foul-hooking food fish.....	18
Setting net more than one-third distance across stream.....	7
Setting net within 150 feet of another set net.....	3
Illegal use of clams for bait	1
Fishing illegal methods—Rogue River	3
Wilful waste of food fish	2
Dynamiting without permit	3
Illegal ownership of oyster bed	3
Failure to post monument	1
Total arrests.....	154

ARRESTS AND DISPOSITION OF CASES

For Fiscal Year Ending June 30, 1942

COUNTY	Number of Arrests	Number of Convictions	Number Pending, Dismissed or Not Guilty	Amount of Fines Imposed	Amount of Fines Remitted or Suspended	Number Paroled or Suspended in Whole or in Part
Benton	1	1	..	\$ 50.00	\$ 50.00	1
Clackamas	3	2	1	350.00	315.00	2
Clatsop	8	8	..	179.50	25.00	1
Columbia	6	5	1	650.00	450.00	5
Coos	11	11	..	905.00	785.00	10
Curry	8	5	3	500.00	430.00	5
Douglas	3	2	1	200.00	192.50	2
Gilliam	1	..	1	.....	.....	..
Jackson	3	2	1	200.00	75.00	1
Lane	8	8	..	282.00	230.00	3
Lincoln	43	42	1	3,597.00	3,112.50	30
Multnomah	29	27	2	2,275.50	1,865.00	25
Polk	2	2	..	200.00	200.00	2
Tillamook	25	22	3	1,800.40	795.80	12
Umatilla	1	1	..	100.00	50.00	1
Wasco	2	2	..	200.00	175.00	2
Totals.....	154	140	14	\$11,489.40	\$ 8,750.80	102

SCHEDULE OF COMPENSATION AND EXPENSE ALLOWANCE
For the Biennial Period Ending June 30, 1942

Name	Location	Occupation	Rate	COMPENSATION		EXPENSE ALLOWANCE			Mileage
				From	To	Meals	Lodging	Fares	
Alexander, Delbert	Deschutes Station	Laborer	\$110.00 month	1-1-41	6-30-42				
Anderson, Archie W.	South Santiam and Willamette Stas.	Superintendent	150.00 "	7-1-40	6-30-42	3,600.00			14.68
Anderson, E. J. W.	Bonneville Station	Superintendent	150.00 "	7-1-40	1-31-41	1,050.00	12.75		
Andrews, Marion M.	Oregon City, Oregon	Temporary Inspector	4.00 day	11-8-40	11-9-40	8.00			
Bake, Charles S.	Nehalem Station	Laborer	3.00 "	10-19-40	1-31-41	247.50			
Balkensen, James N.	Klaskanine Station	Laborer	4.00 "	9-1-40	9-2-40	8.00			
Bales, E. H.	Alesia Station	Egg Picker	3.00 "	11-28-40	1-28-41	81.00			
Bales, Jess J.	Siuslaw, McKenzie & Scappoose Stations	Foreman	130.00 month	7-1-40	6-30-42	3,120.00			113.92
Bearner, Roy	Alesia & McKenzie Stas.	Foreman	130.00 "	7-1-40	6-30-42	3,120.00		5.57	78.80
Bentley, Vernon T.	Willamette Station	Laborer	3.00 day	10-7-40	10-11-40	13.50			
Bewinger, Glen	Stations	Laborer-Appr. Fish	3.00 day-100.00-110.00 month	8-5-40	6-30-42	2,197.00			
Blozak, James F.	North Bend, Oregon	Laborer	3.00 "	10-1-40	10-1-40	3.00			
Berry, Billy	Clou Station	Laborer	3.00 "	1-20-41	1-21-41	6.00			
Burn, Chester, Jr.	Santiam Station	Laborer	3.00 "	10-25-40	10-26-40	6.00			
Burn, Wilber E.	Santiam Station	Laborer	3.00-4.00 "	8-31-40	6-1-42	7.00			
Bolle, Henry	Trask Station	Foreman	3.00 "	9-1-41	9-2-41	3.00			
Bolle, Richard	Trask Station	Foreman-Appr. Fish	130.00 month	7-1-40	6-30-42	3,120.00	2.00		
Bour, Jack H.	Nehalem Station	Culturist	3.25 day-100.00-110.00 "	1-29-41	6-30-42	1,210.25			
Borton, R. A.	Siletz Station	Laborer	3.00 day	8-2-40	8-28-40	69.00			
Bowen, Lewis	Bonneville Station	Laborer with team	.50 hour	9-9-40	9-27-40	40.00			
Bradley, Wallace	McKenzie Station	Laborer-Appr. Fish Culturist	3.50-100.00 day-mo.	11-18-40	1-13-42	1,368.77		2.35	
Briggs, Harold	Santiam Station	Laborer	3.00 "	7-24-40	5-8-42	67.50			
Brock, Vernon E.	Astoria, Oregon	Biologist	175.00-200.00 month	7-1-40	10-27-40	28.50			
Buckbee, Charles	Yaquina and Unquaga Stations	Foreman	130.00 "	7-1-40	6-30-42	4,775.00	63.20	15.20	114.32
Buckbee, M. A.	Yaquina Station	Egg Picker	3.00 day	11-14-41	11-16-41	6.00			52.72
Carlen, Russell	Santiam Station	Laborer	3.00 "	10-22-40	10-26-40	12.75			
Carlson, Dale	McKenzie Station	Laborer	3.00 "	9-8-40	10-23-40	138.00			
Carlson, Norman	Gouldie, North Lake and Coos Stations	Laborer	3.00-4.00 "	7-15-40	4-6-42	876.00			
Carter, Walker	McKenzie Station	Superintendent	150.00 month	7-1-40	6-30-42	3,600.00	5.65	4.00	
Carter, Elenor	McKenzie Station	Egg Picker	3.50 day	9-5-41	9-30-41	91.00			
Catherwood, C. W.	Santiam Station	Laborer	3.00 "	8-26-40	8-27-40	4.50			
Cheesman, Marle R.	Astoria, Oregon	Commissioner	5.00 diem	7-17-40	6-9-42	345.00	72.15	14.73	241.96
Christensen, M. G.	Oregon City, Oregon	Inspector	140.00 month	7-1-40	6-30-42	3,360.00	184.60	162.50	159.04
Christensen, Martin G.	Oregon City, Oregon	Laborer	4.00 day	12-14-40	6-4-42	300.00			
Cook, E. H.	Yaquina Station	Laborer	3.00 "	12-1-40	12-4-40	12.00			
Cook, E. R.	Yaquina Station	Laborer	3.00 "	12-1-40	12-5-40	15.00			
Cook, Henry	Willamette Station	Laborer	3.00 "	9-27-41	9-27-41	3.00			
Cooper, E. C.	Portland, Oregon	Temporary Stenographer	4.00 "	11-19-41	12-6-41	51.62			
Cronen, Robert F.	Wheeler, Oregon	Commissioner	5.00 diem	7-18-40	5-21-41	140.00	30.75	21.75	148.52
Cross, John	Coquille & Coos Stas.	Appr. Fish Culturist	100.00 month	7-1-40	6-9-41	1,130.00			
Cunningham, L. L.	Coquille Station	Laborer with team	7.00 day	7-11-40	7-12-40	14.00			
Cuthlip, L. A.	North Bend, Oregon	Commissioner	5.00 diem	8-12-41	6-11-42	170.00	33.10	47.25	118.72
Darnell, Marion	Trask & Klaskanine Stations	Appr. Fish Culturist	100.00-115.00-120.00 month	7-1-40	6-30-42	2,550.00			
Davis, Bert	Willamette Station	Laborer	3.00 day	10-8-40	10-10-40	9.00			
Dawson, Robert	Bonneville Station	Laborer	4.00 "	10-1-41	10-11-41	40.00			
Day, Mary T.	Portland, Oregon	Temporary Stenographer	8.50 "	6-2-41	6-29-41	31.50			
De Sussise, John F.	Astoria, Oregon	Temporary Inspector	4.00 "	6-26-41	9-19-41	344.00	1.50		
De Wolf, Delbert	South Santiam Station	Laborer	3.00 "	3-8-41	3-8-41	3.00			
De Wolf, James M.	South Santiam Station	Laborer-Laborer with team	3.00-6.00 "	10-10-40	9-29-42	33.00			
Dickey, Ritchie O.	Santiam Station	Laborer	3.00 "	8-26-40	10-10-40	7.50			
Dompier, Douglas	Willamette Station	Laborer	3.00 "	5-15-41	5-20-41	16.50			
Dompier, Frank	Willamette Station	Laborer with team	7.00 "	5-16-41	5-17-41	10.50			
Dompier, Fred	Willamette Station	Laborer-Laborer with horse	3.00-4.50 "	8-29-41	9-23-41	56.25			

SCHEDULE OF COMPENSATION AND EXPENSE ALLOWANCE—Continued

For the Biennial Period Ending June 30, 1942

Name	Location	Occupation	COMPENSATION			EXPENSE ALLOWANCE			
			Rate	From	To	Meals	Lodging	Fares	Mileage
Donoho, Audie	McKenzie Station	Fish Culturist	115.00 month	7- 1-40	6-30-42	.....	.....	.....	.....
Dorocho, Pearl	McKenzie Station	Egg Picker	3.50 day	9- 8-41	9-30-41	.....	.....	.....	.....
Douley, E. A.	Corvallis Station	Laborer	3.00 "	8- 1-40	1-28-41	.....	.....	.....	.....
Douville, Jack A.	Ox Bow Station	Laborer	4.00 "	9-22-41	10- 8-41	.....	.....	.....	.....
Downer, R. J.	Santiam Station	Laborer	3.00 "	8-31-40	10- 1-40	.....	.....	.....	.....
Dunning, Raymond	Willamette Station	Watchman	3.00 "	7- 1-40	9-28-40	.....	.....	.....	.....
Eastep, D. T.	Santiam Station	Laborer	3.00 "	9-14-40	9-16-40	.....	.....	.....	.....
Eichorn, Robert	Portland, Oregon	Temporary Stenographer	.55 hour	2- 8-41	2-11-41	.....	.....	.....	.....
Erickson, Jennie	Portland, Oregon	Temporary Stenographer	5.00 day	4- 3-42	4-11-42	.....	.....	.....	.....
Everson, W. E.	Waldport, Oregon	Inspector	120.00 month	7- 1-40	4-15-41	.....	.....	.....	43.20
Faving, Frank	South Santiam Station	Laborer	3.00 day	3-21-42	3-22-42	.....	.....	.....	4.20
Farnham, W. C.	Umpqua Station	Laborer-Laborer with truck	3.00-10.00 "	9- 3-40	11- 5-40	.....	.....	.....	.....
Fieland, Thomas	Bonneville Station	Laborer	4.00 "	9-18-41	10- 8-41	.....	.....	.....	.....
Frame, Max	Rogue, Santiam, Willamette and Klaskanine Stations	Foreman-Superintendent	130.00-150.00 month	7- 1-40	6-30-42	.....	.....	.....	18.52
French, Claraedna	Klaskanine Station	Egg Picker	3.00 day	11- 4-41	11-28-41	.....	.....	.....	.....
French, Irvine	Bonneville Station	Sec'y-Dept. of Fish Culture	140.00 month	7- 1-40	6-30-42	.....	.....	.....	.....
Goodman, Verne	Alsea Station	Laborer	150.00 "	2- 1-41	6-30-42	.....	.....	.....	36.56
Greer, John	Santiam Station	Plumber	3.00 day	11-10-40	1-31-41	.....	.....	.....	.....
Greer, Orval	Sandy Station	Foreman	1.00 hour	7- 1-40	7- 2-40	.....	.....	.....	.....
Groshens, Peggy	Portland, Oregon	Comptroltrist	130.00 month	7- 1-40	6-30-42	.....	.....	.....	.....
Guntion, Donald	Bonneville Station	Laborer	.50 hour	10- 6-41	10-22-41	.....	.....	.....	.....
Hollenbeck, H. E.	Corvallis Station	Laborer	3.00 day	9-14-40	9-30-40	.....	.....	.....	.....
Hansen, Charley	Bonneville and Ox Bow Stations	Laborer	4.00 "	11- 3-41	12- 8-41	.....	.....	.....	.....
Hanson, Wilbur	Ox Bow Station	Laborer-Laborer with team	100.00-110.00 month	1-21-42	6-30-42	.....	.....	.....	.....
Harr, Robert L.	Klaskanine Station	Appr. Fish Culturist	3.00-9.00 month	7-24-40	5-11-42	.....	.....	.....	.....
Harris, W. H.	Mill Creek Station	Laborer	100.00 month	7- 1-40	8- 4-41	.....	.....	.....	.....
Harrison, Addison	Bonneville Station	Laborer	4.00 day	12-20-41	5-15-42	.....	.....	.....	.....
Harrison, Alice	Ox Bow Station	Laborer	3.00 "	9- 9-40	10- 7-40	.....	.....	.....	.....
Harrison, F. C.	Bonneville Station	Fish Marker	4.00 "	7- 1-41	7- 1-41	.....	.....	.....	.....
Harrison, Thos. H.	Bonneville Station	Fish Culturist	115.00-120.00 month	7- 1-40	6-30-42	.....	.....	.....	.....
Hauck, Adolph	Klaskanine Station	Laborer	100.00-3.00 mo.-day	7- 1-40	6-30-42	.....	.....	.....	.....
Hays, Thos. J.	Corvallis Station	Laborer	3.50 day	12-26-41	1-22-42	.....	.....	.....	.....
Hickey, John D.	Klaskanine Station	Laborer	4.00 "	1-19-42	1-22-42	.....	.....	.....	.....
Hickey, Joseph E.	Klaskanine Station	Laborer	3.00-60 day-hr.	8- 1-40	9-21-41	.....	.....	.....	.....
Hickey, L. W.	Klaskanine Station	Laborer	3.00 day	7- 8-40	2-28-41	.....	.....	.....	.....
Hill, Mrs. Lillian	Astoria, Oregon	Superintendent	150.00 month	7- 1-40	10-31-41	.....	.....	.....	.....
Hills, Elcanor	Willamette Station	Temporary Stenographer	50 hour	5-25-42	5-26-42	.....	.....	.....	.....
Horton, Fred	Willamette Station	Supervisor	150.00 month	7- 1-40	3-14-42	.....	.....	.....	.....
Horsfall, Jack	Astoria, Oregon	Egg Picker	2.00 day	9- 8-41	10-28-41	.....	.....	.....	.....
Hougard, John E.	McKenzie Station	Temporary Inspector	4.00 "	9-15-41	9-24-41	.....	.....	.....	.....
Hughes, Howard	Portland, Oregon	Laborer	3.00 "	4- 7-42	5- 8-42	.....	.....	.....	.....
Hulse, Charles	South Santiam Station	Laborer	3.00 "	1-17-41	1-18-41	.....	.....	.....	.....
Jackson, A. J.	Nehalem Station	Laborer	3.00 "	9-14-40	9-16-40	.....	.....	.....	.....
Jackson, Bill	Galipoyia Station	Laborer	350.00 month	7- 1-40	6-30-42	.....	.....	.....	.....
Jackson, Victor	Astoria, Oregon	Inspector and Boat Captain	3.00 day	12- 1-40	12- 8-40	.....	.....	.....	.....
Jenkins, Cy	Ox Bow Station	Laborer	3.00 "	7- 1-40	6-30-42	.....	.....	.....	.....
Jewett, Stanley G., Jr.	Portland, Oregon	Assistant Biologist	100.00 month	9-25-40	9-31-40	.....	.....	.....	.....
Johnson, Halley	Tillamook Station	Appr. Fish Culturist	100.00 "	7- 1-40	10-31-40	.....	.....	.....	.....
Johnson, J. A.	Ox Bow Station	Foreman	130.00 "	5-18-42	6-30-42	.....	.....	.....	.....
Johnson, Nellie	Ox Bow Station	Fish Marker	4.00 day	7- 1-40	6-30-42	.....	.....	.....	.....
Kelly, M. F.	North Bend, Oregon	Inspector	140.00 month	7- 1-40	6-30-42	.....	.....	.....	.....
Kelsay, R. C.	Willamette Station	Laborer	3.00 day	9- 6-41	9- 7-41	.....	.....	.....	.....

