

Donald L. McKernan

BIENNIAL REPORT OF THE
FISH COMMISSION
OF THE STATE OF OREGON, 1939



1938
Samuel S. Snyder

The Columbia Gateway
ADNNEVILLE DAM and Mt. HOOD

P. O. BOX 5004
Portland, Ore.

BIENNIAL REPORT
OF THE
FISH COMMISSION
OF THE STATE OF OREGON
TO THE
GOVERNOR AND THE FORTIETH
LEGISLATIVE ASSEMBLY
1939



FISH COMMISSION OF THE STATE OF OREGON
Hon. John C. Veatch, Chairman, Portland
Hon. Merle R. Chessman, Astoria
Hon. Robert F. Cronen, Wheeler
M. T. Hoy, Secretary and Master Fish Warden

LETTER OF TRANSMITTAL

Portland, Oregon, July 1, 1938.

TO HIS EXCELLENCY, the GOVERNOR, and the MEMBERS
of the FORTIETH LEGISLATIVE ASSEMBLY.

Gentlemen :

Herewith is transmitted the biennial report of the Fish Commission of the State of Oregon covering the period from July 1, 1936, to June 30, 1938.

FISH COMMISSION of the STATE OF OREGON

John C. Veatch, Chairman.

LETTER OF TRANSMITTAL

Portland, Oregon, July 1, 1938.

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

Gentlemen :

In accordance with the provisions of statute, I am pleased to submit herewith for your consideration the financial statement of the Master Fish Warden for the biennial period July 1, 1936, to June 30, 1938.

In addition to the statement showing the financial condition of the department, in which is included all receipts and disbursements of the Fish Commission during the period, a report is included covering the regular operations and activities of the Commission under my control or jurisdiction.

Inasmuch as law enforcement during the biennium has been under the jurisdiction of the Department of State Police, which was created in 1933, my report deals with law enforcement activities only to the extent of including therein records of arrests for violations of the commercial fishing laws and dispositions of the resulting cases as tabulated from reports furnished by that department.

Respectfully submitted,

M. T. HOY,

Master Fish Warden.

HATCHERY FUND
STATEMENT OF RECEIPTS AND DISBURSEMENTS
For Biennial Period Ended June 30, 1938

RECEIPTS

	Fiscal Year Ended June 30, 1937	Fiscal Year Ended June 30, 1938
Licenses:		
Gillnet	\$ 8,542.50	\$ 8,490.00
Setnet	4,151.25	3,892.50
Trap	925.00	825.00
Seine	1,911.90	1,900.56
Troll	130.00	170.00
Boat Puller	1,212.50	945.00
Retail Fish Dealer and Peddler	5,795.00	5,865.00
Wholesale Fish Dealer	3,075.00	3,800.00
Salmon Canner	225.00	175.00
Shell Fish Canner	106.54	243.84
Reduction Plant	150.00	150.00
Broker	150.00	200.00
Boat and Scow	216.00	36.00
Bagnet	820.00	610.00
Clam	910.00	1,645.00
Crab	1,625.00	1,715.00
Crawfish	145.00	135.00
Oyster	10.00	10.00
Setline	103.00	152.00
Total Licenses	\$ 30,203.69	\$ 30,959.90
Other Income:		
Poundage Fees	\$ 82,767.19	\$106,620.98
Privilege Tax, Pilchards	6,794.71	8,330.39
Interest	776.33	625.39
Additional Fees on Crabs	1,578.87	2,427.37
Additional Fees on Clams	416.85	454.65
Additional Fees on Oysters	122.32	109.39
Fines	1,723.00	2,406.10
Sale of Confiscated Property	439.26	343.36
Fish and Crab Tags	1,883.28	3,233.32
Oyster Leases	244.64	218.76
Canned Clam Tax	1.90	.....
Sale of Seized and Stranded Fish	64.68	84.02
Sale of Scrap Iron	22.68	5.75
Total Other Income	96,835.71	124,859.48
Total Income	\$127,039.40	\$155,819.38
Sundry—Tithe Exempt:		
Sale of Land and Facilities	\$ 4,725.00	\$ 23,000.00
Sale of Equipment	198.00	11.00
Gasoline Tax Refunds	258.65	298.75
Fire Insurance Recovery	256.55	76.50
Telephone Expense Item	2.94	.....
State Police Refund	4,836.50	.....
Total Sundry	10,277.64	23,386.25
Total Receipts	\$137,317.04	\$179,205.63

HATCHERY FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS—Continued

For Biennial Period Ended June 30, 1938

DISBURSEMENTS

Accounts	Fiscal Year Ended June 30, 1937		Fiscal Year Ended June 30, 1938	
Salmon Propagation:				
General Expenses	\$ 3,447.28		\$ 6,096.85	
Operating Expenses	41,160.83		43,758.71	
Maintenance Expenses	12,601.00		12,313.18	
Capital Outlays	18,464.40	\$ 75,673.51	27,744.29	\$ 89,913.03
Distribution of Eggs and Fingerlings:				
Salaries	\$ 127.03		\$ 238.68	
Traveling Expenses:				
Fares and Mileage	30.26		.50	
Meals and Lodging	92.60		132.70	
Automobile Expenses:				
Gas, Oil and Grease	96.96		111.19	
Other Auto Expense	11.83		6.35	
Freight, Express and Cartage	1.59		5.58	
Egg Case Lumber, Lining and Nets .....	.....		70.62	
Other Material and Supplies	9.55		.....
Capital Outlays: Truck Trade-in	306.73	676.55	.....	565.62
Investigations—Hatchery Sites, etc.:				
Salaries	\$ 926.27		\$ 227.50	
Traveling Expenses:				
Mileage	327.20		16.46	
Meals and Lodging	370.60		9.50	
Automobile Expense	1.74		.....
Boat Hire	5.50		.....
Supplies	6.17	1,637.48	.....	253.46
Director Department of Fish Culture:				
Salary	\$ 3,696.00		\$ 4,200.00	
Traveling Expenses:				
Fares .....	.....		.75	
Meals and Lodging	212.50		280.70	
Automobile Expenses:				
Gas, Oil and Grease	452.66		629.22	
Tires and Tubes	48.96		90.22	
Repairs and Renewals	139.89		118.91	
Other Auto Expenses	136.46		173.99	
Capital Outlays: Auto Trade-in .....	.....	4,686.47	721.74	6,215.53
General Research:				
Salary .....	.....		\$ 643.42	
Traveling Expenses:				
Fares and Mileage .....	.....		181.08	
Meals and Lodging .....	.....		161.30	
Seines .....	.....		124.00	
Tools and Supplies .....	.....		30.75	\$ 1,140.55
Pilchard Fishery Research:				
Salaries	\$ 2,098.40		\$ 1,347.50	
Traveling Expenses:				
Fares	23.43		71.89	
Meals and Lodging	337.35		440.45	
Automobile Expenses:				
Gas, Oil and Grease	55.79		12.72	
Repairs and Renewals .....	.75		.65	
Other Auto Expense	28.45		3.00	
Stationery and Printing	14.85		75.00	
Material and Supplies	4.68		1.00	
Capital Outlays: Equipment	245.78	\$ 2,809.48	288.65	\$ 2,240.86

HATCHERY FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS—Continued

For Biennial Period Ended June 30, 1938

Accounts	Fiscal Year Ended June 30, 1937		Fiscal Year Ended June 30, 1938	
Fishways:				
Salaries	\$ 38.40		\$ 14.00	
Traveling Expenses:				
Meals and Lodging	24.20		.....
Material and Supplies.....	7.00	69.60	16.91	30.91
Pilchard Inspection Service:				
Salaries	\$ 2,308.32		\$ 2,386.77	
Traveling Expenses:				
Fares and Mileage.....	112.08		40.32	
Meals and Lodging.....	275.95		145.35	
Automobile Expenses:				
Gas, Oil and Grease.....	118.89		274.28	
Tires and Tubes.....	.....		31.68	
Repairs and Renewals.....	.25		70.80	
Other Auto Expenses	27.24		28.25	
Telephone and Telegraph	26.10	2,868.83	38.33	3,015.78
General Patrol Service:				
Salaries	\$ 8,054.74		\$ 8,968.00	
Traveling Expenses:				
Fares and Mileage.....	44.88		253.08	
Meals and Lodging.....	338.40		585.74	
Automobile Expenses:				
Gas, Oil and Grease.....	410.13		412.41	
Tires and Tubes.....	54.60		28.76	
Repairs and Renewals.....	182.82		86.72	
Other Auto Expenses	152.01		124.00	
Gas, Oil and Grease for Boats.....	457.97		633.31	
Telephone and Telegraph.....	3.30		1.80	
Freight, Express and Cartage.....	2.00		.....
Rent and Moorage.....	250.50		251.25	
Food Supplies	144.95		200.67	
Fuel-Flamo	12.43		.....
Tools and Supplies.....	88.24		307.70	
Equipment, Repairs and Replacements....	619.69		195.98	
Capital Outlays:				
Boats and Equipment.....	309.00		78.46	
Closing Area Signs.....	20.00		.....
Auto Trade-in .....	.....	\$ 11,145.66	384.98	\$ 12,512.86
Oregon State Police.....		16,296.25		16,492.49
Master Fish Warden:				
Salary	\$ 3,411.20		\$ 4,200.00	
Traveling Expenses:				
Mileage	244.52		468.64	
Meals and Lodging.....	147.50		193.85	
Automobile Expenses:				
Gas, Oil and Grease.....	189.17		.....
Tires and Tubes.....	48.96		.....
Repairs and Renewals.....	48.00		.....
Other Auto Expenses.....	50.94	4,140.29	.....	4,862.49

HATCHERY FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS—Continued

For Biennial Period Ended June 30, 1938

Accounts	Fiscal Year Ended June 30, 1937		Fiscal Year Ended June 30, 1938	
Commissioners:				
Per diem	\$ 365.00		\$ 545.00	
Traveling Expenses	160.59	525.59	425.33	970.33
Refunds:				
Setnet Licenses Canceled	\$ 11.25		\$	
Fine Refunded	55.00		.....
Fish and Crab Tags	61.62		49.81	
Refundable Gasoline Tax	244.45	372.32	269.70	319.51
Salary Tithe to General Fund		4,846.74		.....
Tithe on Receipts to General Fund		10,763.15		11,953.02
Office and Miscellaneous:				
Office Salaries	\$ 7,107.61		\$ 7,607.10	
Auditor's Mileage Fees	161.52		171.24	
Auditor's Meals and Lodging	49.15		79.80	
General Office Supplies	217.12		278.70	
Telephone and Telegraph	417.80		425.82	
Stamps and Postage	853.71		785.36	
Stationery and Printing	594.66		1,089.23	
Office and Hollerith Equipment Rent	1,633.93		1,759.08	
Freight, Express and Cartage	6.98		61.39	
Notarial Commissions .....	.....		12.00	
Surety Bonds	82.50		122.50	
Photostats, Prints and Maps .....	.....		60.75	
Films, Developing and Printing	28.96		139.56	
Light Globes .....	.....		6.16	
Biennials, Codes and Reports	462.70		320.70	
Newspapers and Periodicals	33.80		36.40	
Towel Supply Service	21.00		21.00	
Advertising for Bids	6.40		.....
Recording Fees .....	.....		2.00	
Legal Expense	45.85		27.20	
Surveys	52.00		19.00	
Scientific Investigation Supplies	5.25		18.75	
Automobile Insurance Premiums	169.29		121.33	
Workmen's Compensation Insurance	2,158.21		2,454.86	
Restoration Fund Allotment	248.07		293.48	
State Audit	276.60		.....
Fish and Crab Tags	405.25		638.30	
Privilege Taxes	324.85		.....
Confiscated Property Expense	1.25		1.50	
Ammunition	4.05		25.89	
Dredging Channel .....	.....		84.00	
Repairs: Office, Furniture and Equipment	59.74		67.45	
Capital Outlays: Furniture and Equipment	733.13	16,161.38	195.40	16,925.95
Total Disbursements		152,673.30		167,412.39
Balance		(15,356.26)		11,793.24
Balance at Beginning of Period		25,280.14		9,923.88
Balance at End of Period		9,923.88		21,717.12
Accounts Receivable—Poundage Fees		\$ 27,684.81		\$ 23,639.59

HATCHERY FUND

SALMON PROPAGATION

For Fiscal Year Ended June 30, 1937

Station or Account	General Expenses	Operating Expenses	Maintenance Expenses	Capital Outlays	Total
McKenzie	\$ 347.00	\$ 3,175.48	\$ 975.05	\$ 1,348.71	\$ 5,846.24
Lower McKenzie		343.05	97.15		440.20
McKenzie Egg Collecting	5.00	1,858.00	58.75		1,921.75
Willamette	214.71	2,190.84	1,025.16	502.82	3,933.53
Willamette Egg Collecting	120.00	1,493.78			1,613.78
North Santiam	108.95	2,036.99	808.99	511.29	3,466.22
North Santiam Egg Collecting	81.54	1,539.43	165.68		1,786.65
Bonneville	604.23	6,682.76	1,558.95	5,839.57	14,685.51
Klaskanine	236.90	1,634.42	1,723.62	56.00	3,650.94
Trask	224.07	1,871.39	1,685.88	1,106.23	4,887.57
Coos	180.64	3,053.25	1,431.70	299.06	4,964.65
Wallowa	21.25	1,566.86	430.54		2,018.65
Mill Creek	111.38	80.42			191.80
Umpqua	50.74	2,806.73	392.12	482.47	3,732.06
South Santiam	142.82	2,073.84	459.15	1,434.64	4,110.45
Rogue		1.89			1.89
Herman Creek and Ox Bow Springs.	25.35	324.46	14.54	1,296.55	1,660.90
Alsea	53.68	749.87	607.43	2,849.34	4,260.32
Ten Mile	267.44	587.91	324.10	24.00	1,203.45
Coquille	65.09	233.36	112.53		410.98
Nehalem	127.99	1,281.99	562.26	1,400.29	3,372.53
Yaquina	374.77	464.44	167.40	1,212.14	2,218.75
Deschutes				66.50	66.50
Siletz	31.63				31.63
Tahkenitch Lake	5.44	7.90		19.27	32.61
North Lake				15.52	15.52
Salmon, Idaho	46.66				46.66
U. S. Government Cooperative Expense—Undistributed		776.50			776.50
Fish Food Cost—Undistributed		4,325.27			4,325.27
Totals	\$ 3,447.28	\$41,160.83	\$12,601.00	\$18,464.40	\$75,673.51