SCHEDULE OF COMPENSATION AND EXPENSE ALLOWANCE—Continued

For the Biennial Period Ending June 30, 1942

Name	Location	Occupation	Rate	COMPENSATION			EXPENSE ALLOWANCE			
				From	To	Amount	Meals	Lodging	Fares	Mileage
Koborn, U. D.	Bonnevile Station	Laborer	3.00 day	9- 9-40	10- 4-40	73.50				
Koch, Robert	Bonnevile Station	Laborer	3.00 "	7- 1-40	8-31-40	168.00				
Kraft, George S.	South Santiam Station	Laborer with team	5.00 "	6- 8-41	6- 8-41	5.00				
La Due, Gene	Trask Station	Laborer	3.00 "	9- 8-41	9-24-41	19.50				
Landers, Arthur W.	Santiam Station	Laborer	3.00 "	7- 1-40	9- 3-40	9.00				
Landers, Orval K.	Santiam Station	Laborer	3.00 "	9- 1-40	9- 3-40	6.00				
Lawsen, Bud N.	Santiam Station	Laborer	3.00 "	10-25-40	10-25-40	3.00				
Ledgerwood, Edgar	Bonnevile Station	Temp. Foreman-Fish Cult.st.	130.00-115.00 month	7- 1-40	4-19-42	2,532.83	6.60	3.00		2.80
Ledgerwood, LeRoy	Santiam Station	Superintendent	150.00 "	7- 1-40	6-31-42	3,600.00				35.64
Lettenweber, Henry	Astoria, Oregon	Inspector	140.00 "	7- 1-40	3-31-42	2,940.00	9.80			192.68
Lewis, Ray	Bonnevile Station	Laborer	3.00 day	9-22-40	10- 5-40	39.00				
Lewis, Guy E.	Alsea Station	Watchman	50.00 month	2- 1-42	3-31-42	100.00				
Long, Eugene	Portland, Oregon	Cashier and Chief Clerk	175.00-200.00	3-24-41	6-30-42	2,745.16	1.85			4.16
Maki, Albert	McKenzie Station	Laborer	3.00 day	7-22-40	7-31-41	30.00				
Martinson, John H.	North Lake Station	Laborer	3.00 "	11- 1-40	11-11-40	21.00				
Martinson, John H.	Bonnevile Station	Laborer	3.00 "	9-13-40	10- 5-40	69.00				
Meservey, G. W.	Rogue Station	Laborer-Custodian	3.00-10.00 day-mo.	11- 1-40	6-30-42	140.50				
Miller, Ben	Sandy Station	Laborer with team	6.00 day	10-12-40	10-12-40	6.00				
Minney, Arthur	Willamette and South Santiam Stations	Fish Cult.st-Foreman	115.00-130.00 month	7- 1-40	6-30-42	2,895.00				
Mitchell, Hugh C.	Portland, Oregon	Director of Fish Culture	350.00 "	7- 1-40	6-30-42	8,400.00	278.45	197.25	2.00	
Mohled, E. L.	Santiam Station	Laborer	3.00 day	4- 9-41	4-11-41	9.00				
Mull, L. L.	Cocquille Station	Laborer with truck	2.50 hour	7- 1-40	7- 1-40	15.00				
Molzan, Fred	Oregon City, Oregon	Laborer	4.00 day	4-15-42	4-15-42	4.00				
Monson, Cliff	Ten Mile Station	Laborer	3.50 "	11-16-40	1-31-42	752.50				14.72
Monson, Joe	Ten Mile Station	Laborer	3.00 "	12- 1-40	12-20-41	99.00				
Moore, C. F.	Umpqua Station	Laborer	3.00 "	9-11-40	9-13-40	9.00				
Moore, G. W.	Santiam Station	Laborer	3.00 "	10-23-40	10-23-40	3.00				
Moore, Keith	Santiam, Rogue and Klaskanine Stations	Laborer-Appr. Fish Cult.st.	3.00-100.00 day-mo.	7- 1-40	12-25-41	1,527.39				
Moyvilhan, Joseph	Deschutes Station	Laborer	3.50 day	9-14-40	9-14-40	3.50				23.76
McCarr, James	Umpqua Station	Superintendent	150.00 month	7- 1-40	6-30-42	3,600.00				124.00
McDonald, Chris	Santiam Station	Laborer	3.00 day	10- 1-40	10- 1-40	3.00				
McLeod, Jack	Deschutes Station	Laborer	3.50 "	7-10-40	9-14-40	31.50				
Neal, Ronald	Willamette Station	Laborer-Appr. Fish Cult.st.	3.00-100.00 day-mo.	3-30-42	6-30-42	306.00				
Nelson, George	Deschutes and Ox Bow Stations	Foreman-Fish Cultarist	130.00-115.00 month	7- 1-40	5-31-41	1,295.00	121.00			84.96
Nielson, Eldon	Deschutes, Ronnevile & Ox Bow Stations	Laborer	3.00-3.50-4.00 day	7-10-40	10- 4-41	108.50				
Nichols, James	Bonnevile Station	Laborer	3.00 "	9-20-41	9-27-41	4.00				
Nicklaus, Helen	Sitz Station	Egg Picker	3.00 "	12-17-41	12-22-41	10.50				
Nicklaus, Tom	McKenzie & Sierz Stas.	Foreman	130.00 month	7- 1-40	6-30-42	3,120.00	25.00			21.84
Niska, Edwin L.	Astoria, Oregon	Assistant Biologist	100.00 "	7- 1-40	6-30-42	2,400.00	45.60	37.20	8.35	144.88
Nystrom, Glare	Willamette Station	Laborer	3.00 day	9-16-41	5-18-41	9.00				
Oestrich, Roy	Portland, Oregon	Cashier and Chief Clerk	200.00 month	7- 1-40	6-16-41	1,758.48	3.95	3.00		18.64
Oregon Agricultural Experiment Station	Newport, Oregon	Yaquina Bay Oyster Research	700.00 year	7- 1-40	6-30-41	700.00				
Orf, John	Willamette Station	Laborer with team	6.00 day	10- 8-40	10-10-40	15.75				
Owls, Robert	Bonnevile Station	Laborer	3.00 "	10-22-40	10-31-40	30.00				
Pepin, Arthur J.	Yaquina Station	Laborer	3.00 "	12- 4-40	12- 6-41	21.00				
Pepin, Elmer	McKenzie Station	Laborer	3.50 "	5- 1-41	5- 4-41	14.00				
Peterson, W. J.	Ox Bow Station	Laborer-Laborer with truck	3.00-6.00 "	9-16-40	10- 7-40	81.00				
Pfund, Ben R.	Santiam Station	Laborer	3.00 "	4-10-41	4-12-41	9.00				
Pfuetla, Everett E.	Tillamook Station	Laborer	.55 hour	6-19-42	6-30-42	44.00				
Poffenberger, Hazel	Portland, Oregon	Temporary Clerk	.50-4.00 hr.-day	3-18-41	5-28-42	327.50				
Potts, Dick	Bonnevile Station	Laborer	3.00 day	9-27-40	9-30-40	12.00				
Provest, Bert W.	Bonnevile Station	Laborer	3.00 "	9-12-40	9-17-40	18.00				
Pryor, W. J.	Bonnevile Station	Laborer	3.00 "	9- 9-40	9-16-40	24.00				
Randall, George	Bonnevile Station	Electrician	5.00-1.00 day-hr.	2- 6-41	5- 8-41	17.00				
Reed, Warren	McKenzie Station	Laborer	3.00 day	9- 1-40	10-22-40	156.00				

SCHEDULE OF COMPENSATION AND EXPENSE ALLOWANCE—Continued

For the Biennial Period Ending June 30, 1942

Name	Location	Occupation	Rate	COMPENSATION			EXPENSE ALLOWANCE			
				From	To	Amount	Meals	Lodging	Fares	Mileage
Rice, L. M.	Umpqua Station	Laborer	3.00-3.50 day	9-11-40	10-24-41	106.00				
Rich, Dr. Willis H.	Portland, Oregon	Director of Research	175.00 month	7-1-40	6-30-42	4,200.00	104.55	117.00	12.91	175.12
Richardson, Dale	McKenzie Station	Laborer	3.00 day	7-24-40		9.00				
Ritter, Clifford M.	Willasqua Station	Foreman	130.00 month	7-1-40	6-30-42	3,120.00				33.54
Roberts, Ed	Williams Station	Laborer	3.00 day	5-2-42	5-2-42	3.00				
Ruben, Howard	Mill Creek Station	Laborer	3.50 "	11-16-40	4-16-41	504.00				
Russell, Howard J.	Calapooya Station	Laborer	3.00 "	8-12-40	10-2-40	133.50				
Ryckman, Jack	Sandy, Ox Bow and Bonneville Stations	Appr. Fish Culturist	100.00-110.00 month	7-1-40	6-30-42	2,430.00				
Schery, Henry	Santiam Station	Laborer	3.00 day	9-6-40	9-10-40	15.00				
Semmen, Gene	Coos Station	Laborer	3.00 "	10-22-40	10-30-40	18.00				
Sergeys, Leon F.	Santiam and Klaskanine Stations	Laborer-Appr. Fish Cult'st	3.00-3.50-100.00 day-mo.	4-5-41	3-31-42	337.25				
Sherman, Robert	Ox Row and Bonneville Stations	Laborer	3.00 day	9-16-40	11-7-40	106.50				
Sherrin, Marshall	South Santiam Station	Laborer	3.00 "	3-8-41	3-9-41	6.00				
Shimmus, L. W.	Coos Station	Laborer	4.00 "	11-3-41	11-18-41	16.00				
Siobom, Erland	Astoria, Oregon	Temporary Inspector	4.00-5.00 "	8-24-40	4-30-41	157.00				
Slater, Roy	South Santiam Station	Laborer	3.00 "	3-9-41	3-9-41	3.00				
Smallwood, C. E.	Alsen Station	Laborer	3.00 "	12-2-41	12-10-41	12.00				
Smith, Frank W.	Coos & North Lake Stations	Superintendent	150.00 month	7-1-40	6-30-42	3,600.00	48.45	3.00	4.45	225.60
Smith, Harold	Coos Station	Laborer	3.00 day	11-1-40	1-25-41	178.50				
Smith, H. S.	Portland, Oregon	Auditor	175.00 month	7-1-40	6-30-42	4,200.00	71.90	37.75		348.44
Snyder, Michael E.	Couville Station	Laborer	4.00 day	11-13-41	11-13-41	4.00				
Spaniol, Jacob	Santiam Station	Plumber	8.00 "	9-5-40	9-24-40	42.00				
Spatz, E. J.	Williams Station	Laborer with horse	4.50 "	9-2-40	9-26-40	45.75				
Spencer, M. R.	Oregon City, Oregon	Laborer	3.00 "	4-26-41	4-30-41	12.00				
Sprieges, Phillip H.	Calapooya Station	Laborer	3.00 "	2-22-41	2-22-41	3.00				
Spohn, William L.	Bonneville Station	Laborer	100.00 month	9-23-40	9-25-40	9.00				
Stahle, Sylvia M.	Portland, Oregon	Hollerith Operator	3.00 day	7-1-40	6-30-42	2,400.00				
Steingardt, Frank	South Santiam Station	Laborer	3.00 "	3-8-41	3-9-41	6.00				
Stich, Robert	South Santiam Station	Laborer	3.00 "	4-6-42	4-6-42	7.50				
Stress, I. W.	Nehalem Station	Foreman	130.00 month	7-1-40	6-30-42	3,120.00				42.56
Suter, Peter	Trask Station	Laborer	3.00 day	9-17-40	1-8-41	69.75				
Suter, Peter, Jr.	Trask Station	Laborer	4.00 "	9-26-41	4-6-42	34.00				
Sutherland, Leatha	Portland, Oregon	Temporary Stenographer	3.50 "	10-2-40	1-28-41	140.00				
Taylor, Lloyd N.	McKenzie Station	Appr. Fish Cult.-Fish Cult.	100.00-115.00 month	7-1-40	6-30-42	2,535.00	18.40	11.50		
Ten Esch, Bob L.	Sandy Station	Laborer	3.50 day	10-12-40	10-12-40	3.50				
Thomas, Frank L.	Couville Station	Appr. Fish Cult.-Custodian	100.00-10.00 month	7-1-40	6-30-42	1,817.10				
Thornburg, Thos. W.	Calapooya Station	Laborer	3.00 day	8-7-40	11-16-41	211.50				
Torkerson, T. C.	Ten Mile & North Lake Stations	Laborer	3.00 "	10-10-40	12-6-40	171.00	63.75			30.08
Troutman, A. E.	Deches Station	Laborer	4.00 "	7-1-40	10-29-40	408.00				15.12
Tudlock, B. S.	Alea Station	Laborer	3.00 "	7-1-40	9-14-40	120.00				
Veach, John C.	Portland, Oregon	Commissioner	5.00 diam	7-10-40	6-15-42	400.00	1.40	2.50		
Vick, C. E.	Umpqua Station	Fish Culturist	115.00 month	7-1-40	6-30-42	2,760.00	2.50	1.25		
Wade, Harry	Bonneville Station	Laborer	3.00 day	9-25-41	10-9-41	50.00				
Walker, Loyal G.	South Santiam Station	Laborer	4.00 "	3-21-42	3-22-42	6.00				
Walker, M. E.	Portland, Oregon	Inspector-Chief Statistician	170.00 month	7-1-40	6-30-42	4,080.00				
Warren, H. C.	Portland, Oregon	Inspector	170.00 "	7-1-40	6-30-42	4,080.00	313.95	246.25		
Warren, Merle	Santiam Station	Laborer	3.00 day	10-21-40	10-21-40	3.00				
Webborn, Marion T.	Portland, Oregon	Stenographer and Secretary to Master Fish Warden	130.00 month	7-1-40	6-30-42	3,120.00				
Whitlow, Virgil	Santiam Station	Laborer	3.00 day	10-25-40	10-26-40	6.00				
Wilson, J. C.	Santiam Station	Laborer	3.00 "	4-8-41	4-10-41	6.00				
Willis, Donald	Alesa Station	Laborer	3.00 "	2-5-41	2-21-41	21.00				
Wineland, Chauncey	Bonneville Station	Laborer	3.00 "	9-27-40	9-30-40	12.00				
Zimmerman, Ed	McKenzie Station	Laborer-Laborer with team	3.00-6.00-7.00-8.00 "	7-24-40	9-30-41	117.00				