HATCHERY FUND

SALMON PROPAGATION

For Fiscal Year Ended June 30, 1938

Station or Account	General Expenses	Operating Expenses	Maintenance Expenses	Capital Outlays	Total
McKenzie	\$ 397.11	\$ 2,275.31	\$ 1,250.18	\$ 494.50	\$ 4,417.10
Lower McKenzie		196.30	78.46		274.76
McKenzie Egg Collecting	10.50	1,633.37		124.05	1,767.92
Willamette	108.37	3,274.61	800.60	167.61	4,351.19
Willamette Egg Collecting	20.00	130.88			150.88
North Santiam	141.11	1,464.18	1,090.82	721.00	3,417.11
North Santiam Egg Collecting	17.42	883.89	92.97	16.06	1,010.34
Bonneville	615.92	6,966.87	1,668.88	1,890.94	11,142.61
Klaskanine	443.00	2,846.77	1,265.25	10.75	4,565.77
Trask	179.23	2,321.66	962.80	294.97	3,758.66
Coos	237.87	2,489.42	553.10	345.20	3,625.59
Mill Creek	198.46	640.20	262.45	435.94	1,537.05
Umpqua	76.27	2,787.39	416.10	789.86	4,069.62
South Santiam	79.71	2,110.96	170.88	2,083.65	4,445.20
Rogue	1,439.54	252.72		4,393.24	6,085.50
Ox Bow Springs	127.59	1,754.77	832.68	10,521.57	13,236.61
Alsea	35.98	611.24	1,420.60	1,081.93	3,149.75
Ten Mile	161.25	1,111.05	31.50	250.56	1,554.36
Coquille	81.00	323.99	66.58		471.57
Nehalem	128.83	1,373.68	648.80	493.16	2,644.47
Yaquina	177.22	988.82	244.84	358.77	1,769.65
Deschutes	15.00	2.70			17.70
Siletz	413.70	1,195.79	197.02	1,117.15	2,923.66
Tahkenitch Lake	475.47	1,177.17	217.83	328.91	2,199.38
North Lake	495.58	1,179.22	28.27	469.50	2,172.57
Sandy	1.10	132.88	12.57	1,354.97	1,501.52
Siuslaw	19.62				19.62
U. S. Government Cooperative Expense—Undistributed		63.00			63.00
Fish Food Cost—Undistributed		3,569.87			3,569.87
Totals	\$ 6,096.85	\$43,758.71	\$12,313.18	\$27,744.29	\$89,913.03

HATCHERY FUND
COMPARATIVE SCHEDULE OF LICENSES ISSUED
 For Fiscal Years Ended on June 30th

Licenses	Rate	1933	1934	1935	1936	1937	1938
Gillnet	\$ 7.50	989	1321	1349	1192	1139	1132
Setnet	3.75	437	1044	983	1119	1107	1038
Setnet	23.75	1	....	....	....	....	....
Troll Delivery	7.50	6	5	....	....	....	....
Trap	25.00	34	28	73	41	37	33
Seine	Various	18	56	47	61	45	45
Troll	2.50	....	28	36	32	52	68
Boatpuller	2.50	381	461	485	430	485	378
Retail Fish Dealer and Peddler....	5.00	774	853	1041	1119	1159	1173
Buyer	2.00	89	104	99	....	....	....
Wholesale Fish Dealer.....	25.00	75	96	111	124	123	152
Salmon Canner	25.00	9	14	9	9	9	7
Shellfish Canner	Various	8	5	6	8	8	17
Broker	50.00	2	4	2	3	3	4
Reduction Plant	25.00	....	....	3	15	6	6
Boat and Scow	2.00	88	119	133	123	108	18
Bagnet	5.00	91	150	159	128	164	122
Clam	5.00	166	126	231	234	182	329
Crab	5.00	116	279	244	306	325	343
Crawfish	5.00	16	39	40	30	29	27
Oyster	5.00	....	2	5	2	2	2
Setline	1.00	28	99	105	84	103	152
Total Licenses		3328	4833	5161	5060	5086	5046

HATCHERY FUND

COMPARATIVE STATEMENT OF LICENSES ISSUED

For License Years Ended on March 31st

Licenses	Rate	1935	1936	1937	1938
Alsea Bay and River					
Gillnet	\$ 7.50	44	44	45	41
Setnet	3.75	138	145	168	181
Boat Puller	2.50	17	15	24	8
Retail Fish Dealer and Peddler	5.00	13	10	19	48
Buyer	2.00	7	...	...	...
Wholesale Fish Dealer	25.00	3	3	5	5
Shellfish Canner	Various	1	2	1	1
Salmon Canner	25.00	...	...	1	...
Clam	5.00	12	5	17	14
Crab	5.00	64	48	30	31
Setline	1.00	6	2	2	2
Total Alsea Bay and River		305	274	312	331
Chetco River					
Gillnet	\$ 7.50	18	...	...	...
Setnet	3.75	10	...	...	...
Boat Puller	2.50	2	...	...	...
Buyer	2.00	1	...	...	...
Total Chetco River		31	...	...	...
Clatsop Beaches					
Retail Fish Dealer and Peddler	\$ 5.00	9	10	12	13
Wholesale Fish Dealer	25.00	3	2	2	4
Shellfish Canner	Various	3	4	3	3
Clam	5.00	93	161	135	107
Crab	5.00	5	...	...	...
Total Clatsop Beaches		113	177	152	127
Columbia River					
Gillnet	\$ 7.50	792	818	757	709
Setnet	3.75	141	143	134	151
Trap	25.00	39	68	38	32
Seine	Various	35	50	47	46
Troll	2.50	39	29	39	64
Boat Puller	2.50	309	359	348	386
Retail Fish Dealer and Peddler	5.00	765	837	834	805
Wholesale Fish Dealer	25.00	63	74	65	68
Broker	50.00	2	2	4	2
Buyer	2.00	61	48	...	...
Shellfish Canner	10.00	...	...	1	1
Salmon Canner	25.00	9	6	6	6
Reduction Plant	25.00	...	4	4	3
Boat and Scow	2.00	79	63	62	71
Bagnet	5.00	133	114	150	161
Clam	5.00	...	1	1	...
Crab	5.00	5	10	16	21
Crawfish	5.00	37	36	32	24
Setline	1.00	65	63	62	74
Total Columbia River		2574	2725	2600	2624

HATCHERY FUND
COMPARATIVE STATEMENT OF LICENSES ISSUED—Continued
For License Years Ended on March 31st

Licenses	Rate	1935	1936	1937	1938
Coos Bay and River					
Gillnet	\$ 7.50	19	24	28	25
Setnet	3.75	32	34	65	73
Seine	15.00	1	6	3	3
Boat Puller	2.50	1	6	3	10
Retail Fish Dealer and Peddler	5.00	23	24	32	33
Wholesale Fish Dealer	25.00	4	8	9	12
Buyer	2.00	4	2	...	...
Reduction Plant	25.00	...	5	4	3
Boat and Scow	2.00	7	7	2	3
Shellfish Canner	10.00	...	...	...	1
Salmon Canner	25.00	...	...	1	...
Clam	5.00	14	26	29	28
Crab	5.00	52	53	75	110
Setline	1.00	1	1	...	...
Total Coos Bay and River		158	196	251	301
Coquille River					
Gillnet	\$ 7.50	57	62	54	53
Setnet	3.75	58	69	56	53
Seine	15.00	...	1	1	...
Boat Puller	2.50	17	15	5	15
Retail Fish Dealer and Peddler	5.00	8	10	37	33
Wholesale Fish Dealer	25.00	1	2	3	3
Buyer	2.00	4	1	...	...
Boat and Scow	2.00	1	1	1	3
Clam	5.00	3	3	1	4
Crab	5.00	5	7	13	9
Total Coquille River		154	171	171	173
Depoe Bay					
Retail Fish Dealer and Peddler	\$ 5.00	2	2	5	3
Wholesale Fish Dealer	25.00	...	2	2	3
Buyer	2.00	1	...	...	...
Boat and Scow	2.00	1	...	...	...
Crab	5.00	1	...	1	1
Total Depoe Bay		5	4	8	7
Elk River					
Gillnet	\$ 7.50	3	...	...	...
Total Elk River		3	...	...	...
Euchre Creek					
Setnet	\$ 3.75	...	1	...	...
Total Euchre Creek .....		...	1	...	...
Floras Creek					
Setnet	\$ 3.75	8	28	28	26
Boat Puller	2.50	...	...	...	1
Total Floras Creek		8	28	28	27
Hunters Creek					
Setnet	\$ 3.75	1	...	...	...
Total Hunters Creek		1	...	...	...

HATCHERY FUND

COMPARATIVE STATEMENT OF LICENSES ISSUED—Continued

For License Years Ended on March 31st

Licenses	Rate	1935	1936	1937	1938
Nehalem River					
Gillnet	\$ 7.50	68	59	72	68
Setnet	3.75	131	130	135	143
Boat Puller	2.50	8	10	11	9
Retail Fish Dealer and Peddler	5.00	10	6	5	5
Wholesale Fish Dealer	25.00	2	2	2	5
Buyer	2.00	1	...	...	...
Boat and Scow	2.00	2	2	2	2
Clam	5.00	2	1	4	6
Crab	5.00	12	9	8	12
Total Nehalem River		236	219	239	250
Nestucca River					
Retail Fish Dealer and Peddler	\$ 5.00	5	5	...	1
Shellfish Canner	10.00	...	...	1	1
Clam	5.00	7	6	7	6
Crab	5.00	1	1	3	3
Crawfish	5.00	...	...	1	...
Total Nestucca River		13	12	12	11
Netarts Bay					
Setnet	\$ 3.75	...	9	5	5
Retail Fish Dealer and Peddler	5.00	5	7	7	6
Shellfish Canner	Various	...	...	1	1
Crab	5.00	14	14	12	15
Total Netarts Bay		19	30	25	27
Pistol River					
Setnet	\$ 3.75	2	5	...	3
Total Pistol River		2	5	...	3
Port Orford					
Retail Fish Dealer and Peddler	\$ 5.00	3	2	5	7
Wholesale Fish Dealer	25.00	...	...	...	3
Crab	5.00	3	6	16	14
Total Port Orford		6	8	21	24
Rogue River					
Gillnet	\$ 7.50	51	26	...	...
Boat Puller	2.50	31	19	...	...
Retail Fish Dealer and Peddler	5.00	23	28	2	19
Wholesale Fish Dealer	25.00	2	2	...	...
Salmon Canner	25.00	1	2	1	...
Total Rogue River		108	77	3	19
Salmon River					
Gillnet	\$ 7.50	1	...	...	...
Setnet	3.75	15	12	18	23
Boat Puller	2.50	1	1	...	...
Retail Fish Dealer and Peddler	5.00	4	5	7	7
Wholesale Fish Dealer	25.00	1	1	2	1
Crab	5.00	...	...	1	4
Setline	1.00	...	...	...	1
Total Salmon River		22	19	28	36

HATCHERY FUND
COMPARATIVE STATEMENT OF LICENSES ISSUED—Continued
For License Years Ended on March 31st

Licenses	Rate	1935	1936	1937	1938
Siletz River					
Gillnet	\$ 7.50	21	15	14	10
Setnet	3.75	147	114	107	97
Boat Puller	2.50	13	4	14	9
Retail Fish Dealer and Peddler	5.00	9	8	13	10
Wholesale Fish Dealer	25.00	3	2	4	5
Boat and Scow	2.00	1	1	...	...
Clam	5.00	2	1	4	3
Setline	1.00	1	...	...	1
Buyer	2.00	3	...	...	...
Total Siletz River		200	145	156	135
Siuslaw River					
Gillnet	\$ 7.50	46	37	32	27
Setnet	3.75	81	85	92	104
Boat Puller	2.50	15	9	13	9
Retail Fish Dealer and Peddler	5.00	7	9	26	32
Wholesale Fish Dealer	25.00	1	1	1	5
Buyer	2.00	10	2	...	...
Boat and Scow	2.00	2	2	...	...
Clam	5.00	7	4	5	5
Crab	5.00	13	10	15	12
Setline	1.00	6	3	1	8
Total Siuslaw River		188	162	185	202
Sixes River					
Gillnet	\$ 7.50	12	...	...	...
Boat Puller	2.50	4	...	...	...
Total Sixes River		16	...	...	...
Ten Mile Lake					
Crawfish	\$ 5.00	2	1	1	1
Total Ten Mile Lake		2	1	1	1
Tillamook Bay					
Gillnet	\$ 7.50	70	94	79	65
Setnet	3.75	157	211	197	166
Boat Puller	2.50	7	15	10	1
Retail Fish Dealer and Peddler	5.00	15	22	32	30
Wholesale Fish Dealer	25.00	7	8	6	9
Buyer	2.00	3	...	...	...
Salmon Canner	25.00	1	...	2	1
Boat and Scow	2.00	2	3	2	3
Clam	5.00	6	8	10	13
Crab	5.00	32	41	47	35
Setline	1.00	...	1	1	1
Total Tillamook Bay		300	403	386	324
Umpqua River					
Gillnet	\$ 7.50	94	106	109	104
Setnet (Smith River)	3.75	14	31	48	58
Seine	15.00	1	1	2	...
Troll	2.50	3	2	2	2
Boat Puller	2.50	12	25	34	25
Retail Fish Dealer and Peddler	5.00	18	16	49	46
Wholesale Fish Dealer	25.00	4	5	6	12
Buyer	2.00	6	4	...	...
Shellfish Canner	Various	1	2	1	1
Boat and Scow	2.00	17	5	7	12
Clam	5.00	5	8	10	13
Crab	5.00	33	24	26	17
Reduction Plant	25.00	...	...	1	1
Total Umpqua River		208	229	295	291

HATCHERY FUND

COMPARATIVE STATEMENT OF LICENSES ISSUED—Continued

For License Years Ended on March 31st

Licenses	Rate	1935	1936	1937	1938
Winchuck River					
Setnet	\$ 3.75	4	...	...	...
Total Winchuck River		4	...	...	...
Yachats River					
Retail Fish Dealer and Peddler	\$ 5.00	2	1	...	...
Clam	5.00	2	...	...	...
Total Yachats River		4	1	...	...
Yaquina Bay and River					
Gillnet	\$ 7.50	13	11	19	20
Setnet	3.75	6	11	20	1
Seine	15.00	1	...	1	1
Boat Puller	2.50	5	2	7	8
Retail Fish Dealer and Peddler	5.00	12	20	25	20
Wholesale Fish Dealer	25.00	3	3	6	5
Buyer	2.00	2	2	...	...
Boat and Scow	2.00	...	1	...	1
Clam	5.00	10	5	7	10
Crab	5.00	24	24	40	42
Oyster	5.00	1	4	2	2
Setline	1.00	20	24	27	27
Total Yaquina Bay and River		97	107	154	137
Miscellaneous					
Vehicle (State Highways)	\$ 2.00	32	33	28	14
Troll (Pacific Ocean)	2.50	...	...	6	3
Total Miscellaneous		32	33	34	17
Grand Totals		4809	5027	5061	5067
Recapitulation					
Gillnet	\$ 7.50	1309	1296	1209	1122
Setnet	3.75	945	1028	1073	1084
Trap	25.00	39	68	38	32
Seine	Various	38	58	54	50
Troll	2.50	42	31	47	69
Boat Puller	2.50	442	480	469	481
Retail Fish Dealer and Peddler	5.00	933	1022	1110	1118
Wholesale Fish Dealer	25.00	97	115	113	140
Buyer	2.00	103	59	...	...
Broker	50.00	2	2	4	2
Salmon Canner	25.00	11	8	11	7
Shellfish Canner	Various	5	8	8	9
Reduction Plant	25.00	...	9	9	7
Boat and Scow	2.00	144	118	104	109
Bagnet	5.00	133	114	150	161
Clam	5.00	163	229	230	209
Crab	5.00	264	247	303	326
Crawfish	5.00	39	37	34	25
Oyster	5.00	1	4	2	2
Setline	1.00	99	94	93	114
Totals		4809	5027	5061	5067