TOTALS

\$176,164.06 \$2,541.41 \$1,504.15 \$ 99.31 \$4,092.65

REPORT OF THE MASTER FISH WARDEN

For the Biennium Ending June 30, 1942.

During the biennium more than unusual attention has been directed toward revenue producing activities, the purpose being, in so far as possible, to assure full compliance with statutory requirements in the matter of licenses, reports and payment of poundage and other fees due. To that end fishing boats, canneries, packing and processing plants, receiving stations, cold storage and other facilities used in the taking, processing and marketing of commercial food and shell fish, have been closely scrutinized. These observations would lead one to believe that the industry's known loss of manpower to the armed forces of our country and to the war effort in the present national emergency is not reflected in the fishery to the extent expected. In fact, the total number of licenses for 1941 are but a few less than for the preceding year and, contrary to expectations, the annual revenues of the Commission are greater than for the previous biennium as is the total production of commercial food fishes.

Revenues for the 1940-1941 biennium, although only slightly greater than for 1938-1939, are considerably higher than the average over a ten-year period and the last fiscal year of the biennium produced the highest revenue of any year since 1927. It is readily apparent that the loss in manpower referred to has been more than offset by new and increased endeavor in Oregon's rapidly developing marine fishery; namely—the taking of sharks by lines and nets, the return from the livers of which have proven exceptionally lucrative due to their being a principal source of vitamins so greatly in demand in the war effort; the taking of albacore by gigs and nets; the taking of numerous species of bottom fishes by trawls and drag nets; and the taking of pilchards by purse seines for their oils and meal and for canning. In the aggregate the marine fishery has added millions of pounds of valuable food fishes to the normal production, each contributing its fair share in proportion to the length of the season and the effort expended. Single fares or takes of sharks have yielded fishermen almost unbelievable monetary returns. This marine fishery is proving highly desirable and will continue to contribute generously to the food supply of the nation for years to come, if stabilized and safeguarded through proper regulation and control.

The catch of albacore shows an appreciable increase over previous seasons, there being more than ten million pounds landed in the northwest during 1941.

The bottom or ground fishery has yielded millions of pounds of valuable food fishes during the biennium. The take or catch includes halibut, cods, snappers, flounders, soles and other species. Large quantities of these fish are marketed fresh. However, the major portion of flounders, petrale and dover sole are filleted, packed attractively in cellophane-wrapped containers, and frozen for home consumption. As one of the important items in the food supply for our armed forces such frozen fish are finding ready markets. Developments in the ocean fishery during the past few years are clearly demonstrating one of the principles of supply and demand which augurs well for the fullest development and use of our fishery resources, consistent with all conservation principles necessary to their future preservation and perpetuation.

To provide a visual picture of relative take or catch of salmon and other food fishes in the state, and to permit of comparison, there is included herein a series of six graphs, one of which shows total annual catches of food fish for the period 1930 to 1941, inclusive; the other five show catches of chinook, chum, silvers, steelheads and troll caught salmon, respectively.

Graph No. 1 shows the trend in total take or catch of all species of food fish in the state of Oregon. It will be noted that the 1941 take of commercial food fish was approximately twenty-nine million pounds—nearly ten million pounds more than the catch for 1930. The trend during the twelve years covered is decidedly upward. With two exceptions, namely 1932 and 1933—both depression years—the take each year to and including 1941 is greater than that for 1930. Twenty-four streams were fished in 1930 and only fourteen streams in 1941, and while nearly thirty-seven hundred commercial fishing licenses were issued in 1930, only a little over twenty-

five hundred were issued in 1941. The indicated increase in total catch of food fish, though significant, apparently is not due to the fishing of a greater number of streams or to increased numbers of fishing gear. This increase in total catch is for the most part a result of increased takes of chinook and chum salmon during the period. An increase in fishing effort might also be a contributing factor.

Graph No. 2 shows the trend in the take or catch of chinook salmon. It will be noted that the catch for 1941 is six million pounds more, or a little over fifty per cent higher, than the catch for 1930, and three million pounds higher than the next highest take during the period under comparison. Judging from catch records, it appears that the increase noted in the take of chinook salmon is due to the increased number of that species taken in the Columbia River during the month of September, in which month in 1940 more than four million pounds of chinooks, or double the average for the twelve year period immediately prior thereto, were taken. In 1941 the September take again doubled, when more than nine million pounds of chinook salmon were caught.

Graph No. 3 shows the trend in the take or catch of silver salmon, a falling off or decrease being noted—the catch for the year 1941 being lower than any year during the twelve year period and as much as five million pounds less than the highest catch recorded during the period.

Graph No. 4 shows the trend in the take or catch of chum salmon. It will be noted that the upward trend apparent in the take or catch of this species is quite similar to that showing the trend in the catch of chinook salmon.

Graph No. 5, a two-line graph, shows the trend in the take or catch of steelheads—one line showing the total commercial take in the state and the other the take or catch for coastal streams other than the Columbia River. It will be noted that although the total take of steelheads shows a slight increase, the take in the coastal area shows a definite decrease, being in 1941 approximately one-third of what it was for 1930.

Graph No. 6 shows the trend in the take or catch of shad. Over the twelve years shown this trend is downward, although yearly takes during the period have been both higher and lower than that of 1941.

Graph No. 7 shows the trend in the total commercial take or landings of troll salmon; also in the landings of troll silvers and chinook. It will be noted that the graph line representing the total take of troll salmon very closely follows that representing the take or landings of silver salmon—the total catch by troll for 1941 being more than a million and a half pounds below that of 1930 and the catch of troll silvers for 1941 being more than two million pounds less than that of 1930. On the other hand, it will be noted that the take or landings of troll chinook salmon indicates a slight upward trend over the twelve year period—the take for 1941 being approximately one-half million pounds more than that of 1930.

Departmental activities having to do with fishways and stream improvements have been carried on more or less incidental to regular work at hand. Existing fishways and protective structures have been inspected from time to time as occasion permitted. A number of obstructions—log jams, rock slides and other debris—have been removed or cleared from streams of the state at our instigation by Works Progress Administration, logging companies or other industrial operators. Fishways serving important rivers and tributaries frequented by salmon or other food fish have been cleared of accumulated debris resulting from flood conditions and natural erosion. A continuous check on new, as well as on old, water-uses under permit has been maintained and pertinent data or information obtained was added to similar data relating to such water-use projects as a permanent record now being maintained by this department. The general data referred to has been collected over the past two bienniums by the personnel of this department through field work and from records in the office of the State Engineer and the Public Utilities Commissioner. During the biennium such data covering more than four hundred water-use projects in Oregon have been tabulated and recorded on record forms showing the following pertinent information relative to each:

1. The particular stream, waters or tributary affected.
2. The location and type of barrier, diversion or water-use.

3. Physical dimensions and characteristics of dam or other diversion barrier utilized.
4. Purpose for which water-use project is intended.
5. Name of company or individual owning and/or operating same.
6. Date and authority or permit under which constructed.
7. Number, type and condition of fishways, screens and other fish protective devices.

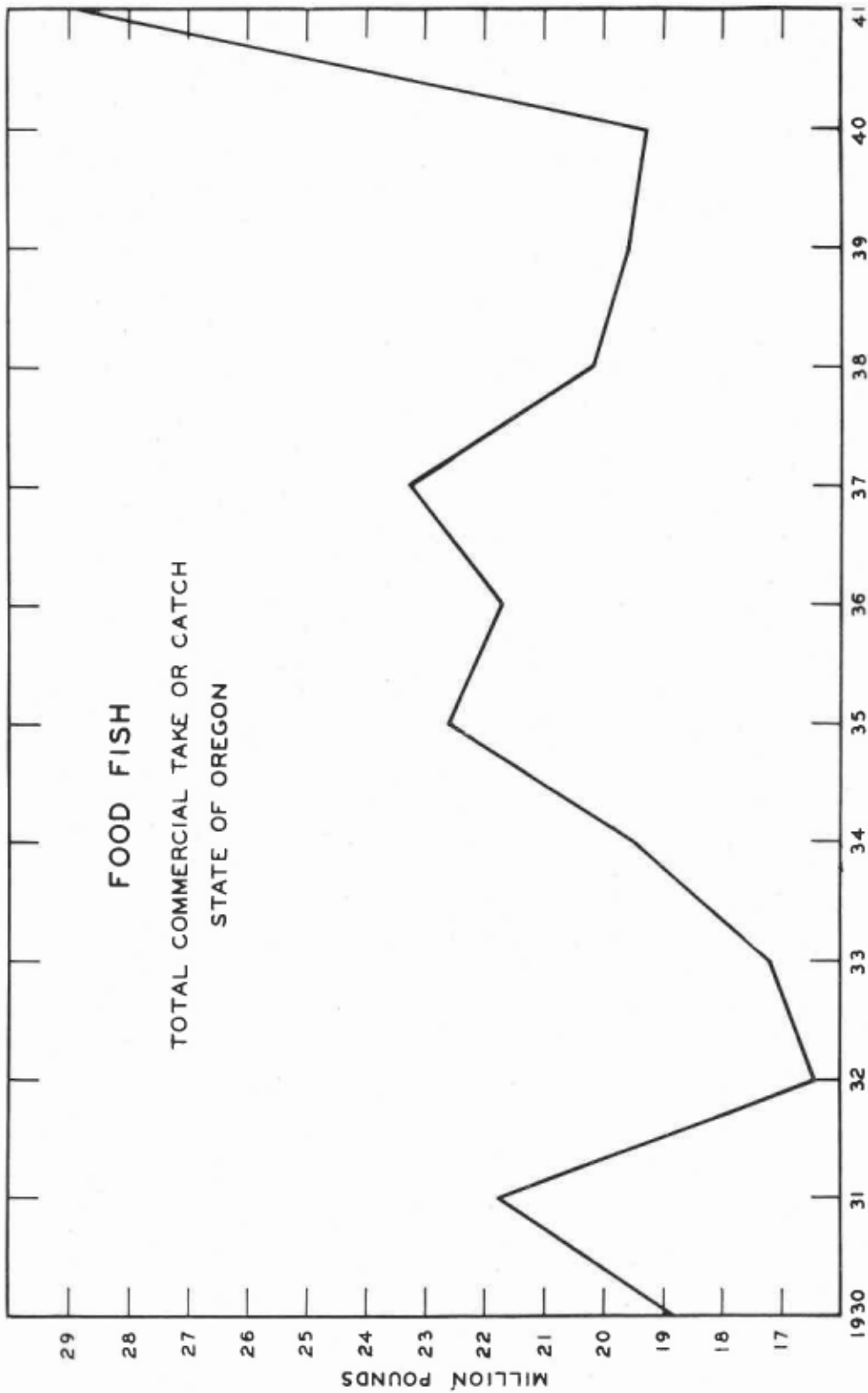
To bring these more than four hundred water-use projects into one correlated picture, depicting at a glance the magnitude and scope of the potential menace to our fisheries, these projects have been segregated under eight classes or groups, based on particular use, and the location of each has been designated by number and symbol on a large-scale map of the stream system of the State of Oregon. The class or use groups into which these projects were divided are as follows:

1. Hydro-electric power.
2. Irrigation.
3. Water power.
4. Municipal Water Supply.
5. Lumbering.
6. Domestic supply—resort.
7. Natural falls.
8. Fish and Game propagation.

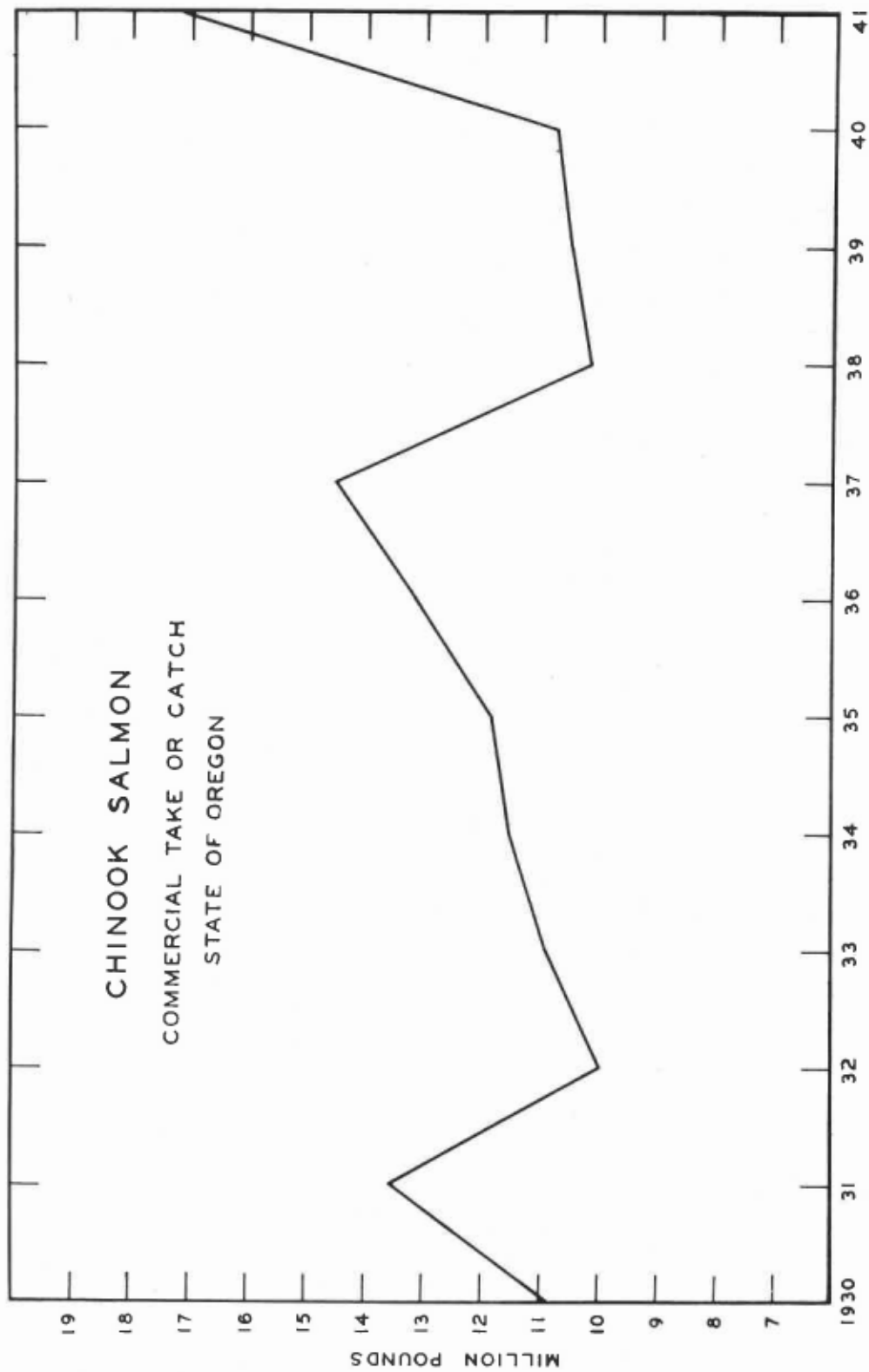
Several of these projects, although no longer operative—the dams or diversion barriers having been permitted to deteriorate and fall into decay, or having been removed after serving the purpose for which constructed—have been included in the belief that a complete record of water-uses, will prove of immeasurable value in the administration of the fishery. Hence future endeavor along these lines should be increased and expanded. A definite and comprehensive stream improvement and fish protection program of which the budgeting and allocation of adequate funds with which to properly carry it on is a part, should be formulated and adopted.

In conclusion, reference made herein to increased revenues or to the fact that such revenues were greater for 1941 than for any other fiscal year since 1927, is in no wise intended to convey the impression that present revenues of the Commission are considered adequate. Current revenues are but a few thousand dollars more than one-half of what they were some twenty years ago, or shortly after the Commission was placed on a so-called self-supporting basis—general fund appropriations being no longer available to them. Demands of an ever increasing and ever encroaching civilization are greater from year to year, the portion of the resource so utilized increasing correspondingly. Earnest endeavor in attempting to maintain and build up the resource sufficiently to keep apace with this demand has added greatly to work of the department and has rendered more grave the responsibilities and problems confronting the Commission and the industry. Those responsibilities and problems are vital and must be satisfactorily dealt with if the industry is to be preserved and safeguarded. Increased endeavor by every department obviously is necessary. The expansion and broadening of scope in departmental programs dealing with scientific research and investigation, artificial propagation, stream improvement, fishways, and screening of water diversions, are mandatory if the challenge presented is to be squarely met, successfully overcome, and if the fisheries of which the resource is made up are to be increased in amounts necessary to offset those demands—at least in sufficient proportions to reduce to an absolute minimum possible losses and probable decreases resulting therefrom. To attain these ends additional revenues are needed and should be provided in adequate amounts for the safeguarding of the industry and for the protection, preservation and perpetuation of the resource—assuring to future generations the privilege of utilizing and enjoying that resource to the fullest possible extent.

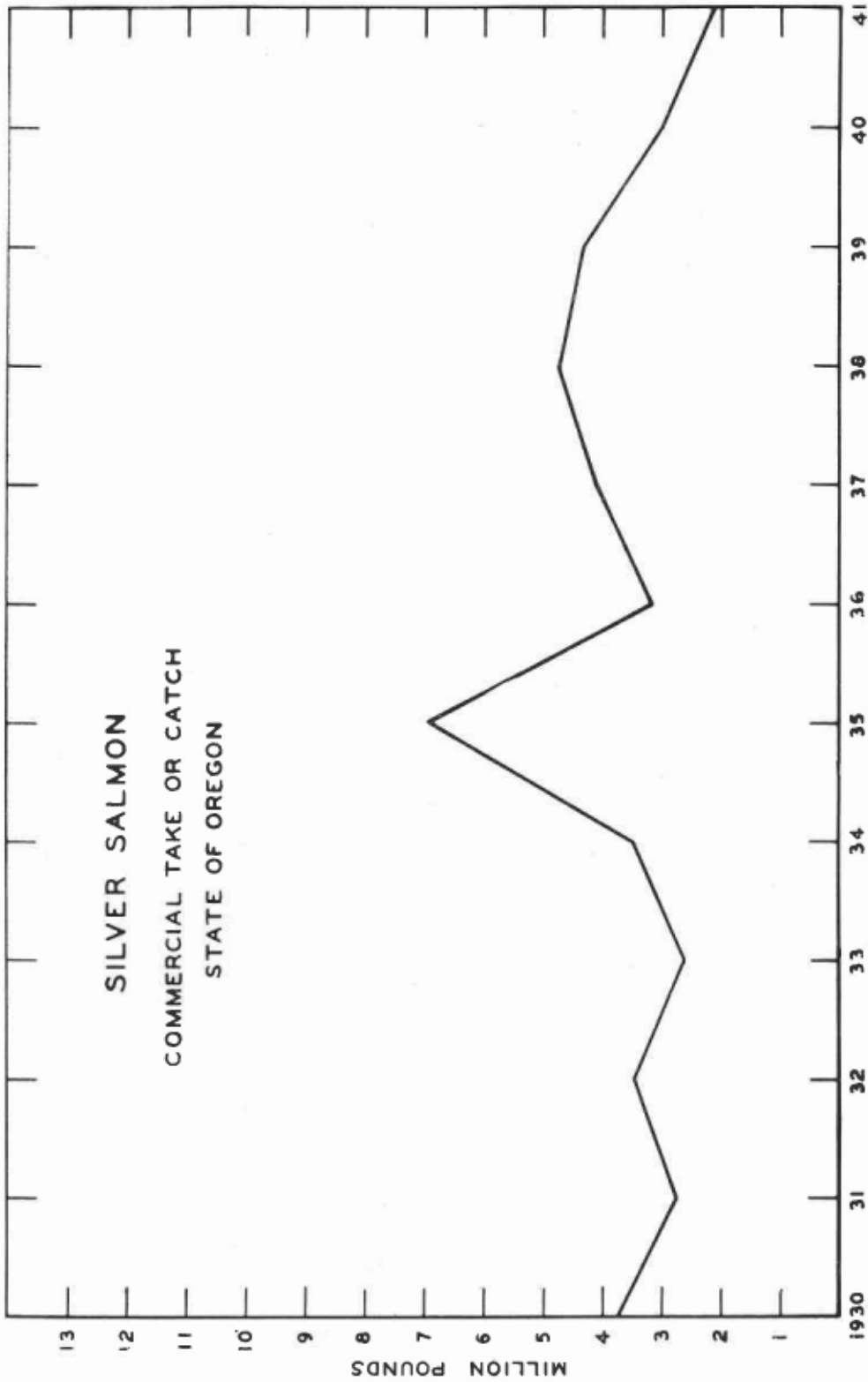
M. T. HOY,
Master Fish Warden.



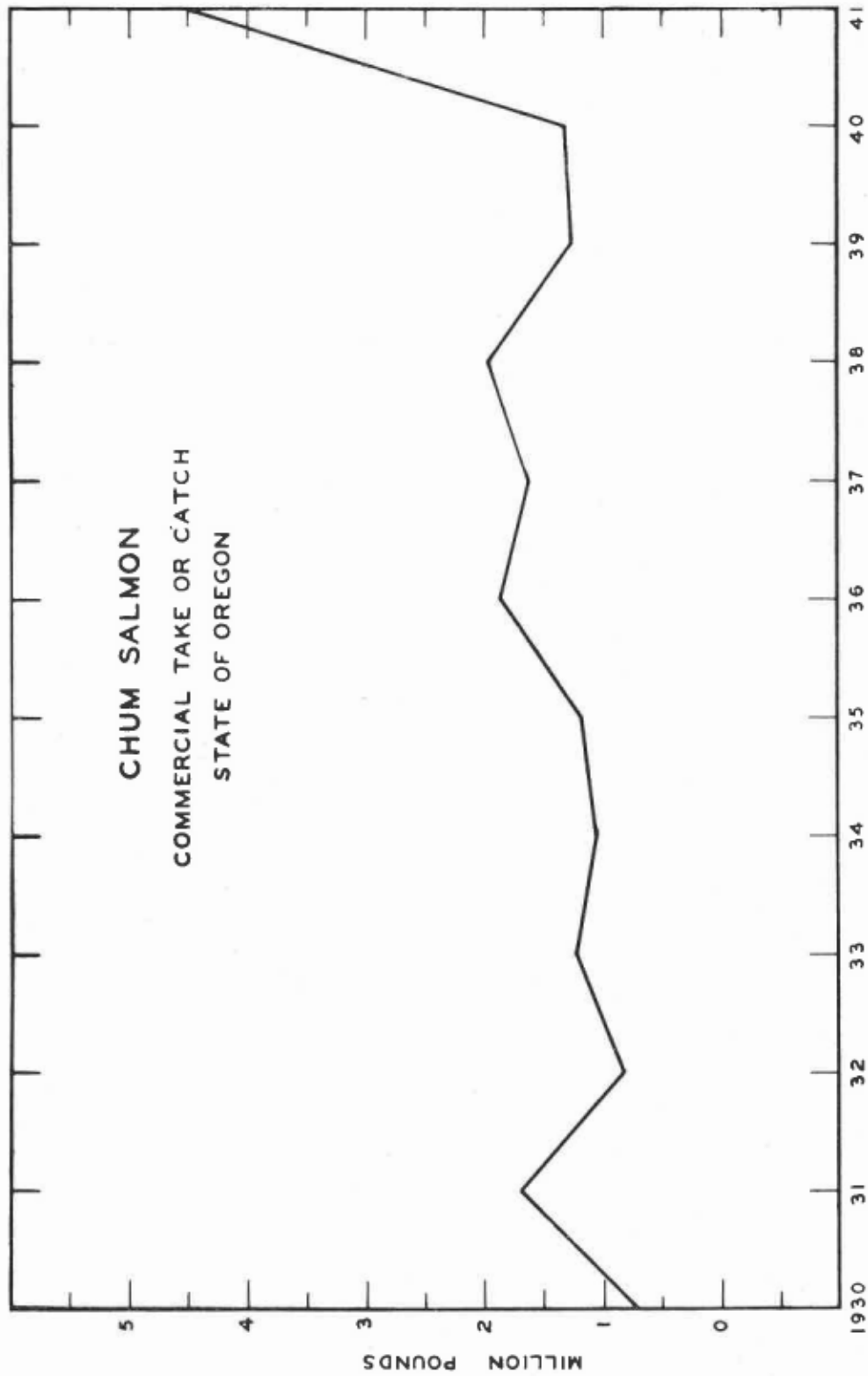
Graph No. 1—Showing total commercial take of food fish from waters and streams in the State of Oregon for the years 1930 to 1941, inclusive (ocean or troll caught fish not included).