	1935	1936	1937	1938
FEES RECEIVED FOR ABOVE LICENSES.....	\$28,291.37	\$31,105.79	\$30,703.39	\$30,396.82

ARRESTS FOR VIOLATIONS OF COMMERCIAL FISHERIES CODE

For Fiscal Year Ended June 30, 1937

Dealing in food or shellfish without a license	35
Failure to file fishermen's catch reports	6
Failure to file reports of fish purchased	4
Failure to keep proper records, transportation of food fish	2
Failure to post license number on monuments, boats and nets	14
Fishing during closed periods or seasons	13
Fishing in closed waters	15
Fishing without a license	48
Gaffing, molesting, snagging or foul hooking of food fish	15
Over limit of clams—without a license	5
Polluting of fishing waters	2
Possession of fish caught during closed season	2
Possession of undersize crabs	1
Setting net more than one-third across stream	13
Using razor clams for bait	4
Total arrests	179

ARRESTS AND DISPOSITION OF CASES

For Fiscal Year Ended June 30, 1937

County	Number of Arrests	Number of Convictions	Number Pending, Dismissed or Not Guilty	Number Continued for Sentence	Amount of Fines Imposed	Amount of Fines Remitted or Suspended	Number Paroled or Suspended in Whole or Part	Number Imprisoned Part or Full Sentence
Clackamas	11	11	..	..	\$ 914.20	\$ 490.00	7	2
Clatsop	7	7	..	..	475.00	30.00	1	4
Columbia	9	9	..	..	700.00	275.00	4	2
Coos	24	23	1	..	2,075.00	1,765.00	20	10
Crook	1	1	..	..	2.00	..	..	..
Curry	3	3	..	..	300.00	95.00	3	..
Douglas	21	11	9	1	575.00	365.00	10	1
Hood River	2	2	..	..	190.00	140.00	2	..
Jackson	1	..	1	..	..	..	..	..
Lane	17	16	1	..	220.00	135.00	6	..
Lincoln	31	25	5	1	885.00	285.50	12	..
Marion	5	5	..	..	350.00	350.00	..	..
Multnomah	9	6	..	3	690.00	540.00	4	..
Tillamook	34	31	1	2	2,970.00	2,647.50	28	3
Wasco	3	2	1	..	100.00	100.00	..	..
Washington	1	1	..	..	100.00	75.00	1	..
Totals	179	153	19	7	\$10,546.20	\$7,293.00	98	22

ARRESTS FOR VIOLATIONS OF COMMERCIAL FISHERIES CODE

For Fiscal Year Ended June 30, 1938

Dealing in food or shellfish without a license	31
Dynamiting salmon	1
Failure to file reports of fish handled	2
Failure to keep proper records, transporting of food fish	10
Failure to post license numbers on monuments, boats or nets	3
Fishing during closed periods or seasons	15
Fishing in closed waters	11
Fishing without a license	38
Gaffing, molesting, snagging or foul hooking of food fish	17
Illegal possession of untagged salmon	1
Over limit of clams—without a license	34
Polluting of fishing waters	1
Possession of razor clams during closed season	2
Possession of undersize crabs	1
Setting net more than one-third across stream	6
Transporting of razor clams and crabs unlawfully	9
Using razor clams for bait	1
Unlawful sale of salmon	1
Total arrests	184

ARRESTS AND DISPOSITION OF CASES

For Fiscal Year Ended June 30, 1938

County	Number of Arrests	Number of Convictions	Number Pending, Dismissed or Not Guilty	Number Continued for Sentence	Amount of Fines Imposed	Amount of Fines Remitted or Suspended	Number Paroled or Suspended in Whole or Part	Number Imprisoned Part or Full Sentence
Clackamas	10	7	3	..	\$ 388.80	\$ 160.50	4	2
Clatsop	36	36	..	..	1,850.00	1,360.00	32	4
Columbia	13	11	2	..	757.20	435.00	10	..
Coos	34	33	1	..	3,100.00	2,089.50	27	9
Curry	3	3	..	..	300.00	200.00	2	..
Douglas	12	10	2	..	519.20	175.00	8	1
Gilliam	1	1	..	..	50.00	45.00	1	..
Jackson	3	2	1	..	200.00	150.00	2	..
Josephine	2	1	..	1	500.00	..	..	..
Lane	19	17	2	..	1,105.00	985.00	14	2
Lincoln	26	19	2	5	1,800.00	1,384.50	17	..
Morrow	1	1	..	..	50.00	25.00	1	..
Multnomah	6	3	..	3	150.00	..	..	2
Tillamook	18	16	1	1	1,705.00	1,275.00	11	3
Totals	184	160	14	10	\$12,475.20	\$8,284.50	129	23

SEAL FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS

For Biennial Period Ended June 30, 1938

RECEIPTS

From Sale of Seal Certificates:

Number	License	Rate	Amount	Total
1399	Gillnet	\$ 2.50	\$3,497.50	
155	Setnet	2.50	387.50	
109	Troll	2.50	272.50	
70	Trap	10.00	700.00	
74	Seine	20.00	1,480.00	
12	Canner	50.00	600.00	

Total Receipts.....\$6,937.50

DISBURSEMENTS

For Bounties Paid on Seals Destroyed:

Paid to	Address	Number	Amount
Anderson, Axel	Portland, Oregon	5	\$ 25.00
Anderson, David	Astoria, Oregon	1	5.00
Anderson, Earle	Astoria, Oregon	2	10.00
Anderson, Gust	Astoria, Oregon	1	5.00
Anundi, Axel	Clatskanie, Oregon	1	5.00
Aust, Clarence	Portland, Oregon	2	10.00
Backman, Kenneth	Cathlamet, Wash.	2	10.00
Bartlett, S. L.	Astoria, Oregon	2	10.00
Bell, John H.	Svensen, Oregon	20	100.00
Berg, Ed	Astoria, Oregon	1	5.00
Berge, Ole	Astoria, Oregon	1	5.00
Bernhoff, Axel	Astoria, Oregon	2	10.00
Bjork, Louis	Astoria, Oregon	2	10.00
Bozanich, Nick G.	Portland, Oregon	3	15.00
Brandt, J. B.	Astoria, Oregon	1	5.00
Brecke, Olaf	Astoria, Oregon	3	15.00
Brecke, Olaf	Cathlamet, Wash.	3	15.00
Bryant, Ed	Brookfield, Wash.	2	10.00
Bryant, Ralph	Altoona, Wash.	2	10.00
Campbell, T. O.	Astoria, Oregon	1	5.00
Carlson, Ernst	Astoria, Oregon	1	5.00
Carlson, Geo. F.	Knappa, Oregon	1	5.00
Carlson, Victor O.	Astoria, Oregon	2	10.00
Christensen, L.	Astoria, Oregon	1	5.00
Christensen, Laurence	Astoria, Oregon	1	5.00
Christensen, Niels	Astoria, Oregon	5	25.00
Dahl, John	Astoria, Oregon	1	5.00
Davis, Charles	Chinook, Wash.	1	5.00
Davis, Stuart	Chinook, Wash.	5	25.00
Demase, Cinvent	Clifton, Oregon	1	5.00
Douthit, H.	Pillar Rock, Wash.	1	5.00
Dunsmoor, Oliver	Astoria, Oregon	4	20.00
Elliott, E. C.	Astoria, Oregon	1	5.00
Erickson, Albert	Astoria, Oregon	1	5.00
Ervaste, Kalle	Astoria, Oregon	1	5.00
Esko, Eino	Astoria, Oregon	1	5.00
Flato, Erling	Cathlamet, Wash.	1	5.00
Forsteman, A.	Astoria, Oregon	1	5.00
Fox, J. C.	Oswego, Oregon	8	40.00
Gardikioty, O.	Astoria, Oregon	1	5.00
Goska, Joe	Astoria, Oregon	1	5.00
Grable, Ralph	Ilwaco, Wash.	6	30.00
Graham, W. A. Jr.	Ilwaco, Wash.	8	40.00
Haglund, John	Knappa, Oregon	3	15.00
Haglund, Wm. C.	Astoria, Oregon	3	15.00
Hall, J. D.	Ilwaco, Wash.	4	20.00
Hansen, Chris	Chinook, Wash.	20	100.00
Hedman, Emil	Astoria, Oregon	1	5.00
Heiner, Robert E.	Astoria, Oregon	1	5.00

SEAL FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS—Continued

For Biennial Period Ended June 30, 1938

Paid to	Address	Number	Amount
Henry, Chris	Astoria, Oregon	1	5.00
Hicks, James	Wauna, Oregon	6	30.00
Isakson, Wm.	Clatskanie, Oregon	1	5.00
Jensen, Alf	Astoria, Oregon	1	5.00
Jensen, Henry	Chinook, Wash.	5	25.00
Johansen, John C.	Astoria, Oregon	2	10.00
Johnson, Alfred	Astoria, Oregon	1	5.00
Josephson, Irvin	Astoria, Oregon	1	5.00
Karvonen, J. A.	Clatskanie, Oregon	2	10.00
Kiminki, Arne	Astoria, Oregon	1	5.00
Kinnunen, John	Astoria, Oregon	1	5.00
Korpela, Ilmari	Astoria, Oregon	1	5.00
Korpela, Wilho	Astoria, Oregon	1	5.00
Koskela, Uuno	Astoria, Oregon	1	5.00
Koski, Edward	Astoria, Oregon	1	5.00
Kuckman, George	Astoria, Oregon	5	25.00
Kynsi, William	Astoria, Oregon	1	5.00
LaJesse, W. G.	Clatskanie, Oregon	1	5.00
LaJesse, Wilfred	Clatskanie, Oregon	1	5.00
Larsen, Jack	Svensen, Oregon	26	130.00
Larson, Otto	Oswego, Oregon	10	50.00
Lasich, Nick	Clifton, Oregon	1	5.00
Laurilla, Frank	Astoria, Oregon	1	5.00
Lepisto, Gust	Astoria, Oregon	1	5.00
Linden, W. H.	Clatskanie, Oregon	1	5.00
Lindstrom, Carl	Astoria, Oregon	2	10.00
Lindstrom, Helmer	Astoria, Oregon	1	5.00
Lopakka, Sakri	Astoria, Oregon	1	5.00
Luoto, Andrew	Astoria, Oregon	1	5.00
Luoto, Ted C.	Astoria, Oregon	4	20.00
Marinkovich, Sam	Astoria, Oregon	2	10.00
Matta, Carl	Astoria, Oregon	1	5.00
Milde, Gust M.	Astoria, Oregon	3	15.00
Miles, C. R.	Astoria, Oregon	15	75.00
Moberg, David	Astoria, Oregon	1	5.00
Munson, F. A.	Pillar Rock, Wash.	3	15.00
Naterlin, Anton	Astoria, Oregon	2	10.00
Naterlin, John	Astoria, Oregon	1	5.00
Nelson, Frank	Astoria, Oregon	2	10.00
Niemela, Ernest	Clatskanie, Oregon	1	5.00
Niemi, Axel	Astoria, Oregon	2	10.00
Nyman, George	Astoria, Oregon	1	5.00
Nyman, Ray	Astoria, Oregon	1	5.00
Olsen, Martin	Astoria, Oregon	1	5.00
Parhaniemi, Alex	Astoria, Oregon	1	5.00
Pearson, Axel	Astoria, Oregon	1	5.00
Penttila, Armos	Brownsmead, Oregon	4	20.00
Petersen, Arnold	Astoria, Oregon	1	5.00
Peterson, Einar	Astoria, Oregon	1	5.00
Peterson, E. L.	Astoria, Oregon	1	5.00
Pice, Henry	Astoria, Oregon	1	5.00
Pitkanen, William	Astoria, Oregon	1	5.00
Puustinen, Toivo	Svensen, Oregon	5	25.00
Puustinen, W. Wm.	Svensen, Oregon	22	110.00
Raihala, Reno	Astoria, Oregon	2	10.00
Raihala, Wm.	Astoria, Oregon	2	10.00
Randa, Charles	Clatskanie, Oregon	1	5.00
Rasmussen, Andrew	Astoria, Oregon	1	5.00
Richter, Leo	Astoria, Oregon	4	20.00
Rigar, Leon	Clifton, Oregon	1	5.00
Riswick, Donald	Astoria, Oregon	1	5.00
Roberts, Erick	Astoria, Oregon	1	5.00
Rogers, Jack	Astoria, Oregon	10	50.00

SEAL FUND

STATEMENT OF RECEIPTS AND DISBURSEMENTS—Continued

For Biennial Period Ended June 30, 1938

Paid to	Address	Number	Amount
Rosentreter, C. H.	Portland, Oregon	1	5.00
Salmonese, Lue	Astoria, Oregon	2	10.00
Sandberg, Harry	Astoria, Oregon	1	5.00
Sandberg, L.	Astoria, Oregon	1	5.00
Schwarzenbach, Henry	Skamokawa, Wash.	6	30.00
Schwenke, Jay V.	Astoria, Oregon	1	5.00
Siverson, Chris	Astoria, Oregon	9	45.00
Skow, Niels C.	Astoria, Oregon	27	135.00
Smith, Chesley	Astoria, Oregon	2	10.00
Smith, David	Astoria, Oregon	2	10.00
Smith, Geo. W.	Tolovana Park, Oregon	1	5.00
Smith, Wagner	Astoria, Oregon	2	10.00
Solberg, Tilman	Clatskanie, Oregon	2	10.00
Somppi, Alex J.	Brownsville, Oregon	1	5.00
Sorensen, Anton	Astoria, Oregon	1	5.00
Soter, Nick	Clifton, Oregon	1	5.00
Stanovich, Jack	Astoria, Oregon	1	5.00
Strauzer, J. W.	Wheeler, Oregon	3	15.00
Swanson, Arthur	Astoria, Oregon	1	5.00
Takalo, Bob	Astoria, Oregon	2	10.00
Taylor, Jeff	Clatskanie, Oregon	1	5.00
Thompson, Ben	Astoria, Oregon	2	10.00
Tompson, Ben	Skamokawa, Wash.	1	5.00
Viuhkola, Aldrick	Astoria, Oregon	1	5.00
Wahl, Herbert	Astoria, Oregon	2	10.00
Wahl, Peter	Astoria, Oregon	1	5.00
Wainomo, Paul	Astoria, Oregon	1	5.00
Wallace, Joseph A.	Astoria, Oregon	2	10.00
Whitten, E. R.	Willamette, Oregon	5	25.00
Wilson, Kenneth	Skamokawa, Wash.	2	10.00
Zankich, Ivan	Astoria, Oregon	2	10.00
Total Seals Destroyed		<u>410</u>	
Total Disbursements for Biennium			\$2,050.00
Balance Receipts over Disbursements			4,887.50
Balance at Beginning of Biennium			3,002.78
Balance at End of Biennium			<u>\$7,890.28</u>

NOTE: The law creating the Seal Fund (applying only to the Columbia River) was enacted at the Special Legislative Assembly November, 1935.