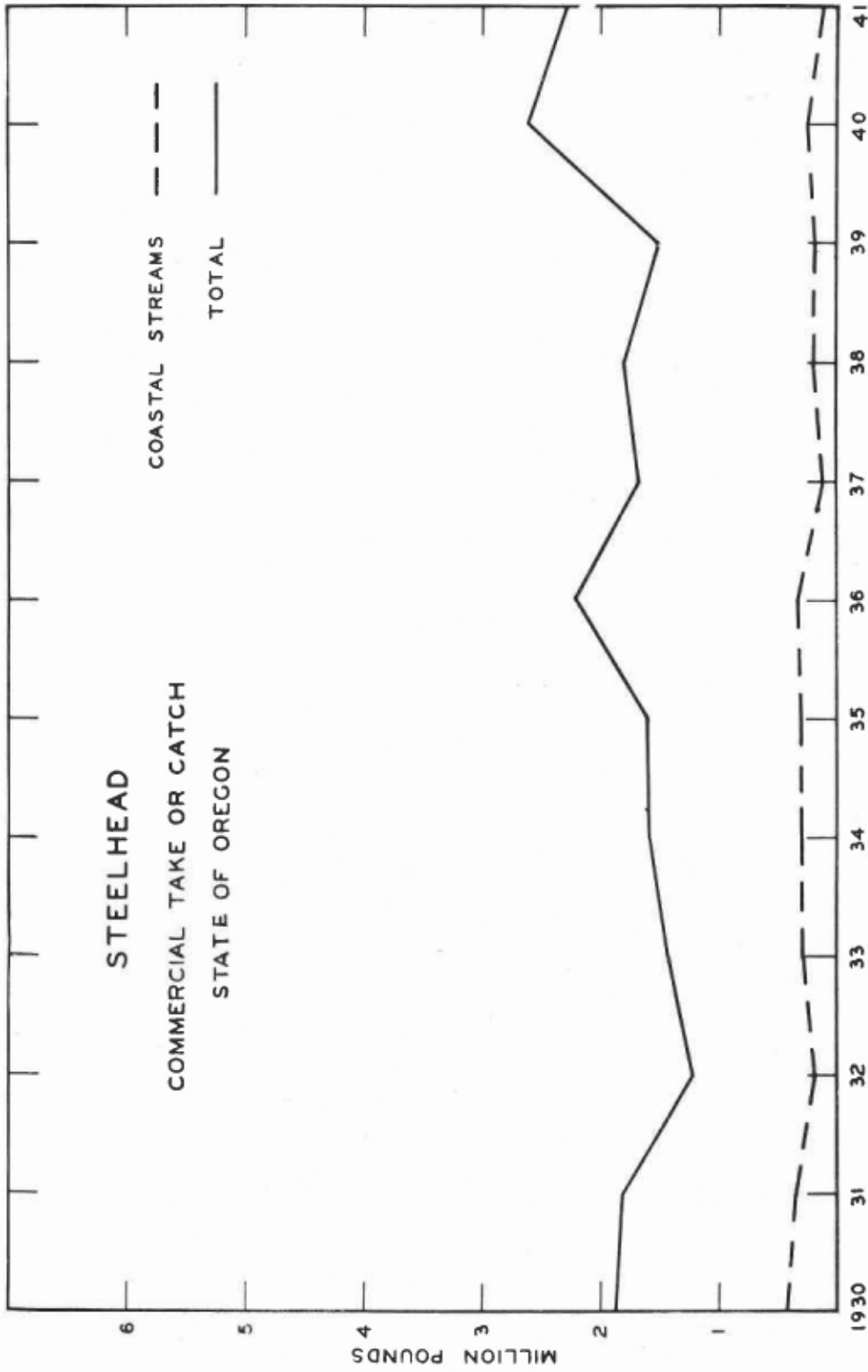
Graph No. 2—Showing total commercial take of Chinook Salmon from waters and streams in the State of Oregon for the years 1930 to 1941, inclusive (ocean or troll caught chinook not included).



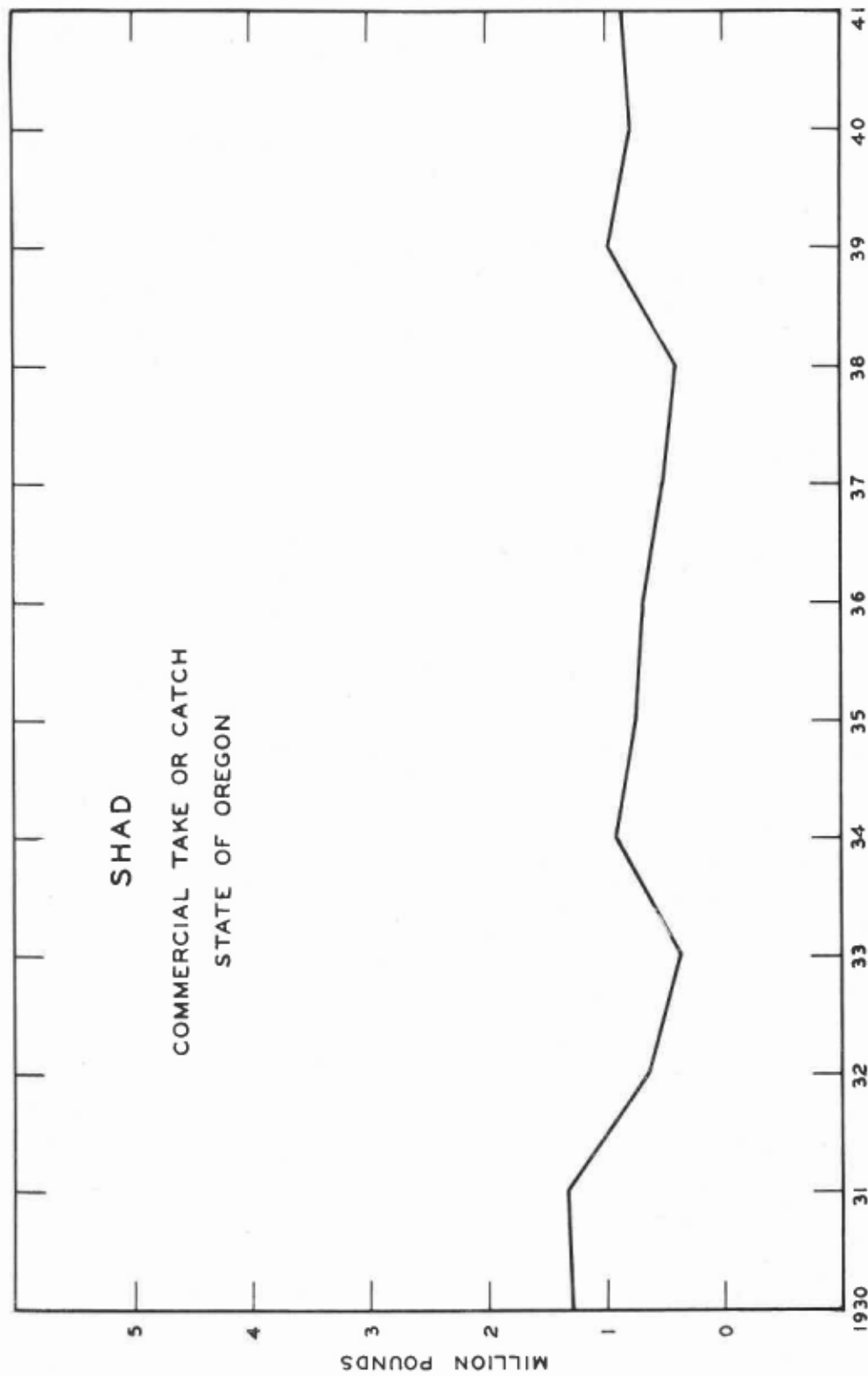
Graph No. 3—Showing total commercial take of Silver Salmon from waters and streams in the State of Oregon for the years 1930 to 1941, inclusive (ocean or troll caught silvers not included).



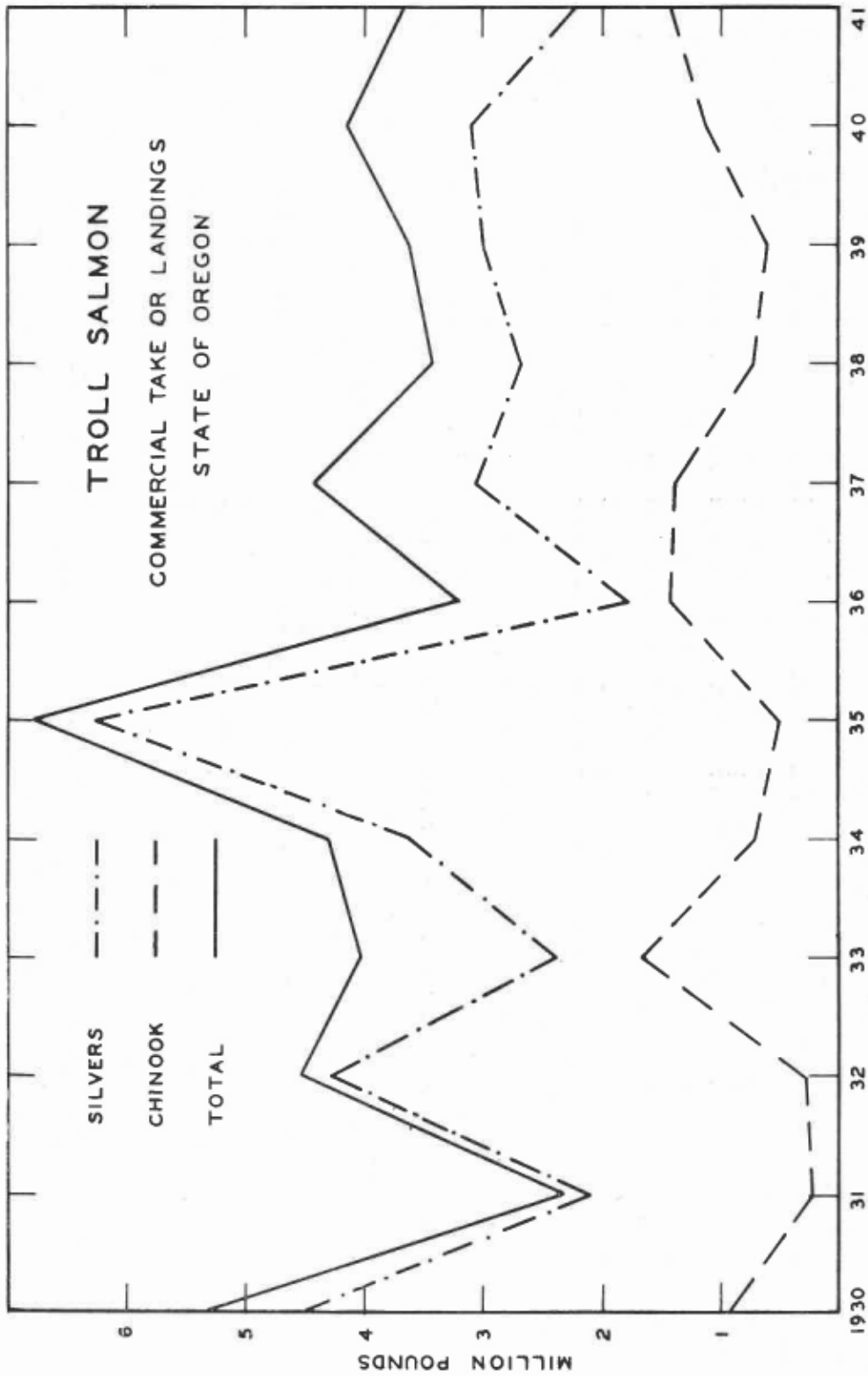
Graph No. 4—Showing total commercial take of Chum Salmon from waters and streams in the State of Oregon for the years 1930 to 1941, inclusive.



Graph No. 5—Showing commercial catch of Steelhead from waters and streams in the State of Oregon for the years 1930 to 1941, inclusive, and the portion thereof taken from coastal streams exclusive of the Columbia.



Graph No. 6—Showing commercial catch of Shad from waters and streams in the State of Oregon for the years 1930 to 1941, inclusive.



Graph No. 7—Showing commercial take or landings of ocean or troll caught salmon in the State of Oregon for the years 1930 to 1941, inclusive, and comparing the take of troll chinook and troll silvers each year during that period.

**PACK OF CANNED SALMON ON THE COLUMBIA RIVER FROM THE INCEPTION
OF THE INDUSTRY TO 1941**

Year	Number of Canneries	Chinook		Blueblack		Silverside		Chum or Keta		Steelhead Trout		Total		
		Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1866												4,000	\$ 64,000	
1867												18,000	288,000	
1868												28,000	392,000	
1869												100,000	1,350,000	
1870												150,000	1,800,000	
1871												200,000	2,100,000	
1872												250,000	2,325,000	
1873												250,000	2,250,000	
1874												350,000	2,625,000	
1875												375,000	2,250,000	
1876												450,000	2,475,000	
1877												380,000	2,052,000	
1878	30											460,000	2,300,000	
1879	30											480,000	2,640,000	
1880	29											530,000	2,650,000	
1881												550,000	2,475,000	
1882												541,300	2,600,000	
1883												629,400	3,147,000	
1884												620,000	2,915,000	
1885												553,800	2,500,000	
1886												448,500	2,135,000	
1887												356,000	2,124,000	
1888	28											372,477	2,234,862	
1889	21	266,697	\$1,600,182	17,797	\$101,051						25,391	\$108,587	309,885	1,809,820
1890	21	335,604	1,946,087	57,345	290,069						42,825	171,300	435,774	2,407,456
1891	22	353,907	2,038,566	15,482	284,242						29,564	118,156	398,953	2,440,964
1892	24	344,267	1,996,388	66,547	372,909	4,176	\$ 20,880				72,348	288,892	487,338	2,679,069
1893	24	288,773	1,559,374	30,459	152,295	29,107	116,428	2,311	\$ 6,933		65,226	260,904	415,876	2,095,934
1894	24	351,106	1,896,976	43,814	224,430	42,758	171,032				52,422	209,688	490,100	2,501,126
1895	24	444,909	2,428,658	18,015	86,523	99,601	329,683	22,493	62,591		49,678	203,542	634,696	3,110,997
1896	24	370,943	1,804,511	16,983	81,518	44,108	141,145				49,663	198,652	481,697	2,261,826
1897	22	432,753	1,804,221	12,972	51,888	60,850	197,762				46,146	165,440	552,721	2,219,311
1898	22	329,566	1,490,394	66,670	300,015	65,431	222,465				26,277	60,352	487,944	2,073,226
1899	17	255,824	1,458,175	23,969	134,723	29,608	112,055	11,379	33,836		39,186	332,774	1,777,975	2,282,296
1900	16	262,392	1,821,258	13,162	92,184	44,925	202,163	17,696	63,706		20,597	102,985	358,772	1,942,660
1901													390,183	1,644,509
1902	14	270,580	1,428,743	17,037	86,465	10,532	44,732	10,401	41,604	8,593	42,965	317,143	1,777,105	
1903	16	301,762	1,610,614	8,383	42,867	12,181	49,869	10,000	37,500	7,251	36,255	339,577	1,644,509	
1904	20	320,378	1,944,690	12,911	78,048	31,254	118,357	20,693	52,691	9,868	48,892	395,104	2,242,678	
1905	19	327,106	1,962,636	7,768	46,608	26,826	114,011	25,751	65,206	9,822	49,110	397,273	2,237,571	
1906	19	311,334	1,868,007	7,816	54,712	41,446	124,338	27,802	69,505	6,500	32,500	394,898	2,149,062	
1907	19	258,433		5,504	31,757		31,757		22,556		5,921	32,171	1,763,490	
1908	14	210,096		5,581	31,432		31,432		16,884		10,726	253,341	1,380,708	
1909	15	162,131	1,203,546	27,908	214,561	42,178	185,070	24,542	57,115	17,283	99,796	274,087	1,760,988	
1910	15	244,285	1,882,137	6,234	34,287	68,922	363,688	66,538	232,883	5,436	31,203	391,415	2,544,198	
1911	15	405,862	2,204,185	5,988	47,904	79,416	549,478	53,471	203,198	8,594	47,399	543,331	3,052,164	
1912	15	220,317	1,988,526	8,210	85,384	31,842	177,248	18,699	46,590	6,958	22,108	285,666	2,319,856	
1913	15	192,116	1,664,670	11,152	93,677	40,969	175,412	13,303	29,486	8,939	49,142	266,479	2,012,387	
1914	17	289,464	2,573,502	35,311	376,924	69,769	380,666	49,285	205,541	10,792	59,356	454,621	3,595,989	
1915	19	406,486	3,694,361	5,459	56,707	33,336	173,234	86,530	251,632	26,723	129,358	558,534	4,305,292	
1916	20	395,166	3,572,203	3,790	27,288	52,084	335,114	77,766	307,483	18,999	118,987	547,805	4,361,075	
1917	20	403,637	5,023,529	7,968	111,552	64,299	700,680	53,659	386,596	23,783	292,538	555,218	6,530,939	
1918	20	400,952	5,222,983	37,833	605,328	98,145	1,072,843	29,846	215,669	24,605	350,071	591,381	7,466,924	
1919	21	392,125	5,455,550	7,268	145,360	90,728	1,142,767	75,493	541,989	14,414	205,254	580,028	7,490,920	
1920	22	420,467	5,661,580	2,617	62,808	27,024	257,806	18,792	99,564	12,645	116,859	481,545	6,198,617	
1921	20	267,582	3,761,321	6,045	120,900	34,381	233,372	4,821	19,791	10,142	68,266	323,241	4,203,649	
1922	23	237,230	3,724,393	30,743	614,860	90,437	633,935	8,844	47,130	24,920	186,675	392,174	5,206,993	
1923	23	289,586	4,967,657	38,309	766,180	101,554	673,954	25,508	135,168	25,968	187,965	480,925	6,730,924	
1924	22	293,716	4,508,236	7,366	129,840	112,308	992,865	57,748	303,356	29,734	285,107	500,872	6,219,404	
1925	21	350,809	5,423,129	5,650	106,220	113,554	1,488,855	55,812	272,398	14,637	177,866	540,452	7,468,468	
1926	21	295,302	4,744,131	21,736	434,720	97,142	1,027,597	32,853	181,216	32,690	356,418	479,723	6,744,064	
1927	22	339,446	5,559,202	6,887	147,378	74,879	585,316	68,449	425,240	30,148	311,070	519,809	7,028,705	
1928	24	251,404	4,355,218	4,814	100,131	49,136	478,355	124,953	747,619	16,339	222,139	446,646	5,903,462	
1929	21	242,938	4,234,214	10,072	181,296	90,684	917,561	54,619	314,928	23,804	257,025	422,117	5,905,024	
1930	21	281,346	4,092,810	9,823	194,460	110,430	1,156,042	11,371	43,324	16,535	171,541	429,505	5,658,177	
1931	20	294,798	3,754,929	4,125	66,000	39,268	247,878	3,518	11,764	11,990	110,429	353,699	4,191,000	
1932	15	216,511	2,023,390	2,795	33,540	46,492	280,853	17,261	44,879	13,132	91,924	296,191	2,474,586	
1933	14	251,157	2,719,303	6,921	96,894	36,430	263,190	24,398	107,351	17,805	142,440	336,711	3,329,178	
1934	13	251,068	2,630,152	6,869	82,428	65,428	536,731	24,455	92,608	14,901	121,000	362,721	3,462,919	
1935	10	205,870	2,479,450	1,302	17,619	95,184	725,868	15,495	59,499	14,888	122,846	322,739	3,405,282	
1936	11	220,188	2,707,267	9,837	137,718	36,541	303,263	30,597	110,149	19,282	317,867	316,445	3,833,055	
1937	11	291,343	4,256,819	7,526	126,436	69,801	725,996	30,592	138,309	17,568	189,734	416,830	5,437,294	
1938	10	173,892	2,707,267	13,889	260,369	67,257	630,364	37,704	143,275	15,248	152,480	307,990	3,893,755	
1939		207,595	3,336,209	5,301	102,359	69,082	730,549	15,201	75,416	25,293	421,608	322,472	4,666,141	
1940		244,570	3,785,681	23,974	471,530	59,737	623,681	25,282	125,420	33,436	373,514	386,999	5,379,826	
1941	9	328,609	5,558,254	33,070	661,400	35,727	481,834	83,144	572,994	33,162	453,502	513,712	7,727,984	

30,296,780 \$250,997,984

(We are able to show the above table through the courtesy of the Pacific Fisherman.)

FISH COMMISSION
OF THE
STATE OF OREGON



DEPARTMENT
OF
RESEARCH



DR. WILLIS H. RICH,
Director

LETTER OF TRANSMITTAL

Portland, Oregon, July 1, 1942.

FISH COMMISSION OF THE STATE OF OREGON,
Portland, Oregon.

Gentlemen:

I transmit herewith the report of the Department of Research for the biennium ending June 30, 1942.

Respectfully,

WILLIS H. RICH,
Director of the Department of Research.

REPORT OF THE DEPARTMENT OF RESEARCH

For the Biennium Ending June 30, 1942

The program of the Department of Research has followed the general plan outlined in the preceding biennial report. It involves research into the major problems that arise in connection with the effort to provide adequate conservation for the commercial fisheries of the state. In selecting problems for study consideration is given to the relative importance of the particular fishery, the degree of depletion or the apparent danger of depletion to come, and the practical importance to the conservation effort of the information that may be anticipated from the research. There has been no material change in the program as outlined in the last report nor is any immediate change contemplated. However, with the growth of the marine fisheries of the state, that portion of the program that deals with marine fisheries has assumed increasing importance and an extension of the program into this field should undoubtedly be made at the earliest opportunity. Continuity is essential to the success of any such program of research and, once a sound program has been undertaken, it is important that it be continued over a period sufficient to insure the results desired.

Although the fundamental program itself has remained the same, the impact of the war has been serious and has delayed progress in several important fields. Just how far this may go in disrupting the work of this department it is impossible to say at the present time. Early in the biennium Assistant Biologist Stanley G. Jewett, Jr., was loaned to the Oregon Department of Health which was undertaking to study an important pollution problem in the main Columbia River. Later he entered the service of the U. S. Public Health Service and is now in charge of a field party engaged in plague prevention studies in the middle-western states. Mr. Jewett was engaged in a study of the steelhead trout and his loss is keenly felt. Mr. Edwin Niska, Research Assistant, joined the Naval Reserve in July, 1942. For the past two years he has had much to do with the tagging of sardines, the collection of data on sardines and albacore and with the collection of data bearing on the Bonneville marking experiments (see below). Under the present circumstances it is impossible to replace these two men with others having adequate training and experience. Some help has been had through the cooperation of the U. S. Fish and Wildlife Service but it appears inevitable that the progress of the research program will be more or less delayed for the duration of the war. The active staff at the close of the biennium consists only of the Director, Dr. Willis H. Rich, and Fishery Biologist Vernon E. Brock.

The publication of the results of studies carried on by the department has been continued in the series of "Contributions". Two reports that were in press at the time of the previous biennial report have appeared, one other report has been published and another one is in press. The entire present list is as follows:

1. Local populations and migration in relation to the conservation of Pacific salmon in the western states and Alaska. By Willis H. Rich. In Publication No. 8, American Association for the Advancement of Science. 1939.
2. Symposium on Dams and the Problem of Migratory Fishes presented before a joint meeting of the American Society of Ichthyologists and Herpetologists and the Western Society of Naturalists. Contains papers by Willis H. Rich, Fish Commission of Oregon; Harlan B. Holmes, U. S. Bureau of Fisheries; Wilbert M. Chapman, Washington Department of Fisheries; Harry A. Hanson, U. S. Bureau of Reclamation and Alan C. Taft, California Division of Fish and Game. Special number of the Stanford Ichthyological Bulletin. 1940.
3. The present state of the Columbia River salmon resources. By Willis H. Rich. Proceedings of the Sixth Pacific Science Congress, University of California Press, 1941.

4. Note on the young of the Sable Fish (Anoplopoma fimbria). By Vernon E. Brock. Copeia, 1940, No. 4.
5. Seasonal variations in weight of Columbia River Chinook salmon. By Willis H. Rich. Copeia, 1940, No. 1.
6. The future of the Columbia River salmon fisheries. By Willis H. Rich. Stanford Ichthyological Bulletin, Vol. 2, No. 2, 1940.
7. The Columbia River salmon runs of 1938. By Willis H. Rich. Fishery Bulletin No. 37, U. S. Fish and Wildlife Service. In press.

The department has continued to enjoy the privilege of laboratory space at the Food Industries Laboratory of the Agricultural Experiment Stations of the State College of Oregon. Located at Astoria this has been an important center for much of our work. A spirit of friendly cooperation has developed between the technological staff and the biologists of the Fish Commission and the association has been one of mutual benefit.

For several weeks during the winters of 1940-41 and 1941-42 members of the staff were located in quarters provided by the Natural History Museum of Stanford University. This gave an opportunity for bibliographic work in the exceptional Jordan Library of Ichthyology and to consult with other active fishery investigators of the U. S. Fish and Wildlife Service and the California Division of Fish and Game. These associations again are of mutual benefit and help especially to integrate the work of this department with that of other organizations working on related problems.

The several projects on which the department has been engaged during the biennium and the progress attained in each are listed below:

1. **Detailed study of the annual statistics of the Columbia River salmon runs.** This has been continued along the lines described in the last biennial report. The object is to provide a continuous analysis of the available data so as to show trends in the fishery of such items as abundance of the different species of salmon, changes in the intensity of the fishing effort, the effect of conservation measures, etc. The study of the 1938 runs was completed early in the biennium and accepted for publication by the U. S. Fish and Wildlife Service as one of its Fishery Bulletins. The actual publication of the report, which will comprise approximately 50 printed pages, has been delayed on account of various factors associated with the war. It is now, however, in page proof and it is hoped that it may soon be issued. This study is now being extended to include the data for the years 1939 to 1941 inclusive. So far as this later work has gone it supports the conclusions reached by the study of the runs of 1938. A supplemental study was made during the summer of 1942 which shows more clearly than does the report now in press that the Chinook salmon runs are definitely depleted. This study made use of certain recently developed statistical methods and will form the basis of a brief paper for future publication.

In connection with this study of the salmon runs it has been necessary to determine the average weights of the several species of salmon. Contribution No. 5 provided first approximations to these which were used in the preparation of the report on the 1938 runs. This study has been continued and there are now available data on the average weights of Chinook salmon for the years 1939 to 1942 inclusive. In general the data given in Contribution No. 5 is supported by those obtained in later years but there are various yearly variations that need further study. The work has been done chiefly by Dr. Rich, assisted by Mr. Niska.