PACK OF CANNED SALMON ON THE COLUMBIA RIVER FROM THE INCEPTION OF THE INDUSTRY TO 1937

Year	Number of Canneries	Chinook		Blueback		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	258,773	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	23	329,566	1,490,394	66,670	300,015	65,431	222,465			26,277	60,352	487,933	2,073,226
1899	17	255,824	1,458,175	23,969	134,723	29,608	112,055	11,379	33,836	11,994	39,186	332,774	1,777,975
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	2,232,296
1901												390,183	1,942,660
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	1,644,509
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	1,777,105
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	258,483		5,504			31,757		22,556		5,921	324,171	1,763,490
1908	14	210,096		8,581			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	1,760,088
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	2,319,866
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	307,433	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	63,266	323,241	4,203,649
1922	23	237,230	3,724,393	30,743	614,860	90,437	633,955	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	992,855	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	4,744,113	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	585,816	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	8,869	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	2,964,058	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

28,765,596 \$229,330,278

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

SCHEDULE OF COMPENSATION AND EXPENSE ALLOWANCE

For Biennial Period Ended June 30, 1938

Name	Location	Occupation	Rate	COMPENSATION		Amount	EXPENSE ALLOWANCE				
				From	To		Meals	Lodging	Fares	Mileage	
Anderson, Archie W.	Bonneville and Ox Bow Stations	Foreman	\$100.00-130.00 month	7-1-36	6-30-38	\$2,880.00					
Anderson, E. J. W.	Bonneville Station	Superintendent	130.00-150.00 "	7-1-36	6-30-38	3,440.00	18.75	14.25	5.79	81.80	12.08
Anderson, Walter M.	Reedport	Plumb Inspector	90.00 "	8-9-37	10-13-37	146.77					
Austin, Frank	Alesea Station	Plumber	6.00 day	6-1-37	6-9-37	44.25					
Babbitt, H.	Bonneville Station	Laborer-Appr. Fish Culturist	3.00-100.00 day-mo.	12-22-37	2-12-38	963.66					
Bales, E. B.	Alesea Station	Laborer	3.00 day	12-22-37	12-24-37	9.00					
Bales, Jess J.	Alesea, North Lake and Mill Creek Stations	Laborer-Foreman	3.00-130.00 day-mo.	12-7-36	6-30-38	2,002.58	78.00				
Bales, M. H.	Alesea Station	Fish Culturist-Foreman	100.00-130.00 month	7-1-36	6-30-38	2,428.35					109.28
Benson, Don	McKenzie Stations	Laborer	4.00 day	6-25-37	6-30-38	24.00					
Bentley, Vernon T.	Umpqua Station	Laborer	3.00-3.50 "	1-19-38	1-29-38	44.00					
Berg, Leonard J.	North Santiam Sta.	Laborer	3.00 "	9-23-36	6-30-38	344.25					
Besse, C. F.	North Bend	Engineer	10.50 report	4-23-38	6-30-38	40.50					
Billings, C. A.	Rogue Station	Laborer	3.50 day	1-26-38	4-2-38	203.44					
Bisshop, W. R.	North Lake Station	Laborer	3.00 "	12-13-37	12-17-37	6.00					
Blanchard, Ralph	South Santiam Sta.	Laborer	3.50 "	4-23-37	5-7-37	45.50					
Blum, Chester J.	North Santiam Sta.	Laborer	3.00 "	8-12-36	8-9-37	132.37					
Blum, James	North Santiam Sta.	Laborer	3.00 "	3-12-37	6-18-37	156.00					23.64
Bolle, Henry	Trask Station	Foreman	130.00 month	7-1-36	6-30-38	3,120.00	6.00				
Booker, M. M.	North Santiam Sta.	Laborer	3.00 day	4-27-38	5-15-38	30.00					
Boyce, Frank W.	North Santiam Sta.	Laborer	3.00 "	10-17-36	10-18-36	6.00					
Brock, Vernon E.	Portland	Biologist	174.80-175.00 month	7-1-36	6-30-38	3,445.90	447.39	330.60	95.32		
Buchanan, C. E.	Alesea Station	Paperhanger	.60 hour	10-4-37	10-18-37	54.00					
Buckbee, Charles	Klaskanine and Yaquina Stations	Fish Culturist-Foreman	115.00-130.00 month	1-18-38	6-30-38	656.94					2.16
Buckbee, Jack	Trask Station	Laborer	3.00-3.50 day	9-12-36	4-30-38	286.25					
Burton, Grace J.	Portland	Bookkeeper & Chief Clerk	150.00 month	9-7-37	4-18-38	1,100.00					
Buzzard, Walter	Cos Station	Laborer	3.00 day	12-8-36	11-5-37	58.50					
Calavan, V. M.	Deschutes Fishway	Mason	.50 hour	9-5-36	9-9-36	12.00					
Carlson, Gordon	North Lake Station	Laborer	3.00 day	1-6-38	1-9-38	9.00					
Carlson, Leonard	North Lake Station	Laborer	3.00 "	5-6-38	5-8-38	6.00					
Carlson, Norman	North Lake Station	Laborer	4.00 "	9-1-37	5-22-38	315.50					
Carnahan, Schuyler P.	North Santiam Sta.	Laborer	3.00 "	3-16-37	5-1-37	70.50					
Carter, Walter	McKenzie Station	Superintendent	130.00-150.00 month	7-1-36	6-30-38	3,440.00	7.80	4.50			
Cash, Orville	White Salmon	Laborer	3.00 day	11-2-36	1-3-37	31.50					
Cederberg, Axel	Klaskanine Station	Carpenter	8.00 "	7-1-36	7-1-36	8.00					
Chessman, Merle R.	Astoria	Commissioner	5.00 diem	6-8-37	6-16-38	155.00	30.55	43.25	9.50	64.80	
Christensen, M. G.	Oregon City	Inspector	124.88-140.00 month	7-1-36	6-30-38	3,239.04	208.30	141.50			371.00
Clare, Henry	Bonneville Station	Laborer	8.00 day	7-1-36	8-13-36	111.00					
Cook, H. R.	Willamette Stations	Laborer	2.50 "	5-7-38	5-18-38	28.00					
Cook, H. R.	Willamette Stations	Laborer with team	6.00 "	5-1-37	7-9-37	46.50					
Couch, Melvin M.	McKenzie Stations	Laborer	4.00 "	9-8-36	8-14-37	92.00					
Cox, Gene	Yaquina Station	Laborer	3.00 "	9-8-36	9-25-36	48.00					
Cronen, Robert F.	Wheeler	Commissioner	5.00 diem	6-8-37	6-18-38	210.00	50.80	56.25			160.52
Cross, Francis	Cos Station	Laborer	3.00-4.00 day	10-17-37	3-3-38	80.00					
Cross, John	Ten Mile, North Lake and Cos Stations	Laborer-Appr. Fish Culturist	3.00-100.00 day-mo.	7-1-36	6-30-38	2,239.00	57.00				
Crow, L. J.	Tahkenitch Station	Laborer	3.00 day	11-18-37	3-18-38	168.00					
Darnell, Marion	Nehalem Station	Laborer-Appr. Fish Culturist	3.00-100.00 day-mo.	12-24-37	6-30-38	611.00					
Derrick, Z. M.	Simpson Creek	Surveyor	12.00 report	10-3-36	10-3-36	12.00					
Dickie, Arlie	North Santiam Sta.	Laborer	3.00 day	4-29-37	4-31-37	6.00					
Dinkson, Paul	South Santiam Sta.	Laborer	3.50 "	5-22-37	5-29-37	15.75					
Donoho, Audie	McKenzie Stations	Fish Culturist	115.00-115.96 month	7-1-36	6-30-38	2,767.68					
Donoho, Jess	McKenzie Stations	Laborer	3.00 day	1-6-37	1-6-37	78.00					
Dorn, R. A.	North Santiam Sta.	Laborer	3.00 "	10-11-37	10-15-37	15.00					
Dorothy, R. E.	North Santiam Sta.	Laborer	3.00 "	10-13-37	10-18-37	31.50					
Doty, E. V.	Deschutes Station	Laborer	3.00 "	3-8-37	3-20-37	31.50					
Duff, J. M.	Bonneville Station	Laborer	3.00 "	7-8-36	7-31-36	63.00					

SCHEDULE OF COMPENSATION AND EXPENSE ALLOWANCE—Continued

For Biennial Period Ended June 30, 1938

Name	Location	Occupation	Rate	COMPENSATION		EXPENSE ALLOWANCE			
				From	To	Meals	Lodging	Fares	Mileage
Duncan, Dave	Cos Station	Laborer	3.00 day	11-9-37	11-10-37	6.00			
Dunlap, Ralph L.	McKenzie Stations	Laborer	4.00 "	5-6-37	5-17-38	78.00			
Dunning, Raymond	Willamette Stations	Watchman	90.00 month	6-18-38	6-30-38	39.00			
Durig, Henry	Clackamas	Laborer	3.00 day	8-6-36	8-13-36	21.00			
Dutch, George M.	Cos Station	Laborer	3.00 day	2-7-38	2-17-38	25.50			
Echols, Chas. T. M.	Wedgeburn	Surveyor	3.50 survey	7-20-36	7-20-36	8.50			
Eckles, Albert	Cos Station	Laborer	3.00 day	11-9-37	11-11-37	6.00			
Elliff, Del R.	Ox Bow Station	Laborer	3.50-4.00 "	6-7-37	3-4-38	568.75			
Elliff, G. F.	Ox Bow Station	Laborer	4.00 "	6-5-37	8-2-37	200.00			
Elliff, Luther	Nehalem Station	Laborer	3.00 "	8-6-37	8-20-37	45.00			
Ellis, C. R.	South Santiam Sta.	Superintendent	115.96-150.00 month	7-1-36	6-30-38	3,327.68			
Elston, Francis	McKenzie Stations	Carpenter	4.00 day	7-1-36	7-31-36	116.00			
Emmert, George	Trask Station	Laborer	3.00 "	4-26-37	4-23-37	12.00			
Fisher, Albert	Willamette Stations	Laborer	3.00-3.50 "	7-1-36	6-30-38	1,147.50			
Fitzwater, Otto	Trask Station	Laborer	4.00 "	3-22-37	4-2-37	27.00			
Foster, Charles	Clackamas	Laborer	3.00 "	1-2-37	1-30-37	100.00			
Foster, O. M.	Bonneville Station	Laborer	3.00 "	7-9-36	8-7-36	90.00			
Foster, Richard F.	Seattle, Wash.	Biologist	5.00 "	1-8-38	6-6-38	197.50			
Frame, Max	North Santiam and Rogue Stations	Fish Culturist-Foreman	90.00-130.00 month	7-1-36	6-30-38	2,620.00	21.50	26.00	11.28
Francis, Henry	Clackamas	Carpenter	3.00 day	11-1-37	11-12-37	45.00			
Frank Wm. E.	South Santiam Sta.	Laborer	3.50 "	5-20-37	5-26-37	22.75			
Fredrich, Elmer A.	Ox Bow and Bonneville Stas.	Laborer	3.00-4.00 "	5-3-37	10-6-37	437.50			
Freed, Mary	Portland	Secy. Dept. of Fish Culture	115.96-140.00 month	7-1-36	6-30-38	3,167.68			17.60
French, Irvine	Willamette Station	Superintendent	130.00-150.00 "	7-1-36	3-31-37	1,190.00	2.25		
Frost, Dick	Cos Station	Laborer	4.00 day	10-19-37	11-30-37	88.00			
George, Frank	Deschutes Fishway	Mason	.50 hour	9-5-36	9-9-36	12.00			
Giegey, Leonard	Rogue Station	Laborer	3.50 day	12-31-37	6-30-38	492.19			
Gizaw, Wallace	McKenzie Station	Laborer	4.00 "	8-10-37	8-14-37	20.00			
Given, R.	Alexa Station	Laborer	3.00 "	5-28-37	6-30-37	81.00			
Godard, S. J.	McKenzie Stations	Laborer with team	3.00 "	8-8-36	10-19-36	57.00			
Goff, W. H.	McKenzie Stations	Laborer	3.00 "	7-2-36	10-19-36	306.00			70.40
Goins, Huck	Marshfield	Commissioner	5.00 diem	7-9-36	4-1-38	145.00	30.00		
Goins, C. C.	North Santiam Sta.	Laborer	3.00 day	3-12-37	4-1-37	54.00			
Good, Renald V.	Willamette Stations	Laborer	3.50-4.00 "	4-2-37	6-30-37	65.88			
Good, Wayne S.	Willamette Stations	Laborer with team	6.00-1.00 "	5-7-37	8-7-37	37.25			
Greer, Austin A.	Willamette Stations	Laborer	3.90-4.00 "	5-3-37	6-30-37	155.00			
Greer, Orval	Kaskanine, Nehalem, North Santiam and Sandy Stations	Fish Culturist-Foreman	90.00-130.00 month	7-1-36	6-30-38	2,590.00			
Gribling, John E.	Willamette Station	Apprentice Fish Culturist	90.00 "	7-1-36	12-31-36	540.00			
Gribling, Russell	Willamette Station	Laborer	3.00 day	7-29-36	7-29-36	12.00			
Haldeman, David M.	Bonneville Station	Laborer	3.00 "	7-1-36	10-12-37	432.00			
Hannekrat, Albert	Trask Station	Laborer with team	1.00 hour	7-19-37	7-19-37	4.00			
Harr, Robert	White Salmon	Laborer	3.00 day	2-1-37	2-8-37	24.00			
Harrison, Addison	Bonneville and Ox Bow Stations	Laborer	3.00-3.50 "	7-1-36	3-11-38	1,262.65			
Harrison, Gibson	Bonneville Station	Laborer	3.00 "	4-14-37	4-14-37	3.00			
Harrison, T. C.	Cos, North Lake and Bonneville Stas.	Fish Culturist	100.00-115.00 month	7-1-36	6-30-38	2,640.00	3.50		
Harrison, Thos. H.	Bonneville Station	Apprentice Fish Culturist	90.00-100.00 "	7-1-36	6-30-38	2,820.00			
Hawley, N. I.	Clackamas	Clerk	3.00 day	6-22-38	6-30-38	18.00			
Hays, Willis A.	North Santiam Sta	Laborer	3.00 "	3-22-37	4-12-37	66.00			
Heinze, Otto D.	Kaskanine Station	Fish Culturist	100.00-115.00 month	7-1-36	6-30-38	2,297.11			
Hessgard, G. N.	Ox Bow Station	Laborer	3.50 day	3-4-38	3-5-38	5.25			
Hickey, L. W.	Kaskanine Station	Foreman-Supt.	130.00-150.00 month	7-1-36	6-30-38	3,400.00	16.00	1.95	
Hill, T. H.	Umpqua Station	Paperhanger	5.00 day	9-16-37	9-25-37	50.00			
Hills, Chas. J.	Willamette Stations	Superintendent	130.00-150.00 month	7-1-36	6-30-38	3,440.00			
Hills, Lavina	Willamette Stations	Laborer	3.00 day	9-21-37	9-23-37	21.00			

SCHEDULE OF COMPENSATION AND EXPENSE ALLOWANCE—Continued

For Biennial Period Ended June 30, 1938

Name	Location	Occupation	Rate	COMPENSATION		Amount	EXPENSE ALLOWANCE		
				From	To		Meals	Lodging	Fares	Mileage
Hollenbeck, Earl W.	North Santiam Sta.	Laborer	3.00 day	5-10-38	5-16-38	18.00			
Hollenbeck, P.	North Santiam Sta.	Laborer	3.00 "	10-13-37	10-15-37	9.00			
Holloway, Robert	North Lake, Tahkenitch and Ten Mile Stas.	Laborer	4.00 "	7-1-37	9-11-37	248.00	102.40	25.00	
Hollway, Robert C.	Bonneville Station.	Laborer	4.00 "	6-8-37	6-30-37	80.00			
Holt, Wm.	Willamette Stations.	Laborer	3.00-3.50 "	8-6-37	5-13-38	23.50			
Hoselkus, Fred	White Salmon	Laborer	3.00 "	11-1-36	2-12-37	265.50			
Hoy, M. T.	Portland.	Master Fish Warden	251.40-350.00 month	7-1-36	6-30-38	7,611.20	193.35	148.00	713.16
Hutchinson Wm. G.	Klaskanine Station.	Laborer	3.20 day	8-24-37	8-25-37	6.40			
Imel, Agnes	Portland.	Temp. Stenographer	5.00 "	4-8-37	4-4-38	130.00			
Jackson, Victor	Astoria.	Inspector & Boat Captain.	135.10-153.00 month	7-1-36	6-30-38	3,528.80			19.12
Jensen, C. R.	South Santiam Sta.	Laborer	3.50 day	5-20-37	5-21-37	7.00			
Johnson, Harley	North Santiam Sta.	Laborer	3.00 "	10-17-36	10-18-36	6.00			
Johnson, J. A.	Bonneville Station.	Fish Culturist	100.00-115.00 month	7-1-36	6-30-38	2,640.00	172.60	156.25	14.30
Johnson, James I.	Bonneville and Ox Bow Stations.	Laborer	3.00-4.00 day	5-4-37	3-11-38	594.75			
Jones, D.	Siletz Station.	Laborer	3.00 "	1-12-38	2-8-38	24.00			
Jones, Troy	McKenzie Stations.	Laborer	3.00 "	1-6-37	1-8-37	7.50			
Kesler, W. N.	Ox Bow Station.	Mason	7.00 "	8-2-37	8-4-37	17.50			
Kelly, M. F.	North Bend.	Inspector	124.88-140.00 month	7-1-36	6-30-38	3,239.04	203.35	32.00	5.20
Kinney, George	North Santiam Sta.	Laborer	3.00 day	6-9-37	8-1-37	68.25			
Knutsen, Arthur I.	White Salmon	Laborer	3.00 "	11-1-36	12-31-36	160.50			
Koch, Karl	Tahkenitch, North Lake & Bonneville.	Asst. Biologist.	4.00 "	7-1-36	6-30-38	611.00	109.55	45.00	.80
Langenberg, Louis J.	Wedderburn.	Court Reporter	10.00 "	5-3-38	5-3-38	10.00			
Larsen, Aaron	White Salmon	Laborer	3.00 "	11-1-36	11-30-36	90.00			
Larsen, Elmer	White Salmon	Laborer	3.00 "	12-1-36	12-18-36	48.00			
Ledgerwood, Edgar	Siletz, Yaquina and North Santiam Stas.	Fish Culturist-Foreman	90.00-130.00 month	7-1-36	6-30-38	2,750.00	895.40	185.30	3.00
Ledgerwood, LeRoy	North Santiam Sta.	Superintendent.	130.00-150.00 "	7-1-36	6-30-38	3,440.00			543.84
Leinenweber, Henry	Astoria.	Inspector	124.88-140.00 "	7-1-36	6-30-38	3,239.04			74.00
LeMieux, E. F.	Coos Station.	Paperhanger.	10.00 day	8-1-37	6-11-37	106.00			
Lehington, Francis M.	Willow Station.	Laborer	3.00 "	8-25-36	11-29-36	93.00			
Lind, E. C.	Bonneville Station.	Laborer	6.00 "	6-7-38	6-15-38	45.00			
Lindholm, Harry	Portland.	Watchman	5.00 month	11-1-36	12-5-36	126.00			
Livingson, Dale	Alesea Station.	Laborer	3.00 day	11-4-36	5-11-37	33.00			
Lowe, George	Coos Station.	Carpenter	5.00-8.00 "	11-1-37	11-27-37	27.00			
Mace, Paul W.	South Santiam Sta.	Laborer	3.00 "	6-26-37	7-1-37	17.50			
Mangold, Robley	Bonneville Station.	Laborer	3.00 "	7-17-36	9-12-36	156.00			
Mannilla, Henry	North Lake Station.	Laborer	3.00 "	2-1-38	2-3-38	9.00			
Maple, Wm. S.	Rogue Station.	Carpenter helper.	5.00 "	1-27-38	4-2-38	238.13			
May, Carl	South Santiam Sta.	Laborer	3.00 "	5-2-38	5-8-38	18.00			
Miller, John A.	Willamette Stations.	Laborer with horse.	3.00-4.00 "	9-7-36	6-24-37	150.88			
Minich, Fred H.	Ox Bow Station.	Laborer	4.00 "	7-26-37	7-31-37	24.00			
Minnex, Arthur	Portland.	Carpenter	.65 hour	9-1-37	9-7-37	24.05			
Mitchell, Hugh C.	Willamette Stations.	Fish Culturist	90.00-115.00 month	7-1-36	6-30-38	2,560.00			
Monson, Ben.	Portland.	Director of Fish Culture.	287.00-350.00 "	7-1-36	6-30-38	7,896.00	298.20	195.00	.75
Monson, Bill	Ten Mile Station.	Laborer	3.00-4.00 day	1-5-37	1-30-38	104.50			
Monson, Cliff	Ten Mile Station.	Laborer	3.00 day	10-12-36	2-8-38	51.00			
Monson, James	Ten Mile Station.	Laborer	3.00-4.00 "	8-21-36	4-18-38	1,139.50			
Monson, John	Ten Mile Station.	Laborer	3.00 "	9-1-36	12-28-37	147.50			
Monson, John, Jr.	Ten Mile Station.	Laborer	3.00 "	9-2-36	2-3-38	87.00			
Monson, Preston	Ten Mile Station.	Laborer	3.00 "	12-10-37	3-31-38	21.00			
Monson, Tom	Ten Mile Station.	Laborer	3.00 "	9-1-36	1-31-38	120.00			
Moore, Guy	Ten Mile Station.	Laborer	3.00 "	9-2-36	1-14-38	115.50			
Moore, Keith	North Santiam Sta.	Laborer	3.00 "	3-12-37	3-30-37	42.00			
Morris, Floyd	North Santiam Sta.	Laborer	3.00 "	7-9-36	5-6-37	366.00			
Morris, H. A.	McKenzie Stations.	Laborer with team.	3.50 "	4-27-37	5-6-37	31.50			
			7.00 "	5-6-37	5-16-38	210.00			

SCHEDULE OF COMPENSATION AND EXPENSE ALLOWANCE—Continued

For Biennial Period Ended June 30, 1938

Name	Location	Occupation	Rate	COMPENSATION		EXPENSE ALLOWANCE			
				From	To	Meals	Lodging	Fares	Mileage
Murray, C. S.	Alsea Station.	Laborer.	3.20 day	8-23-37	9-30-37	102.40			
Murray, James.	Ox Bow Station.	Laborer.	4.00 "	5-19-38	5-27-38	32.00			
Murray, Paul E.	Bonneville Station.	Apprentice Fish Culturist.	100.00 month	8-1-37	8-11-37	444.64			
Myers, Dr. George S.	Bonneville Station.	Biologist.	5.00 day	8-1-37	8-11-37	52.50			
Myers, H. H.	Springfield.	Man with boat.	16.00 trip	9-7-36	10-10-36	144.00			
McBarron, Alden.	Deschutes Fishway.	Mason.	.50 hour	9-5-36	9-9-36	12.00			
McCarn, Lee.	Umpqua Station.	Superintendent.	130.00-150.00 month	7-1-36	6-30-38	3,440.00			
McCartney, A. E.	Klaskanine Station.	Electrician.	1.20 hour	3-5-37	3-5-37	4.50			
McCulloch, Al.	Ten Mile, North Lake, Tahkenitch & Coos Stations.	Laborer.	3.00-4.00 day	9-8-37	12-9-38	90.00			
McCulloch, Clarence.	Ten Mile Station.	Laborer with team.	3.00-8.00 "	10-7-37	1-10-38	44.00			
McKenzie, Harold.	Willamette Stations.	Laborer.	3.50 "	5-9-38	5-10-38	7.00			
McLean, G. T.	Cathlamet Bay.	Engineer.	40.00 report	8-22-36	8-29-36	40.00			
Nelson, George.	Bonneville, and Ox Bow Stations.	Fish Culturist.	100.00-115.00 month	8-1-36	6-30-38	2,640.00			
Nelson, Mira.	Ox Bow Station.	Laborer.	4.00 day	5-18-38	5-28-38	40.00			
Newell, Ed.	Ten Mile Station.	Laborer.	3.00 "	1-25-37	1-31-37	21.00			
Nicklaus, Tom.	McKenzie, Tahkenitch and Siletz Stations.	Fish Culturist-Foreman.	100.00-130.00 month	7-1-36	6-30-38	2,655.00	2.00		9.60
Nielson, James E.	North Santiam Sta.	Laborer.	3.00 day	3-12-37	4-2-37	57.75			
Noble, Kenneth.	North Lake Station.	Laborer.	3.00 "	1-6-38	5-22-38	18.00			
Norman, Alex.	Klaskanine Station.	Laborer.	3.00 "	8-17-36	9-11-36	64.50			
Odell, Wister.	McKenzie Stations.	Laborer.	3.00 "	8-5-36	9-12-36	21.00			
Oestreich, Roy.	Portland.	Cashier and Chief Clerk.	175.00-200.00 month	4-15-38	6-30-38	468.83			
Olman, Eric.	Bonneville Station.	Laborer.	3.00 day	9-17-37	10-6-37	52.50			
Orr, Wm.	Willamette Stations.	Laborer.	3.00 "	1-8-37	1-19-37	13.50			
Oshorne, Wayne.	Bonneville Station.	Laborer.	3.00-3.20 "	7-1-36	6-3-38	1,220.10			
Osgood, G. W.	Klaskanine Station.	Laborer.	3.00 "	7-1-36	8-6-37	220.50			
Osgood, W. S.	Klaskanine Station.	Laborer.	3.00-3.20 "	9-7-36	7-21-37	88.80			
Peipol, Elmer.	McKenzie Stations.	Laborer.	4.00 "	5-5-37	5-17-38	80.00			
Pepin, Floyd.	Yacquina Station.	Laborer with team.	3.00-6.00 "	9-8-36	10-8-37	82.25			
Perras, S. E.	Ox Bow Station.	Laborer.	4.00 "	6-5-37	9-30-37	396.00			
Peterson, Martin.	Tahkenitch Lake Outlet.	Dredger.	6.00 hour	4-13-38	4-14-38	84.00			
Peterson, O. W.	McKenzie Stations.	Fish Culturist.	115.96 month	7-1-36	10-31-36	463.84			
Pfund, B. E.	North Santiam Sta.	Laborer.	3.00 day	10-11-37	5-17-38	61.50			
Phelps, Dret E.	Ox Bow Station.	Laborer.	4.00 "	10-23-37	10-30-37	28.00			
Phillips, Dick.	North Santiam Sta.	Laborer.	3.00 "	12-18-36	4-12-37	181.50			
Pickett, G. A.	North Santiam Sta.	Laborer.	3.00 "	4-27-38	5-18-38	33.00			
Fuckett, Gene.	Umpqua Station.	Laborer.	3.00 "	7-1-36	7-8-36	13.50			
Pullam, Roy.	Trask Station.	Laborer.	3.50 "	4-9-38	4-18-38	21.00			
Putnam, S. H.	McKenzie Stations.	Laborer.	4.00 "	5-6-37	5-28-37	44.00			
Quigley, Philip.	Willamette Stations.	Laborer.	3.00 "	9-7-37	10-9-37	96.00			
Quigley, Robert.	Willamette Stations.	Laborer.	3.00 "	10-4-37	10-9-37	18.00			
Reed, Glenn.	Ox Bow Station.	Pisabber.	3.00 "	8-23-37	8-28-37	48.00			
Reams, Percy.	Willamette Stations.	Laborer.	3.50 "	5-7-38	5-18-38	22.75			
Reed, Chris.	McKenzie Stations.	Laborer with horse.	3.00-4.00 "	8-24-36	9-16-37	30.00			
Reid, Maurice.	Umpqua Station.	Laborer.	3.00 "	7-1-36	8-21-36	117.00			
Reynolds, John L.	Field Investigations.	Fish Culturist.	3.00 "	7-1-36	8-31-36	186.00	80.00		152.92
Rice, Larkin M.	Umpqua Station.	Laborer.	3.00 "	7-1-36	10-13-37	123.50			
Rich, Robert H.	Trask and Bonneville Stations.	Asst. Biologist.	4.00-90.00 day-mo.	7-1-36	6-30-38	410.00	43.90		82.20
Rich, Dr. Willis H.	Portland.	Director of Research.	200.00 month	4-15-38	6-30-38	500.00	83.75		147.80
Richman, F. A.	Wenaha River and Troy.	Temperature Recorder.	2.00-10.00 day-mo.	12-1-37	2-11-38	30.00			
Rinnell, Mildred.	Portland.	Stenographer.	4.00 day	7-2-36	7-11-36	32.00			
Ritler, Clifford M.	Trask Station.	Apprentice Fish Culturist.	90.00-100.00 month	7-1-36	6-30-38	2,320.00			