2. **Effect of the Bonneville Dam on the young salmon during their down-stream migration.** The series of experiments that was started in 1938 has been continued and each year up to 1941 approximately 100,000 young Chinooks were marked at the Oxbow Station with the cooperation of the Department of Fish Culture. As before, two lots of fish were marked each year. One lot was planted just below the dam and the other lot about 4 miles above the

dam. In the spring of 1942 the experiment was varied and was carried out in cooperation with the U. S. Fish and Wildlife Service. In this last experiment four lots of fish were given distinctive marks so designed that there would be two sets of two comparable marks in each set. Then one lot of each set was liberated, as before, just below the dam while the second lot of one set was so liberated that the little salmon would be compelled to pass through one of the turbines and the second lot of the other set was so liberated that the fish would be compelled to pass through the spillway dam. It is hoped, in this way, to determine the relative danger attached to passing through the turbines as compared with the spillway. The importance of conducting such an experiment comes from the fact that the preliminary returns from the marking of 1938 indicate that there may be a serious loss associated with the presence of the dam. The data obtained in 1941 have been subjected to an exhaustive study and show that about twice as many of the fish planted below the dam in 1938 were recovered as adults in 1941 as were recovered from the lot planted above the dam. Various factors, however, make the picture less clear than is desired and additional data are required before the evidence can be considered conclusive. In the meanwhile, however, the collection of data is being pushed and these additional experiments are being initiated so as to provide information that is essential to any action in case the tentative results are supported by future evidence. This work has been done by Mr. Niska and Dr. Rich.

3. **Steelhead.** As has been indicated above, the study of the steelhead trout has been interrupted by the loss of Mr. Jewett to the departmental staff. During the period in which he was engaged in the study of pollution in the Columbia River, Mr. Jewett continued to collect information on the steelhead in what time was available and other members of the staff have added to the data as opportunity offered. Such additions are, however, necessarily slow and do not in any way take the place of careful systematic collections. For the time being, therefore, the study of the steelhead must be considered as postponed for the duration of the war. It is greatly to be hoped that eventually this work will be taken up again because the steelhead is of increasing relative importance to the salmon fisheries of the Columbia River and its biology is so imperfectly known that a sound conservation program is not possible.

4. **Albacore.** A manuscript has been prepared by Mr. Brock which includes the results of studies made of Oregon albacore during the past several years and a comprehensive survey of the albacore landings in North Pacific ports other than those of Oregon. Landings made in California, Hawaii, Australia and Japan were included. These studies show the marked dominance of two size groups in the Oregon fishery, and formerly, at least, in that of California. A similar situation is likewise apparently true of the Japanese catch and of the catches made off the coast of Australia. The catches in Hawaii, on the other hand, are apparently composed of larger, and presumably older, fish.

In addition, a study of the maturity of albacore landed in Oregon has been completed. The method employed for this study has been that of measuring the diameters of a number of eggs from albacore ovaries. The largest eggs found were only about one-tenth the diameter of that reported for mature albacore eggs from the Mediterranean. Further, the mean egg diameter was found to be correlated with the length of fish from which the eggs were taken. The size distribution of egg diameters from individual fish was found to be unimodal, indicating the absence of any separate group or groups of more rapidly developing eggs. These facts would show either that Oregon albacore are completely finished with any spawning activity when taken by the commercial fishery, or that the portion of the albacore population landed in Oregon is composed exclusively of immature fish. The period of spawning of albacore in the Mediterranean coincides with the period of heaviest landings in Oregon. If the albacore of the North Pacific have a similar spawning period this evidence would favor the second hypothesis.

The program of albacore research initiated in 1939 has been continued without material change. This program has been concerned primarily with the character of the commercial catch, and this has been ascertained by measuring samples of fish periodically. It is interesting to note that the catch in 1941 was different from that of the previous seasons studied in that the fish

averaged smaller in size. During previous seasons the shorter of the two size groups that make up the commercial catch was dominant for only a brief period at the beginning of the season. The longer of the two groups would then become dominant and would remain so until the end of the season. During 1941 the longer size group was hardly in evidence during any portion of the season.

5. **Pilchard.** The program of pilchard research, initiated in 1936, is increasingly one of cooperation with other research agencies engaged in this work on the Pacific Coast. At the present time all research activities are fully coordinated for the entire Pacific Coast, thus insuring the most efficient use of time and personnel. The Department of Research has taken as its share of this coordinated program (a) the tagging of sardines off the coasts of Oregon and Washington and recovery of tags from the Oregon fishery, (b) biological studies, including the reproductive behavior of these fish in northern waters, (c) studies of the size composition of the Oregon catch, and (d) studies of the statistics of the Oregon fishery.

The 1940 pilchard season was too short to permit carrying out an extensive tagging program. In 1941, however, 5,300 fish were tagged and over 100 of these tags were recovered during the same season. Tagging was done by Mr. Niska, using a tagging gun, from various boats of the pilchard fleet. The degree of success attained by this program may be credited in no small part to the generous cooperation received from the captains and crews of these boats.

The recovery of pilchard tags was accomplished by means of electro-magnets installed in the fish meal lines of the reduction plants. A series of tests were made at intervals by test tags in order to calibrate the recovery efficiency of these magnets. While some of the reduction plants did not have magnets, those that did had a fairly good efficiency and it is estimated that for 1941 about 32% of the tags present on fish processed in Oregon were recovered.

Certain evidence, notably the great abundance of small pilchards in northern waters in 1940 and in the commercial catch in 1941, has indicated the possibility of extensive spawning of pilchards off the coasts of Oregon and Washington. An incomplete study of the degree of maturity of the ova of large pilchards taken in June, 1942, indicated that some fish with ripening eggs are present in northern waters at that time. This does not seem to be especially true of fish taken later (through August and September) in the commercial fishery. It is likely that in some years the spawning of pilchards in volume occurs off the coasts of Oregon and Washington, and it is possible that such spawning is largely finished by the end of June or earlier.

Other lines of investigation have included studies of the size composition of the catch through length measurements of samples, and the compilation and examination of catch statistics. This latter investigation has been pursued for the purpose of obtaining some measure of the abundance of pilchards off Oregon and has been conducted in close cooperation with the U. S. Fish and Wildlife Service.

The coordination of the research work by the three Pacific Coast states, the Federal government, and Canada on the pilchard has been accomplished by means of annual conferences. The last conference, for which Mr. Brock served as chairman, was held at the laboratory of the U. S. Fish and Wildlife Service in Seattle in March, 1942. Here certain problems were allotted to the various interested research organizations in order to permit their solution in an efficient manner and arrangements were made to enable the easy interchange of data necessary to accomplish this. Also each organization reported upon its progress and accomplishments.

6. **Soupin shark and dogfish.** The increasing importance of vitamin oils and the concomitant rapid growth of the soupin shark and dogfish fisheries has necessitated a research program for these species. Little is known about their biology and the effect of the suddenly developed and very intensive fishery may be to seriously deplete the supply. A conference was held in Portland on May 12, 1942, at which a cooperative research program was mapped out by the several interested agencies. These included the U. S. Fish and Wildlife Service,

the California Division of Fish and Game, the Washington State Department of Fisheries and the Fish Commission of Oregon. Both fisheries biologists and administrators were present. The portion of the program undertaken by the Fish Commission of Oregon includes studies of the size composition of the catch, ratio of the sexes, maturity and analysis of the catch statistics of Oregon. In addition a valuable program of research on the vitamin content of the liver oil and the various biologic factors that may influence it was made possible through the generous manner in which the staff of the Food Industries Laboratory of the Agricultural Experiment Station of the State College of Oregon agreed to make the necessary vitamin analyses. This portion of the program is a cooperative one with the Food Industries Laboratory.

7. **Miscellaneous activities.** In addition to the main program a brief survey was made by Mr. Niska of the coastal fishery for bottom fishes that is conducted by means of otter trawls operating chiefly out of Astoria and Newport. The survey was undertaken in order to determine the character of the catch and as a basis for designating official common names for the various species landed.

In March of 1942 Mr. Brock attended a meeting of the Northwest Fisheries Biologists as an official representative of the Department. Various problems in fisheries biology were discussed with special reference to those of interest in the Northwest and informal plans were made for effective cooperation between individuals and organizations concerned in this work.

In concluding this biennial report your Director wishes to call attention to the importance of continuing the research program as fully as is possible in spite of the demands made by the war effort. Our natural resources are, after all, the material things that constitute our national strength and the national wealth which we are defending. The proper care of these natural resources, and in particular the biological resources such as our fisheries, requires that the conservation measures be based on sound principles and the whole program of fisheries research is planned to provide those principles. It may well be that, in the months or years of struggle that lie immediately ahead, it will be impossible to maintain our present program in its entirety; but, at the least, we should be very sure that the continuity of our data is not broken. The study of fisheries data may be postponed if necessary but the data themselves must be gotten each year and each month as the fisheries progress. For the duration, then, it is the intent of this department to devote such of its manpower as may remain to the regular collection of data regardless of whether or not opportunity can be found to make the detailed studies that should attend. In this way it is hoped to minimize the loss that must inevitably result from the interruptions attendant on the war.

WILLIS H. RICH,

Director of the Department of Research.

FISH COMMISSION
OF THE
STATE OF OREGON



DEPARTMENT
OF
FISH CULTURE



HUGH C. MITCHELL,
Director

LETTER OF TRANSMITTAL

Portland, Oregon, July 1, 1942.

FISH COMMISSION OF THE STATE OF OREGON,
Portland, Oregon.

Gentlemen:

In accordance with the provision of law, I herewith submit the report of the Department of Fish Culture for the biennium ended June 30, 1942.

Respectfully,

HUGH C. MITCHELL,
Director of the Department of Fish Culture.

REPORT OF THE DEPARTMENT OF FISH CULTURE

For the Biennium Ended June 30, 1942

The Department of Fish Culture was hampered throughout the past biennium by the lack of sufficient funds. The maintenance of buildings and equipment was limited to bare necessities in the interest of keeping operations at as high a level as possible. As a result of this policy collections of salmon eggs and releases of the resulting fingerlings at all stations were entirely satisfactory as will be noted in statistics tabulated elsewhere in this report.

In spite of the military demands for man-power and the alluring wages paid in shipyards and other defense projects the personnel of this department has suffered relatively slight loss. Three promising young men have left through enlistment and induction into the armed forces but only four or five employees left the service to take advantage of the high wages paid in the war industries. Fortunately, most of the men who have become especially valuable through long years of experience have expressed a willingness to continue at their regular posts. This maintenance of our personnel has been materially aided because of the fact that the actual production of food fish has been rated as an "essential activity" in the war effort.

Construction and the expansion of existing units is essential at all times if the Department is to keep pace with the constantly increasing demands made on us through the loss of natural spawning and rearing areas. Neither could be planned to any extent under the budget as approved for the fiscal years of 1940-41 and 1941-42. The rehabilitation of the Tillasqua River (Big Creek) station was begun in the early summer of 1942 but the cost is being met by a special fund contributed by the Columbia River salmon packers. The old feeding pond site at the Mill Creek station near Scottsburg is being abandoned and a new pond system will be developed a few hundred yards further upstream. This change was necessitated because of the bad condition of the big flume which is old and beyond economical repair, through which surplus water is passed by the site of the original ponds. The new ponds provide only a slight increase in capacity but are so located that a diversion canal can be substituted. At intervals throughout this biennium minor additions and repairs were completed at all fishery stations operated by the Department.

A hatchery system of the magnitude of that of Oregon cannot be expected to function satisfactorily unless it be adequately financed so that it can take advantage of new methods and can fit its procedures to the biological requirements of the species reared. At the present time the spring run of Chinook salmon in the Columbia River is faced with extinction. Since these spring Chinooks, and also the silver salmon, spend the first year of their lives in fresh water and since these habits cannot be changed it is important that our fish-cultural procedures take this requirement into account. The natural spawning and rearing areas of the spring Chinook salmon in the Columbia River have, to a large extent, been destroyed through man's handiwork and it is obviously the duty of the departments operating fish-cultural stations not only to maintain hatching facilities but also to provide adequate pond areas in which all young spring Chinooks and silver salmon can be held and fed for approximately sixteen months. At this age the fingerlings would start on their seaward migration under natural conditions and it is to be expected that artificially reared fish will follow the same instincts. Much of what remains of the spring run can be maintained and perhaps increased if adequate artificial rearing areas are established and operated to replace the natural ones that have been lost forever through the building of dams, irrigation ditches and the other developments that have followed the advance of civilization. This is the only solution to the problem of maintaining the valuable spring Chinook salmon runs that can be offered. It will, of course, entail additional cost but there can be little doubt that it will prove to be a profitable investment.

Now that the August-September run has been built up to that point where it meets or even exceeds expectations in volume and quality, it behooves us immediately to intensify our efforts to rehabilitate the May-June-July run by taking advantage of the knowledge recently gained

in experiments in hatchery operations. To accomplish this it will be necessary to acquire further holdings, develop duplicate pond systems as well as to provide larger quantities of fish food and slightly increase the number of skilled fish-culturists. Any capital outlays will be in addition to the approximate \$200,000.00 required for general, operating and maintenance expense of the Department of Fish Culture during the next biennium to successfully carry out the plan outlined.

During the last two years this Department has enjoyed the continued close cooperation of the Oregon State Game Commission and the U. S. Fish and Wildlife Service. Salmon ascending the rivers of the state of Oregon, especially within closed areas, have been protected by the State Police. The Department of Fish Culture is appreciative of the many courtesies extended and the aid rendered by that efficient body.

HUGH C. MITCHELL,

Director of the Department of Fish Culture.