SCHEDULE OF COMPENSATION AND EXPENSE ALLOWANCE—Continued

For Biennial Period Ended June 30, 1938

Name	Location	Occupation	Rate	COMPENSATION		Amount	EXPENSE ALLOWANCE		
				From	To		Meals	Lodging	Fares	Mileage
Rollins, Jack	Klaskanine Station	Watchman	1.00 day	11-1-37	11-29-37	8.00			
Russell, Elmer	Coos Station	Laborer	3.00 "	12-8-36	2-16-37	63.00			
Ryckman, Jack	McKenzie Stations	Apprentice Fish Culturist	3.00-100.00 day-mo.	7-1-36	6-30-38	2,299.00			
Schofield, Wm.	Yaquina Station	Laborer with team	6.00 day	4-23-37	4-30-37	42.00			
Schulenberg, H.	Bonneville Station	Laborer with truck	5.00 "	5-3-37	5-12-37	40.00			
Sherpp, Henry	North Santiam Sta.	Laborer	3.50 "	10-17-37	10-18-36	6.00			
Sherwood, Lester	South Santiam Sta.	Laborer	3.50 "	6-24-37	9-18-37	62.50			
Shibold, Frank	Coos Station	Laborer	3.00 "	11-8-37	11-18-37	9.00			
Sibold, J. F.	Coos Station	Laborer	4.00 "	10-19-37	10-21-37	10.00			
Simons, A. B.	South Santiam Sta.	Laborer	3.50 "	7-2-36	5-5-38	175.50			
Siren, Sven	Klaskanine Station	Laborer	3.20 "	9-7-37	9-7-37	3.20			
Skaggs, Gar E.	Wallawa Station	Laborer	3.00 "	10-4-36	10-8-36	15.00			
Slater, O. W.	South Santiam Sta.	Laborer	3.00 "	7-1-36	7-8-36	18.00			
Smallwood, J. F.	Alesea Station	Laborer with team	6.00 "	8-23-37	9-27-37	24.00			
Smalley, Wallace	Takentich Station	Laborer	3.20 "	8-23-37	5-31-38	482.80			
Smitley, W. H.	Takentich Station	Laborer with team	3.00 "	7-8-37	7-8-37	3.00			
Smith, Chester	Coos Station	Laborer	3.00-4.00	11-6-37	1-18-38	187.50			
Smith, Frank W.	Coos Station	Laborer	130.00-150.00 month	10-17-37	12-18-37	42.50			
Smith, H. S.	Portland	Superintendent	154.53-175.00 "	7-1-36	6-30-38	3,440.00	109.90	16.25	26.55
Smith, Reta E.	Marshfield	Auditor	4.00 day	7-24-36	7-24-36	4.00	77.20	51.75	332.76
South, Leonard M.	Willamette Stations	Special Stenographer	4.00 "	5-7-37	5-28-37	26.00			
Spalding, C. E.	Umpqua Station	Laborer	3.00-3.50 "	11-18-36	9-29-37	189.00			
Spauling, Melvin	Willamette Stations	Laborer	4.00 "	5-7-37	5-11-37	18.00			
Speybreck, Frank	Bonneville Station	Landscaper	8.00 "	10-1-37	12-18-37	300.00			
Staino, Sylvia M.	Portland	Holkirch Operator	85.00 month	5-9-38	6-30-38	148.02			
Stanley, Gordon A.	Willamette Stations	Laborer	3.00 day	9-1-37	6-20-38	106.00			
Steele, P. E.	Willamette Stations	Watchman	2.50 hour	7-1-36	1-19-37	310.50			
Steigrow, A. C.	Willamette Stations	Trucker with Trailer	3.00 day	5-3-37	7-9-37	31.50			
Steinhardt, Frank	Ten Mile Station	Laborer	3.00 "	9-1-36	9-10-36	27.00			
Steinlechner, Jacob	Bonneville Station	Laborer	3.00 "	9-8-36	9-10-36	9.00			
Stehlechner, R. J.	Bonneville Station	Apprentice Fish Culturist	90.00 month	7-1-36	10-31-36	360.00	7.40	4.00	
Stevens, I. E.	Willamette Stations	Laborer	4.00 day	5-7-37	5-22-37	25.00			
Stockton, F. M.	Willamette Stations	Laborer	3.00 "	8-5-37	8-7-37	9.00			
Stockton, Jack	Willamette Stations	Laborer	4.00 "	5-7-37	7-3-37	33.00			
Stockton, J. V.	Willamette Stations	Laborer	3.50 "	5-7-37	7-3-37	38.00			
Stone, Pete	Sandy Station	Laborer	4.00 "	4-18-38	6-30-38	308.00			
Strass, J. O.	Nehalem, So. Santiam	Carpenter	4.00-5.00 "	8-22-36	11-6-37	1,159.00			
Strass, L. W.	Nehalem Station	Foreman	100.00-130.00 month	7-1-36	6-30-38	2,880.00			
Straw, A. M.	Klaskanine Station	Paperhanger	1.15 hour	7-19-37	7-27-37	64.40			
Sundsten, A. E.	Ox Bow Station	Carpenter helper	4.50 day	6-7-37	10-19-37	463.50			
Sundsten, H. E.	Sandy Stations	Carpenter	7.00 "	6-1-37	6-30-38	1,397.88		8.00	
Suter, Louie	Trask Station	Laborer	3.00-3.50 "	11-2-37	4-30-38	188.75			
Suter, Nick	Trask Station	Laborer	3.50 "	11-1-37	11-2-37	8.25			
Suter, Paul	Trask Station	Laborer	3.00 "	9-10-36	10-8-37	149.15			
Swanson, R.	Klaskanine Station	Carpenter	8.00 "	7-1-36	8-7-36	48.00			
Tabler, Wm. H.	South Santiam Sta.	Paperhanger	4.00 "	9-10-37	9-24-37	52.00			
Taylor, Lloyd N.	North Santiam								
	Yaquina, Siletz and								
	McKenzie Stations	Laborer-Appr. Fish Culturist	3.00-100.00 day-mo.	9-7-36	6-30-38	1,820.00	95.50		1.05
Thomas, Frank L.	North Santiam Sta.	Laborer	3.00 day	6-9-37	8-0-37	71.25			
Thayer, Donald L.	Coquille Station	Apprentice Fish Culturist	3.00-100.00 day-mo.	3-11-37	4-26-38	716.34			
Thompson, A. E.	Yaquina and North Santiam Stations	Laborer	3.00 day	10-1-37	6-30-38	744.00			3.48

SCHEDULE OF COMPENSATION AND EXPENSE ALLOWANCE—Continued
 For Biennial Period Ended June 30, 1938

Name	Location	Occupation	Rate	COMPENSATION		Amount	EXPENSE ALLOWANCE				
				From	To		Meals	Lodging	Fares	Mileage	
Thompson, Peter	Klaskanine Station	Laborer	3.20 day	9- 7-37	9- 7-37	3.20					
Thorpe, T. F.	Bonneville and Alsea Stations	Carpenter	6.00 "	7- 8-36	5-21-37	1,512.00					
Tysock, Ove	Klaskanine Station	Laborer	3.20 "	9- 7-37	9- 7-37	3.20					
Umburn, Frank	McKenzie Stations	Carpenter	6.00 "	6- 1-38	6-11-38	61.50					
Upmeyer, Orval	Willamette Stations	Laborer with team	6.00 "	5- 9-38	5-10-38	12.00					
Vso, Alst, Lorraine	Portland	Temp. Stenographer	50 hour	6-23-38	6-28-38	10.75					
Vance, J. A.	McKenzie Stations	Carpenter	3.50 day	7- 1-36	7-31-38	98.00					
Veach, John C.	Portland	Commissioner	5.00 diem	7- 1-36	6-24-38	400.00	9.25	11.75			
Vieck, Elmer	Clackamas	Laborer	2.00 day	10- 3-36	12-26-36	36.00					
Vieck, C. E.	Umpqua Station	Fst. Culturist	100.00-115.00 month	7- 1-36	6-30-38	2,505.11					
Vogt, V.	Trask Station	Laborer	3.50 "	7- 6-37	6-30-38	33.50					
Walker, Earl	Willamette Stations	Laborer with team	6.00 "	10-23-37	10-25-37	3.50					
Walker, H. R.	Bonneville Station	Laborer	3.00 "	6-28-37	10- 8-37	39.00					
Walker, M. E.	Portland	Inspector	3.00 "	9-17-37	10- 6-37	52.50					
Warren, H. C.	Portland	Inspector & Draftsman	150.11-170.00 month	7- 1-36	6-30-38	3,920.88	10.00		18.48		
Welborn, Lois	Portland	Temp. Stenographer	133.80-170.00 "	7- 1-36	6-30-38	3,888.26	377.15	320.50	3.20		
Welborn, Marion T.	Portland	Stenographer and Secretary	4.00 day	4-27-38	6- 7-38	120.00					
Well, Austin H.	Umpqua Station	Laborer	100.00-130.00 month	7- 1-36	6-30-38	2,901.29					
White, Granville	North Santiam Sta.	Laborer	3.00 day	2-15-37	2-27-37	36.00					
White, Keith M.	North Santiam Sta.	Laborer	3.00 "	7- 9-36	7-13-36	9.75					
Wilheas, Wm.	North Lake Station	Laborer	3.00 "	7- 9-36	5-16-38	72.75					
Willcoxen, Allen	Bonneville Station	Carpenter	3.00 "	11- 1-37	1-21-38	47.75					
Williams, Henry	Oregon City	Temp. Inspector	6.00 "	11-14-36	4- 8-38	1,356.00					
Williams, John	Ox Bow Station	Plasterer	4.00 "	4-27-37	6- 4-38	386.00					
Wilson, Hollis	South Santiam Sta.	Laborer	3.00 "	8-23-37	8-23-37	30.00					
Wilson, Keith	South Santiam Sta.	Laborer	3.00 "	7- 1-36	5- 6-38	39.00					
Wilson, Lyle	South Santiam Sta.	Laborer	3.00 "	9- 4-37	5- 5-38	25.50					
Wilson, M. B.	Portland	Laborer	3.00 "	7- 1-36	7-10-36	24.00					
Wirth, Wilfred	Coos Station	Laborer	174.80-200.00 month	7- 1-36	8-31-37	2,598.40					
Wirth, W. L.	Coos Station	Laborer	3.00 day	7- 1-36	5-31-38	1,473.00					
Wiseman, H.	Willamette Stations	Laborer	3.00-3.50 "	1-11-37	1-19-37	9.00					
Woody, I. E.	Winchester Fishway	Laborer	4.00 "	3- 7-38	5-26-38	59.00					
Yank, Vincent	Willamette Stations	Laborer	4.00 "	5- 3-37	5-22-37	46.00					
Zimmerman, Ed.	McKenzie Stations	Laborer with team	4.00 "	10- 5-37	10- 8-37	14.00					
			6.00 "	7- 3-37	7- 3-37	44.00					
				2- 5-37	2- 5-37	6.00					
TOTALS							\$174,622.64	\$3,669.65	\$2,075.95	\$ 362.30	\$3,121.16

To the

Honorable John C. Veatch, Chairman,

Honorable Merle R. Chessman,

Honorable Robert F. Cronen,

MEMBERS of the FISH COMMISSION of the STATE OF OREGON.

Gentlemen :

The financial condition of the department has been more satisfactory during the biennium just ended than during any immediately preceding. For the first time during the depression, the end of the fiscal periods showed a working balance. This fact is especially gratifying when one considers that the work of the Commission was at no time permitted to slack off. In fact, the contributions of the department to the perpetuation and maintenance of the resource were well above average. As reflected by condition of finances, the fishing industry generally was satisfactory. Average annual takes were made on the major streams and the number of fishermen, as indicated by licenses issued, were as great as during any recent season.

The general system of bookkeeping used by the Fish Commission since the separation of the activities of that department from those of the State Fish and Game Commission in 1921 had become outmoded and inadequate. Therefore a more modern accounting method appeared necessary. With the assistance of state auditors under the Secretary of State, new bookkeeping forms were drawn up and a comprehensive double-entry system put into operation as of July 1, 1938. The new system will more readily provide comparable data so frequently needed for the information of the Commission in administrative matters and for use of the office personnel in filing reports required by statute for the information of the Governor, the Board of Control, and the State Budget Division.

As in the case of the accounting system, a lack of flexibility and adaptability in the system for collecting, tabulating and disseminating statistical data on the commercial catch of the several streams of the state of Oregon, had been long apparent. Recognizing the value to the industry and to the Commission of complete and authentic data, readily available for their information, a Hollerith Punch Card System for the recording and tabulation of catch statistics was installed. This installation consists of one duplicating punch, one horizontal sorter, and one vertical tabulator, which combination speedily records the individual catch record of each fisherman, and as a result makes possible the segregation and tabulation of catch statistics in any form desired for comparable purposes.

Fishways

During the past two years considerable attention has been given to maintenance of existing fishways, as well as to new installations where the need was immediate. The fishway at Oregon City has been kept in excellent condition, the pools being cleared of rubble and other rocks which found their way into pools as a result of erosion. Improvements were also made to the fishway at Winchester dam on the Umpqua river by the installation of "flash boards" to divert the overspill out of the main passage of the fishway. Observation since the installation of these flash boards indicates their success and it is apparent that the ascending salmon will now find the passage more readily accessible. Minor repairs were made near Vernonia on small tributaries of the upper Nehalem, at Stella falls on the Nestucca, and at two points in the Willamette river system.

During the biennium this department, in cooperation with the State Game Commission, constructed a fishway over Smith River Falls on Smith river, a tributary of the Umpqua, some twenty miles from Reedsport. This coming winter will offer the first opportunity to observe the efficiency of this installation. It is anticipated, however, that steelheads and other migrants ascending beyond Smith River Falls will find easy and ready passage and will not be temporarily delayed in their migration for indeterminable periods as in the past.

It is realized that effective and easily negotiable passageways over barriers, either natural or artificial, are important factors in the perpetuation of our salmon resource. Present revenues of the department, however, are not sufficient to permit immediate construction of all fishways needed. For that reason only such work as may be permitted under the current budget is completed each season.

Recognizing, as stated, the fact that dams and other barriers represent a most vital factor in the future of our fishery resource, an effort was made to obtain an authentic record of all such dams and barriers within the state of Oregon. While seeking information as to the number, location, type, height, length, etc., it was found that no complete record was available from any one source. The work of collecting this data from the several sources was assigned to a representative of my department, who has gathered full and complete information on approximately four hundred dams and barriers on streams in the state of Oregon. This will be added to from time to time, making as complete and authentic a record as possible of barriers now existing in our state. The records so assembled will be analyzed and the obstructions classified as to types, purpose, possible effects on spawning areas, and finally as to whether or not adequate passageways for fish are provided at each. It is anticipated that this work will be completed during the coming biennium and that a map will be prepared showing the location of each on the respective river, tributary, or other water of the state. It is hoped that such a map will prove of immeasurable value in considering future fishery problems.

In calling your attention to barrier and fishway problems, only those of minor importance have been touched upon. Obviously projects of greater magnitude, when considered individually, are of greater importance and correspondingly affect fish life of the streams on which they are located. In the case of such major projects it apparently has been a common practice in the past for the builders thereof to give only preliminary consideration to the safeguarding of fish prior to the beginning of construction. As a result, adequate and efficient passageways for salmon and other fishes are generally dealt with as one of the many construction details. The industry and those dependent upon it are therefore required to take forceful and summary action before adequate safeguards are provided. It is obvious that the time has arrived when the fishing industry must take the initiative upon being confronted by proposals for the construction of any project, which constitutes a potential menace to the fishing industry, by insisting that the proposed project be first studied to determine in advance what the effects on the runs of fish in that particular stream may be. In other words, comprehensive surveys should be carried on by those responsible for the construction of the project in exactly the same manner as possible benefits to irrigation, navigation, flood control, etc., are studied and predetermined before final approval is given and construction started. Admittedly the fishing industry was extremely fortunate in the case of Bonneville, fishway facilities being demanded, decided upon, and included as construction progressed. The same results, however, are not to be expected in future instances under less fortunate circumstances. For that reason I direct the attention of the Commission, and the attention of the entire fishing industry, to the proposed "Willamette Valley Project", the "Umatilla Dam", and to other projects tentatively proposed for the Columbia river and its tributaries. A comprehensive survey of possible effects of these projects on fish life should be insisted upon as a safeguard to the future of your industry.

Though not dealing directly with fishways, but having to do more with the operation thereof, the census or count of salmon and other fishes passing over Bonneville dam during the 1938 season presents a most valuable contribution of statistical data for future consideration. Provisions for making this count at Bonneville resulted from conferences between this department, representatives of the U. S. Bureau of Fisheries, the Washington Fisheries Department, and Colonel Robins of the U. S. Engineers, who arranged for the construction and installation of counting devices and furnished the entire personnel to carry on the work. This fish census at Bonneville marks the first time in history that such data pertaining to the Columbia river have been made available to the fishing industry. The value of such information in the administration and regulation of the fishery is unquestionable and its importance to the future of the industry cannot be too strongly stressed. It would be unthinkable to discontinue this count

of migratory fishes at Bonneville before comparable statistics covering migrations have been spread over a period of two or more life cycles of dominant salmon species. It behooves those dependent upon the future of the salmon industry to assure the continuation of the "Bonneville fish count".

Ocean Fisheries

In my report for the preceding biennium attention was called to Oregon's new industry—the taking of pilchards at sea and their reduction into oil and meal by processing plants located within the state. During the past two years the pilchard fishery has shown indications of becoming permanent and profitable. However, the industry is new and has not yet become sufficiently stabilized to reflect definite limits or indicate future trends. Although no season since 1935 has produced a take equal to that year, the catch has climbed steadily from 1936 to 1938. This increase in yearly catch is considered most significant in view of difficulties which the industry has experienced. There has been a consistent shortage of fishing craft and at no time have there been sufficient boats to properly service all plants. A plant of large capacity located at Astoria was destroyed by fire during the 1937 season and was rebuilt in time to process fish only a short while before the end of the season. Weather conditions too during the biennium have been adverse and prevented regular operations.

During 1938, plants in the Coos Bay and Reedsport districts were not successful in obtaining boats to carry on their fishery, and as a result received only a few deliveries of fish during the entire season. The Astoria district was more fortunate, however, and succeeded in handling the greater portion of the year's take. Although the 1937 and 1938 seasons were both short, the catch for each of the two years was greater than that of any season since 1935. This increased catch may be due in part to an improved fishing efficiency as shown by a corresponding increase in the amount of fish taken by average set of the seine. This increased trend is indicated in Table I herein.

TABLE I

Year	Average catch in tons for set of net
1935	34.3
1936	30.3
1937	44.0
1938	49.0

Note: These data include all Oregon landings.

There is a possibility that the trend indicated in the table above is due also to the fact that each succeeding year fishermen became better acquainted with the locality and local fishing conditions. For that reason the period covered in Table I is not sufficient to be considered conclusive. Future statistics and observations of catch will therefore be carefully watched to check on any change in trend.

Fishing localities during 1937 and 1938 differed from former seasons in that the pronounced southerly shift of fishing operations was not apparent. In the Astoria area 25% of the total landings were taken just north of the mouth of the Columbia river during 1937, while in 1938, over 20% of the total landings at Astoria came from the area directly off the mouth of the river and 54.4% were taken between the mouth of Willapa Bay and Tillamook Head.

During 1937, certain landings at Coos Bay and the Umpqua river were taken off or north of the mouth of the Columbia river. In fact 54% of the total landings were taken north of Tillamook Head, while a single zone ten miles square off Hequeta Head furnish 21% of the total landings for both Coos Bay and the Umpqua river. In 1938 the few scattered landings made in the Coos Bay area came from approximately the same localities as the Astoria landings.

During 1938 fishermen were encouraged to report direction of travel of pilchard schools at the time of making sets. While these records are not considered wholly accurate, an analysis of the data shows that three times as many fish were caught while traveling south or in a southerly direction as were caught while traveling in any other direction. It appears therefore

that generally there is a southerly drift of fish across the fishing grounds, although on occasion the fishing fleet followed pilchard schools south as far as Waldport and then followed what appeared to be the same schools north as far as the mouth of the Columbia river. On other occasions schools of fish started south and were followed as far south as Coos Bay where they were apparently lost to the fishing fleet. Movements of fish as indicated by fishermen's reports are somewhat erratic and further recordings of direction of travel will be necessary before any conclusive trend may be indicated.

During the biennium research work done by the Fish Commission on the pilchard fishery has been as during the previous biennium in full cooperation with other agencies similarly engaged in pilchard research on the Pacific coast. So far the program, which has not been fully expanded, includes the tagging of pilchard, the examination of stomach contents of other fishes for small pilchards, and sampling to obtain length frequencies. A cooperative tagging program for pilchard has been inaugurated this biennium. Tags are of the same dimensions as those used in California. These tags are made of steel, numbered consecutively, and nickle-plated without any preliminary copper plating. In putting out tags, a tagging gun, the basic principle of which was borrowed from British Columbia, is used. The gun is equipped with ten magazines somewhat similar to the clips used in an automatic pistol; each holds one hundred tags and is constructed so as to permit the expulsion of a single tag over or through the blade of a small wedge-shaped knife. This knife, which is firmly attached to the front end of the gun, is pushed through the body wall of the fish into the visceral cavity, the trigger is pulled and the tag is forced through the blade, lodging amid the viscera inside the body of the fish. The tag is carried until the fish is captured and processed in a reduction plant. The recovery is attained in the plant by passing the meal over a strong electric magnet after it comes from the dryer and before it enters the grinder. This magnet picks up the tags which are removed by plant employees and turned over to this department for tabulation. Pilchards were tagged during both the 1937 and 1938 seasons. The location of tagging and the place of recovery, together with other pertinent data is shown by Table II.

TABLE II

RECOVERIES OF PILCHARD TAGS RELEASED BY OREGON—1937

Tag No.	Locality of Release	Date Tagged and Released	Date Recovered	Locality of Plant at Which Recovered	Locality From Which Fish Taken
51	Fifteen miles off Heceta Head...	Sept. 5, 1937	Sept. 17, 1938	Nootka Plant (Entrance Nootka Sound)	Off Nootka Light
87	" " " " " ...	Sept. 5, 1937	Sept. 9, 1937	Coos Bay	Off Umpqua River
120	" " " " " ...	Sept. 5, 1937	Sept. 5, 1937		Off Heceta Head
387	" " " Siuslaw River ...	Sept. 17, 1937	Sept. 23, 1938	Hecate Plant (Nootka Sound-Esperanza Inlet)	Off Nootka Sound
560	" " " " " ...	Sept. 17, 1937	Sept. 24, 1938	Off Kyuquot Sound	
606	" " " " " ...	Sept. 17, 1937	Jan. 25, 1938	Edible Fish Meals & Oils Inc., Richmond, San Francisco Bay, Calif.	Unreported
689	" " " " " ...	Sept. 17, 1937	Sept. 9, 1938	Wilbur-Ellis Plant, Seattle, Wash.	Unreported
690	Off Siltcoos River	Sept. 17, 1937	Early Aug., 1938	San Francisco Bay	Unreported

It will be noted that from the release of 684 tags during the 1937 season recoveries have been made from San Francisco Bay to Nootka Sound on Vancouver Island. Four hundred thirty-five tags were released in 1938 but no recoveries have been reported to date therefrom.

An attempt to find the young of pilchards in Oregon waters was also made. Early in 1938 seining was carried on in many of the bays and harbors of the Oregon coast but aside from one group of fish taken in Coos Bay which were about six inches in body length, and a few others obtained from a large tide pool near Yachats, no small pilchards were found. During 1937, however, a number of very small pilchards was obtained from the stomach of an albacore taken off the mouth of the Columbia river. In view of this fact, stomach contents of some thirty tons of albacore were examined during 1938. Without exception the smaller and more delicate fishes found in these stomachs were digested so fully that identification was impossible. However, a number of adult pilchards was found. From these experiences in stomach examinations, it is evident that stomachs must be removed and examined immediately after the capture of the albacore, if smaller and more delicate fishes are to be found in a usable condition. This phase of the investigation will be resumed again next season.

During the biennium the size of samples taken for length frequencies was changed to 100 fish instead of 50, as had been the standard sample during the season of 1936. Approximately 4000 fish were measured during each of the seasons of 1937 and 1938 in the Astoria district. The samples taken at Coos Bay were fewer in number for both seasons and for that reason are not considered as statistically reliable as those taken at Astoria. Length measurements will be continued during the coming biennium. The data obtained, however, will not be subjected to statistical analysis until the period of sampling extends over a few more seasons, when it is hoped sufficient data will have been accumulated to establish definite classes of length frequencies.

Albacore—(Long-finned Tuna)

This biennium marked the beginning of an entirely new fishery off the coast of Oregon—that of taking albacore (*germo alalunga*) or long-finned tuna. This fish is one of the tunas and is most highly esteemed by canneries.

Credit for first taking albacore commercially off the coast of Oregon must be given to the pilchard fishermen operating in northern waters. Early in 1936, while scouting for pilchard off the coast of Oregon, pilchard boats encountered albacore and one of their number caught more than a ton of these fish by means of jigs. The resulting delivery aroused considerable interest among local fishermen and 1937 saw a number of boats from our regular salmon trolling and halibut fleets plying off our shore in search of this newly discovered fish. Their efforts were rewarded with fair success and some 4,000,000 pounds of albacore were taken in 1937 off Oregon and Washington. So large a take served to convince both fishermen and packers that the presence of albacore off the coast of Oregon was more than a freak run and might be expected to re-occur from year to year. Accordingly more boats were ready to take albacore in 1938 and the fishery during the first part of that season met with signal success.

While it is difficult to predict the probable take of albacore off the coasts of Oregon and Washington for 1938, early deliveries indicate that a total catch two to three times as great as that of 1937 may be expected. New though the albacore industry may be in Oregon, its development is considerably more significant when compared with the California albacore fishery during the past twelve years. Statistics on the California industry show that only twice during the last fourteen years has the total landings of albacore exceeded 2,000,000 pounds.

So far fishing in Oregon has been carried on by the smaller craft from the salmon trolling, halibut schooner, and crab fishermen's fleets. These boats have used the jig method exclusively, which method consists of trolling bone, rag or feather jigs astern the fishing craft at a speed of from four to seven knots per hour. A number of lines are used by each boat in trolling for albacore, and the method differs from salmon trolling in that the lines used are without weights and shorter, and that the trolling speed is faster. Aside from a short invasion of northern waters by large California tuna clippers using the "live bait" method, local boats accounted for the total catch.

Plans are being made by local salmon cannerymen to can approximately 70,000 cases of albacore during the 1938 season. These firms are already placing albacore in cold storage for use later when the canneries' full capacity is not required for packing salmon. The albacore canning process differs from that used for salmon in that after cleaning, the fish are pre-cooked whole in large retorts for as much as four hours. They are cooled in racks, sectioned, and packed in tins with oil. The tins are vacuumed sealed and re-cooked under the usual method for sterilization.

The albacore fishery in Oregon shows promise of developing into an industry of decided importance economically. There is also the possibility that this fishery may exert a beneficial influence on our salmon industry. Attention of the department has already been called to the fact that the utilization of so great a number of boats from the salmon trolling fleet has resulted in perceptible increases in the runs of certain species of salmon in streams of the state. This new industry should be encouraged, stabilized and developed to the point where its permanency as a part of Oregon's great fishery resource may be assured.

Biological data concerning the habits, migration and spawning of albacore tuna are conspicuous by the lack thereof. To date scientists have not been too successful in their studies of this particular species of tuna. This phase in the development of the albacore fishery, not only off the coast of Oregon but in other areas of the Pacific Coast as well, merits future study and investigation. Occurrence of albacore in mid-Pacific over an area spanning some 1300 miles is recorded. Supporting data from the logs of the two auxiliary ketches which made these observations between the Hawaiian Islands and our coast line are available. Arrangements have been made through the courtesy of the California Fish and Game Commission for a quantity of albacore tags and tagging equipment, which will be utilized this season in tagging albacore along our coast. This early venture should lead into a more comprehensive albacore tagging program, which should be carried on as the industry develops.

Two years ago attention was directed to the threatened invasion of the salmon fishery of the Pacific Coast by an alien nation—Japan. While a thoroughly aroused industry has succeeded in quieting and staying that invasion through appeals to the State Department and other federal agencies, the menace still exists in latent form. This, coupled with recent development in the pilehard and albacore fishery off our shore attests to the fact that jurisdiction over fisheries, as far as the three-mile limit only, is hopelessly inadequate. If the offshore fisheries of the Pacific Coast are to be protected from foreign invasion and from other menaces equally as destructive, jurisdiction of the United States should be extended to well beyond the continental shelf. Whether the limit of such jurisdiction should be fixed 100 miles at sea or be set so as to include the biological range of our principal offshore fishes, is something to be determined later. It is obvious, however, that jurisdiction should be extended to limits adequate for the protection of our rapidly expanding offshore fishery.

This department has already drafted resolutions asking for extensions of jurisdiction, and has submitted same to all federal departments directly concerned, and to the congressional delegates of the three Pacific Coast states. On two separate occasions similar resolutions have been adopted by representative groups of the Pacific Coast fishery, urging the United States and Canada to extend their jurisdiction over the waters of the Pacific sufficiently beyond the three-mile limit to afford a more thorough control, and better protection of the fishery. The need for this extension of jurisdiction is acute, vital and two-fold of application: first, for the purpose of repelling invasions of our fisheries by other nations; and second, as a much needed broadening of authority in the regulation of our own fishermen offshore.

The fishing industries of the Pacific Coast are urged to join hands, consolidate forces, and bend their united efforts toward obtaining this jurisdictional extension, for which there is so urgent a need. Oregon's ocean fishery of future years depends upon the success of those efforts.

M. T. HOY,
Master Fish Warden.

LETTER OF TRANSMITTAL

Portland, Oregon, July 1, 1938.

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, 1938.

Respectfully,

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

REPORT OF THE DEPARTMENT OF RESEARCH

For the Biennium Ending June 30, 1938

Toward the close of the biennium the Commission established the Department of Research as a step toward the development of a permanent program of research bearing on the conservation of the fishery resources of the state. Dr. Willis H. Rich of Stanford University is serving, temporarily, as Director, but it is expected that a permanent staff will be organized during the next two years. Active work was not begun until April, 1938.

The primary functions of the Department of Research are (1) to make such statistical, biological and economic studies as may be necessary to show the state of the fisheries and of the fishery resources; (2) to conduct such studies of the habits, life histories, growth, reproduction and causes of fluctuations in abundance of the various species of fish and shell fish as may be necessary to the proper planning of conservation measures, and (3) to carry on such special studies as may help to solve problems that arise from time to time in the other departments of the Fish Commission and as may be requested by the heads of those departments. In general the work of the Department of Research will pertain to those practical problems that arise in the administration of the commercial fishery resources of the state to the end that these resources may be properly developed, that depletion may be prevented or that depleted resources may be restored.

Those problems will be selected for study that appear to be most important and to give promise of having a definite bearing on the determination of conservation policies and measures. The difficulty in arranging a program of research has not been to find important problems, but to select from among the many important problems those that are most important. With the very limited funds available for this work it is obvious that a careful selection of the work to be undertaken should be made. Three criteria may well be used in making this selection: (1) the importance of the fishery; (2) the state of the resource as regards depletion, and (3) the probability of securing information that will be of use in the practical administration of the resource in question. A program composed of problems selected with these criteria in mind will be a severely practical one limited to the elucidation of questions that have already arisen or may be reasonably anticipated in the near future and will, necessarily, leave all the many interesting but more theoretical problems to others who can better afford to support them.

The formation of a complete, detailed and comprehensive program must, however, await the more permanent organization of the department and a more complete study of the immediate needs. In part this will depend upon the similar work being done by other organizations, particularly the United States Bureau of Fisheries, the Division of Fish and Game of California and the State Fisheries Department of Washington. All of these organizations are making studies that bear directly upon the fisheries of Oregon. It is important that Oregon should take a hand in the investigation of her own fisheries, but it is also highly desirable, from the standpoint of economy, that the research done by this Department should be coordinated with that of other agencies in order to avoid unnecessary duplication of effort. Steps have been taken to provide such coordination.

A primary essential to the development of a sound and scientific program for the conservation of fishery resources is the possession of reliable, adequate and available statistics. These should be sufficient, not only for the usual purposes of taxation, but to show the fluctuations in the intensity of fishing and in the abundance of the various species of fish and shell fish that are of commercial importance. They need, therefore, to be, to a considerable extent, biological in nature. Without statistical data of this sort it is impossible to discover depletion in its early stages before it has become serious and dangerously destructive; and it is equally impossible to determine the results of any conservation measures that may be put into force. It is impossible to overstate the importance of an adequate statistical system.