DEPARTMENT OF HATCHERIES AND FISH CULTURE

STATEMENT OF EXPENDITURES

For Biennial Period Ended June 30, 1942

Fiscal Year Ended June 30, 1941	\$ 81,647.80
Fiscal Year Ended June 30, 1942	68,913.96
	<hr/>
Total for Biennium	\$150,561.76

TABLE NO. 1

Showing the number of eggs collected at stations operated by the Fish Commission of the State of Oregon during the period July 1, 1940 to June 30, 1941:

Fisheries Station	Silver						Totals
	Chinook	Salmon	Steelhead	Blueback	Chum	Shad	
McKenzie	11,826,000	.....	.....	.....	.....	.....	11,826,000
Willamette	2,862,000	.....	.....	.....	.....	.....	2,862,000
Santiam	2,692,000	.....	1,000,000	.....	.....	.....	3,692,000
Bonneville	13,275,000	.....	.....	.....	.....	.....	13,275,000
Klaskanine	1,803,596	1,370,200	203,500	.....	1,481,294	.....	4,858,590
Trask	4,575,000	2,120,000	135,000	.....	105,000	.....	6,935,000
Coos	880,000	4,321,000	2,868,000	.....	.....	.....	8,069,000
Umpqua	4,615,500	.....	.....	.....	.....	.....	4,615,500
South Santiam	1,160,000	.....	3,150,000	.....	.....	.....	4,310,000
Rogue	27,000	.....	82,000	.....	.....	.....	109,000
Ox Bow Springs	4,690,000	.....	.....	.....	.....	.....	4,690,000
Alsea	43,000	2,058,000	27,000	.....	.....	.....	2,128,000
Ten Mile	.....	4,570,000	.....	.....	.....	.....	4,570,000
Coquille	.....	1,160,000	2,055,500	.....	.....	.....	3,215,500
Nehalem	.....	1,323,770	10,000	.....	696,400	.....	2,030,170
Yaquina	39,700	2,187,000	102,500	.....	.....	.....	2,329,200
Siletz	.....	1,920,000	297,610	.....	.....	.....	2,217,610
Sandy	604,800	238,900	1,378,000	.....	.....	.....	2,221,700
Tillamook	818,688	1,334,040	.....	.....	1,445,720	.....	3,598,448
Shad Battery—Scappoose	.....	.....	.....	.....	.....	5,008,000	5,008,000
Shad Battery—Brandy Bar	.....	.....	.....	.....	.....	850,000	850,000
Cooperative Stations	.....	271,000	.....	1,005,312	.....	.....	1,276,312
Grand Totals	49,912,284	22,873,910	11,309,110	1,005,312	3,728,414	5,858,000	94,687,030

TABLE NO. 2

Showing the number of fingerlings and fry liberated into the waters of the State of Oregon by the Fish Commission during the period July 1, 1940 to June 30, 1941:

Fisheries Station	Chinook	Silver Salmon	Steelhead	Shad	Blueback	Chum	Totals	Where Liberated
McKenzie	8,740,000						8,740,000	Gate and Cogswell Creeks, McKenzie R. Trib.
Willamette	2,582,000						2,582,000	Salmon Creek - Willamette R. Trib.
Santiam	2,529,700		951,600				3,481,300	No. Santiam River - Willamette R. Trib.
Bonneville	7,300,000 } 1,860,000 }	594,400	541,400		640,000		10,935,800	Tanner and Spring Creeks - Columbia R. Trib.
Klaskanine	2,671,560 } 2,763,500 }	283,500	187,073			1,438,720	7,344,353	Klaskanine, Walluski Rivers - Youngs Bay Trib.
Trask	4,127,000	1,518,000	118,000			100,000	5,863,000	Fawcett, Killum, Gold Cr. - Trask, Wilson, Miami R.
Coos	827,450	4,226,285	2,165,610				7,219,345	South Coos River.
Mill Creek		985,676					985,676	Umpqua River.
Umpqua	3,566,183						3,566,183	Rock Cr. - Umpqua R. Trib.
South Santiam	1,122,860		2,243,675				3,366,535	South Santiam River.
Rogue	26,700		78,200				104,900	Rogue River and Trib.
Ox Bow	399,310 } 3,478,000 }				941,746		4,885,606	Herman and Eagle Creeks, Columbia R.
Aalsea	1,024,900	2,082,090	24,920				3,131,910	Aalsea River.
Ten Mile		1,012,000					1,012,000	Templeton Cr. - Ten Mile L. Trib.
Coquille		1,104,700	1,946,020				3,050,720	Coquille River.
Nehalem	1,029,000	1,289,000	9,600			683,000	3,010,600	Foley and Coal Crks., N. Fork Nehalem R., Nehalem River Trib., Necanicum R.
Yaquina	527,265	1,557,160	100,350				2,184,775	Simpson Cr.-Yaquina R. Trib.
Deschutes	1,120,000		695,000				1,815,000	Deschutes River, Columbia R. Trib.
Siletz		1,858,500	279,860				2,138,360	Rock and Steer Creeks - Siletz R. Trib.
Sandy	1,056,480	224,635	1,146,643				2,427,758	Sandy R. - Columbia R. Trib.
Stuslaw	497,600	1,146,850					1,644,450	Stuslaw River and Trib.
Calapooya	998,000						998,000	Calapooya Cr. - Umpqua R. Trib.
Tillamook	1,290,875	1,327,300				1,417,500	4,035,675	Tillamook River - Columbia R. Trib.
Shad Battery							5,008,000	Willamette Slough - Columbia R. Trib.
Scappoose				5,008,000				
Shad Battery							850,000	Umpqua River.
Brandy Bar				850,000				
Grand Totals	46,774,882	21,973,596	10,487,951	5,858,000	1,648,296	3,639,220	90,381,946	

TABLE NO. 3

Showing the number of eggs collected at stations operated by the Fish Commission of the State of Oregon during the period July 1, 1941 to June 30, 1942:

Fisheries Station	Silver					Totals
	Chinook	Salmon	Steelhead	Chum	Shad	
McKenzie	18,000,000					18,000,000
Willamette	10,007,000					10,007,000
Bonneville	13,128,000					13,128,000
Klaskanine	1,522,500	1,469,000	251,000	635,000		3,877,500
Trask	3,185,000	3,620,000		75,000		6,880,000
Coos	73,000	3,116,000	1,660,000			4,849,000
Umpqua	6,825,000					6,825,000
South Santiam	3,150,000		1,580,900			4,730,900
Ox Bow Springs	2,640,000					2,640,000
Alsea		337,000	150,000			487,000
Ten Mile		525,000				525,000
Coquille		1,035,000	601,000			1,636,000
Nehalem		888,000	45,000	1,996,000		2,929,000
Yaquina	141,500	1,281,500				1,423,000
Siletz		2,165,000	69,840			2,234,840
Sandy		297,400	1,176,690			1,474,090
Tillamook	71,400	2,629,100	1,190,000	2,525,000		6,415,500
Shad Battery—Scappoose					4,150,000	4,150,000
Grand Totals	58,743,400	17,363,000	6,724,430	5,231,000	4,150,000	92,211,830

TABLE NO. 4

Showing the number of fingerlings and fry liberated into the waters of the State of Oregon by the Fish Commission during the period July 1, 1941 to June 30, 1942:

Fisheries Station	Chinook	Silver Salmon	Steelhead	Shad	Chum	Totals	Where Liberated
McKenzie	9,778,000					9,778,000	Gate and Cogswell Creeks, McKenzie R. Trib.
Willamette	5,949,000					5,949,000	Salmon Creek - Willamette R. Trib.
Santiam	1,564,000					1,564,000	No. Santiam River - Willamette R. Trib.
Bonneville	10,999,490 } 1,100,080 }	1,388,600	45,107			13,533,277	Tanner Creek - Columbia R. Trib.
Klaskanine	3,393,000	1,009,380	228,600		838,500	5,469,480	Rock Creek, Klaskanine R. - Youngs Bay Trib.
Trask	2,891,000	2,169,000 } 500,000 }			64,000	5,624,000	Gold Creek, Trask River.
Coos	70,185	2,993,410	1,640,220			4,703,815	South Coos River.
Mill Creek		1,503,000				1,503,000	Umpqua River.
Umpqua	5,716,746					5,716,746	Rock Creek - Umpqua R. Trib.
South Santiam	2,025,050		1,215,000			3,240,050	South Santiam River.
Ox Bow	2,619,600					2,619,600	Herman Creek, Columbia R. Trib.
Alsea	985,970	420,640	135,850			1,542,460	Alsea River.
Coquille	1,960,000	989,250	588,965			1,578,215	Coquille River.
Nehalem		853,000	44,000		1,957,000	4,814,000	Foley Creek - Nehalem R. Trib.
Yaquina	640,990	1,259,845				1,900,835	Stimpson Cr. - Yaquina R. Trib.
Deschutes	1,324,800					1,324,800	Deschutes River, Columbia R. Trib.
Siletz		1,478,678	65,740			1,544,418	Rock Creek - Siletz R. Trib.
Sandy	969,985	279,800	1,040,790			2,290,575	Sandy River - Columbia R. Trib.
Stuslaw	1,004,250	498,760				1,503,010	Stuslaw River and Trib.
Calapooya	1,000,000					1,000,000	Calapooya Cr. - Umpqua R. Trib.
Tillamook	568,500	1,131,500	1,168,500		2,235,000	5,103,500	Tillamook River - Columbia R. Trib.
Shad Battery— Scappoose				4,150,000		4,150,000	Willamette Slough - Columbia R. Trib.
Grand Totals	54,560,646	16,474,863	6,172,772	4,150,000	5,094,500	86,452,781	

SUMMARY

Showing the total number of eggs collected during the fiscal years 1940-41 and 1941-42:

	Chinook	Silver Salmon	Steelhead	Blueback	Chum	Shad	Totals
Total Egg Take—1940-41	49,912,284	22,873,910	11,309,110	1,005,312	3,728,414	5,858,000	94,687,030
Total Egg Take—1941-42	58,743,400	17,363,000	6,724,430	.....	5,231,000	4,150,000	92,211,830
Grand Totals	108,655,684	40,236,910	18,033,540	1,005,312	8,959,414	10,008,000	186,898,860

Showing the total liberations during the fiscal years 1940-41 and 1941-42:

	Chinook	Silver Salmon	Steelhead	Blueback	Chum	Shad	Totals
Total Liberation—1940-41	46,774,883	21,973,596	10,487,951	1,648,296	3,639,220	5,858,000	90,381,946
Total Liberation—1941-42	54,560,646	16,474,863	6,172,772	.....	5,094,500	4,150,000	86,452,781
Grand Totals	101,335,529	38,448,459	16,660,723	1,648,296	8,733,720	10,008,000	176,834,727

REPORT OF THE FISH COMMISSION OF THE STATE OF OREGON

Egg transfers made during the fiscal year 1940-41:

Silver Salmon	Steelhead
50,000 State of Montana	**553,460 Game Commission (Bandon)
*550,656 State of Montana	

* In exchange for 1,005,312 Blueback eggs.

** In exchange for 271,000 Silver eggs.

Egg transfers made during the fiscal year 1941-42:

Chinook Salmon	Silver Salmon
1,000,000 U. S. Fish and Wildlife Service (Leavenworth, Wn.)	52,072 U. S. Fish and Wildlife Service (Clackamas, Ore.)

STOCK ON HAND — JUNE 30, 1941

Fisheries Station:	Chinook Salmon	Silver Salmon	Steelhead	Totals
Bonneville	1,108,200	1,392,804	45,800	2,546,804
Klaskanine .....	.....	1,014,038	.....	1,014,038
Trask .....	.....	500,000	.....	500,000
	<hr/>	<hr/>	<hr/>	<hr/>
	1,108,200	2,906,842	45,800	4,060,842

STOCK ON HAND — JUNE 30, 1942

Fisheries Station:	Silver Salmon	Steelhead	Totals
Bonneville	965,900	.....	965,900
Klaskanine	1,703,700	.....	1,703,700
Deschutes . . . . .	.....	500,000	500,000
	<hr/>	<hr/>	<hr/>
	2,669,600	500,000	3,169,600

FISHERIES STATIONS OPERATED BY THE FISH COMMISSION OF THE STATE OF OREGON

Station	Stream	County	Post Office	In Charge
No. 1	McKenzie River	Lane	Leaburg, Oregon	Walter Carter
No. 2	Willamette River	Lane	Oakridge, Oregon	A. W. Anderson
No. 3	Santiam River	Marion	Stayton, Oregon	Orval Greer
No. 4	Columbia River	Multnomah	Bonneville, Oregon	Irvine French
No. 5	Klaskanine River	Clatsop	Astoria, Oregon	Max Frame
No. 6	Trask River	Tillamook	Tillamook, Oregon	Henry Bolle
No. 7	Coos River	Coos	Dellwood, Oregon	Frank W. Smith
No. 8	Mill Creek	Douglas	Scottsburg, Oregon	Howard Ruben
No. 9	Umpqua River	Douglas	Idleld Park, Oregon	Lee McCarn
No. 10	So. Santiam River	Linn	Foster, Oregon	Arthur Minney
No. 11	Rogue River (closed)	Curry	Illaha, Oregon	G. W. Meservey (Custodian)
No. 12	Ox Bow Springs	Hood River	Cascade Locks, Oregon	LeRoy Ledgerwood
No. 13	Alsea River	Lincoln	Tidewater, Oregon	Jess J. Bales
No. 14	Ten Mile Lake	Coos	Hauser, Oregon	Clifford B. Monson
No. 15	Coquille River	Coos	Powers, Oregon	Frank L. Thomas
No. 16	Nehalem River	Tillamook	Mohler, Oregon	L. W. Strass
No. 17	Yaquina River	Lincoln	Toledo, Oregon	Chas. Buckbee
No. 18	Deschutes River	Wasco	Maupin, Oregon	A. B. Smith
No. 19	Siletz River	Lincoln	Nashville, Oregon	Tom Nicklaus
No. 22	Sandy River	Clackamas	Sandy, Oregon	M. H. Bales
No. 23	Siuslaw River	Lane	Mapleton, Oregon	Lloyd N. Taylor
No. 24	Calapooya Creek	Douglas	Nonpareil, Oregon	Lee McCarn
No. 25	Tillasqua River	Clatsop	Astoria, Oregon	Clifford M. Ritter

Shad Battery	Stream	County
Scappoose	Columbia River	Columbia