The fishery statistics of Oregon are, in many respects, very good and it seems likely that, with some slight modification and extension they may be made entirely adequate for conservation purposes. The matter is complicated, however, by the fact that the fisheries of the Columbia river, by far the most important in the state, are shared with the State of Washington and the statistical systems in the two states are different. Whether these can be satisfactorily combined remains to be seen. In respect of the other fisheries of the state the records are not complete and it would seem highly desirable to provide a system, as nearly uniform as possible, covering all commercial fisheries, whether at present taxed or not. For those fisheries for which records are now available an enormous number of data are at hand in the form of records of fish deliveries. The Master Fish Warden has, during the past biennium, initiated the use of a standard machine system for putting these data into useful tabular form which will make possible compilations of the greatest value in fishery research. Properly, this tabulating will start with the latest records, and it seems likely that some years will elapse before the data that have accumulated since about 1923 can be made available. This is of such great importance to an understanding of the true condition of the fisheries of the state that it should be a definite part of the research program to advance the compilation and analysis of these older data as rapidly as possible. If possible a special fund should be provided for this purpose.

Until the present statistical system can be extended and modified so as to give the data essential to a comprehensive program of fishery research the work of the Department must be confined to a consideration of such particular problems as the present staff and facilities can undertake. The problems selected for study can, and will, be such as will provide information important to the conservation of the commercial fisheries of the state, but, without adequate fishery statistics, neither the selection nor the treatment of the problems can be entirely satisfactory. Such an expedient program can be useful, but does not take the place of a comprehensive program based on an adequate statistical system.

On account of the extensive power developments planned for the Columbia River Basin it is altogether likely that the maintenance of the salmon runs will depend more and more upon artificial propagation. It should be an important phase of the work of the Department of Research to help solve the numerous biological problems that arise in hatchery practice to the end that this aid to nature may be made as effective as possible. Particular attention will be paid to the determination of the causes of unusual mortality from diseases and other causes and to the determination, through experiment, of the relative efficiency of different procedures in hatchery practice, particularly in respect of the time and manner of liberation. Properly conducted artificial propagation can and does produce large numbers of strong, healthy young fish. The survival of these fish after planting may, however, be materially affected by the time and place of release, as is apparent from the results of past experiment. It is believed that a careful study of the effect of different procedures in this respect may make possible economies in operation and improvements in the efficiency of artificial propagation as measured by the return of adult fish.

It is now fairly apparent that the provisions made for the passage of adult salmon over the Bonneville Dam will prove adequate and that the presence of the dam will not materially retard the passage of fish to their spawning grounds. The effect of the dam on the downstream migration is, however, still problematical. If there is serious loss at this stage of the life cycle the result will be disastrous to the stocks breeding in the upper river. To test the total effect of the dam in this respect an experiment was started during May in which approximately 50,000 young Chinook salmon from the Ox Bow Springs station were marked by the removal of the right ventral fin and planted a few miles above the dam, while a similar number were marked by the removal of the left ventral fin and planted just below the dam. Precautions were taken so that no other factor would be likely to affect the survival of the two lots—the same persons marked virtually equal numbers of fish in the two series, the fish were held in similar ponds until liberated and all were liberated on the same day. Any statistically significant difference in the returns may, therefore, be safely ascribed to the influence of the dam. The marks used this year were not of the best, since only one fin in each lot was

removed, but the more satisfactory marks involving the removal of two fins had already been used in other experiments in the Columbia Basin. Plans have been made to repeat this experiment in 1939 and again in 1940, when better marks will be available. The determination of the total effect of the dam upon the survival of the young fish on their downstream migration is one of the most important problems arising from the presence of the dam and this experimental attack appears to be the only simple method of solution.

In June, 1938, the Director presented a paper on "The Migrations of the Pacific Salmon" at a meeting of the American Association for the Advancement of Science in Ottawa, Canada. The paper was read at a symposium on "The Migration of Salmon—and Conservation," in which a number of biologists from the Atlantic coast and Europe participated. Following the symposium those most interested attended an all-day conference held in the offices of the Fisheries Research Board of Canada. Certain of the attending biologists, particularly from the Atlantic coast, have questioned that salmon predominantly return to the stream in which they were reared. Since the program for the conservation of the Pacific salmon in Oregon and elsewhere is based upon the acceptance of this "Home Stream Theory," it seemed important that a representative of the Fish Commission of Oregon should present to the Association the very strong evidence in support of this theory as applied to the Pacific salmon. Much of this evidence has been secured from experiments with Chinook and Blueback salmon in the Columbia river—experiments in which the Fish Commission of Oregon has taken an active part since 1916, when the first extensive marking experiments were started at the Bonneville station by the present Director of the Department of Research, who was at that time on the staff of the United States Bureau of Fisheries.

In this connection it may be noted here that arrangements have been made with the United States Bureau of Fisheries whereby data from a large number of marking experiments involving Blueback salmon on the Columbia river are to be turned over to the Department of Research for study and the preparation of a report. These experiments, also, were carried out by the cooperation of the Bureau of Fisheries and the Fish Commission of Oregon.

The pilchard, albacore and striped bass investigations of the past two years are discussed in the report of the Master Fish Warden, under whose direction they have been conducted.

If the Department of Research is to fulfill its proper function it is important that its organization should be placed on a more permanent basis. The staff should be modestly increased and, in view of the fact that a large personnel is out of the question, it would seem to be the part of wisdom to provide researchers of experience and maturity. Field and laboratory equipment should be provided and a library built up that will be adequate for the needs of fishery investigation. A definite allotment of funds should be made, preferably a fixed amount, and headquarters provided where the work of the Department can be carried on to the best advantage. It is hoped that these improvements in organization may be effected during the coming biennium.

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, 1938.

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

Gentlemen:

In accordance with the provision of law, I herewith submit the report of the activities of the Department of Fish Culture for the biennium ending June 30, 1938.

Respectfully,

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

REPORT OF THE DEPARTMENT OF FISH CULTURE

For the Biennium Ending June 30, 1938

From the viewpoint of the fisheries of the state by far the most momentous event of the biennium has been the completion of the Bonneville Dam. Never before had there been an attempt to provide passage for fish over a dam of such height, in a river the size of the Columbia and for a run of salmon of the magnitude and commercial importance of the Columbia River Salmon. The final closing of the dam early in 1938 and the operation of the fish ladders from that time to the end of the biennium has given a test of the provisions made, and it is with no small feeling of relief that we can report the success of the provisions made for the ascent of the fish. As the representative of the Fish Commission of Oregon appointed to the committee that had been designated to consider the matter of fishways, a determined stand was taken for the construction of gravity ladders regardless of what else might be built in the way of fish elevators or locks. Against strong opposition it was finally agreed that the gravity ladders should be installed and the results have more than justified that decision. The ladders have been working perfectly, while, at the close of the biennium, the locks had not yet been operated except experimentally and the results even then were not encouraging. It now seems very unlikely that the fish locks will ever be operated on anything more than an experimental scale.

Much additional work has devolved upon the Department of Fish Culture in connection with the development of the fishways at the Bonneville Dam and also in connection with plans for fishways at other dams projected for the Columbia River Basin. The innumerable ramifications of work of this character, the committee work often involved and the preparation of plans, specifications and the securing of material and labor for the reconstruction of the established stations and the building of several new stations has practically doubled the work of the Department. The past biennium has been the busiest in the history of the Department; but the clerical and secretarial work has been most efficiently handled without additional help.

In spite of the burden of construction and rebuilding of the past two years—which has been a part of our plan for the expansion of the hatchery activities—there has been maintained a favorable annual output of fingerling salmon. At some stations this has been done in the face of difficult weather and water conditions. In the fall of 1936, following an extended drought, the Silver salmon of the coastal streams were delayed in their entrance into fresh water. As a consequence, the collection of eggs of this species was below normal. In the summer of 1937, late in June, a freshet in the Willamette Basin carried away the retaining racks and permitted thousands of ripe salmon to escape before the eggs were collected. This resulted in egg collections from only the late run fish and the effect of this cannot be foreseen.

It is of the greatest importance that a constant effort be made to improve the practices of artificial propagation and, as they can be developed, we are introducing more favorable methods. All fry are now held in the hatching houses until the yolk sac is absorbed and they are ready to feed before they are transferred to the feeding ponds. This obviates the losses occasioned by placing fish in the ponds while they are still encumbered by a more or less delicate yolk sac, but it has required the development of improved methods of holding in the hatching houses. In several hatcheries we are employing the tray system, while in others the suspended fry basket system has been operated with success. We are glad to report that these methods have proved entirely successful and are resulting in stronger fish with losses reduced to a minimum.

The older system of transferring by truck fish raised at a station on one stream to another stream for liberation is now considered undesirable on account of the resulting disturbance to the homing instinct. With this in mind the policy has been adopted, insofar as the available funds will permit, to establish and operate small stations on such streams of the state as are suitable for salmon runs. This has, of course, necessitated a considerable increase in the number

of stations operated. New stations have been built on five streams on which artificial propagation was abandoned several years ago, and seven entirely new establishments have been built within the past four years.

In this report is a map of the salmon-frequented streams of Oregon, showing the location of fisheries stations operated by the Fish Commission—all of which have been built or rehabilitated during the past four years.

In planning the construction of hatching houses, efficient yet economical operation has been our prime object. At the same time we have made every reasonable provision, in the construction of cottages, for the health and comfort of the occupant.

The Bonneville station has been developed further as an experimental station for the development of methods for the improvement of hatchery practice. In this connection plans have been drawn up for a cooling system that may be used to retard and regulate the development of eggs so that certain experiments can be carried on over a longer period of time. This will result in a more gradual distribution of fingerlings, over a longer period, as there are often insufficient quantities of natural food in streams to support vast numbers of fingerlings at any one time. Experiments have been conducted testing the success of planting eyed eggs in gravel—using shad battery jars as containers for the artificial nests. These have the advantage of permitting observations of the progress of development during the incubation period.

For the enlightenment of the thousands of visitors at the Bonneville station there has been collected and carefully classified a complete display exhibit of Oregon fish and shell fish, which is maintained on the balcony of the hatchery. The specimens are preserved in jars containing a formaldehyde solution and are attractively arranged in exhibit cases and on special display racks.

As a part of the federal relief activities, under the National Park Service, the general appearance and attractiveness of the station at Klaskanine were greatly improved by the construction of trails, fountains, outdoor fireplace, park facilities and by providing better accommodations for visitors. At the Nehalem station, as a WPA project, a second line of ponds approximately 600 feet in length was completed during the biennium.

Arrangements have been made for the improvement and beautification of the grounds at Bonneville as another relief project. This, with the completion of the Tanner creek by-pass, now assured for the near future, will make of Bonneville a model hatchery of which the state may well be proud.

We cannot refrain, at this time, from expressing our appreciation of the very close cooperation of the State Police. The efficiency with which that force operates has proven very helpful to the men in immediate charge of the respective fisheries stations, and has afforded the best of protection for the fish. It is apparent that the presence of these officers has a decided tendency to deter illegal proceedings, and as a result, there are correspondingly fewer violations than in past years.

During the biennium we have been fortunate in arranging for a number of cooperative enterprises with the United States Bureau of Fisheries. A study of the relative value of certain prepared fish foods was carried out in the fisheries laboratories at the University of Washington. A booklet entitled "Artificial Propagation of Salmon in the State of Oregon" has been compiled and printed and is being distributed through the State Superintendent of Public Instruction and the office and fisheries stations of the Department of Fish Culture. This was done in response to numerous requests for literature pertaining to the natural history and propagation of the salmon—requests that have come from teachers and students throughout the state. The pamphlet has been used in nature study classes and is considered to be especially valuable as an introduction to the needs and requirements of conservation of

our natural resources. Maps of the individual coastal streams, as well as the aforementioned map showing the location of the fisheries stations, have been prepared for the use of the Commission.

For a number of years this Department has been very anxious to have compiled data bearing on the history of the artificial propagation of salmon on the Pacific coast and especially in Oregon. It has been well realized that, as the years went by, it would be increasingly difficult to get these data in anything like complete form. As a result of the cooperative arrangements with the United States Bureau of Fisheries, the Department now has on hand a complete history of "The Development of Artificial Propagation of Salmon in the West." This includes data from the beginning of the work of artificial propagation at Baird, California, in 1872, when very little was known of the habits and life history of the salmon, to the present with its modern system of rearing based on scientific knowledge of the habits of the fish and developed after years of study, experience and experiment.

This cooperative work has also produced a "Resumé of the Annual Reports of the Fish and Game Bodies of the State of Oregon," which provides a history of the fish and game conservation work in the state and lists the Commissions, Commissioners and department executives from 1887 to date. There is incorporated a complete history of the fisheries stations operated by the Fish Commission, the fisheries stations and game farms of the Game Commission and the fisheries stations conducted by the United States Bureau of Fisheries.

HUGH C. MITCHELL,

Director of the Department of Fish Culture.

Showing the number of Salmon and Steelhead eggs collected at stations operated by the Fish Commission of the State of Oregon during the period July 1, 1936, to June 30, 1937:

Fisheries Station	Chinook	Silver Salmon	Steelheads	Blueback	Chum	Totals
McKenzie	22,432,000					22,432,000
Willamette	5,916,000					5,916,000
Santiam	1,917,000					1,917,000
Bonneville	6,380,000			106,800		6,486,800
Klaskanine	54,000	1,336,318	134,134			1,524,452
Trask	4,600,000	590,000			580,000	5,770,000
Coos	480,000	5,276,000	2,986,000			8,742,000
Wallowa	200,000	52,000		402,840		654,840
Umpqua	4,580,000					4,580,000
South Santiam	1,994,000					1,994,000
Ten Mile		1,648,000				1,648,000
Nehalem		283,800	179,700			463,500
Cooperative Stations—U. S. Bureau	9,000,000					9,000,000
Grand Totals	57,553,000	9,186,118	3,299,834	509,640	580,000	71,128,592

Showing the number of Salmon and Steelhead fingerlings liberated into the waters of the State of Oregon by the Fish Commission during the period July 1, 1936, to June 30, 1937:

Fisheries Station	Silver			Totals	Where Liberated	
	Chinook	Salmon	Steelheads			
McKenzie	9,591,000	.....	.....	9,591,000	Gate and Cogswell Creeks, McKenzie River.
Willamette	5,499,700	.....	.....	5,499,700	Salmon Creek—Willamette River Trib.
Sautiam	3,489,800	.....	.....	3,489,800	North Santiam R.—Willamette R. Trib.
Bonneville	9,360,300	2,670,075	.....	12,030,375	Hood, Sandy Rivers, Wind R. Waab. (for U. S. B. F.), Eagle, Tanner Creeks—Columbia R. Trib., Gordon Cr.—Sandy R. Trib., Clackamas R.
Klaskanine	235,830 } 2,997,515 }	759,008 } 1,261,193 }	264,418	5,517,964	Klaskanine, Walluski Rivers—Youngs Bay Trib.	
Trask	4,175,000	571,500	.....	5,295,500	Gold Cr., Trask and Wilson Rivers.
Coos	453,000	3,194,035	2,117,810	5,764,845	South Coos River.	
Wallowa	197,000 } 1,177,000 }	50,000 } 511,100 }	399,600 } 671,100 }	3,005,800	Wallowa River—Snake R. Trib.	
Umpqua	6,015,630	.....	.....	6,015,630	Rock Cr.—Umpqua R. Trib.
South Santiam	1,936,035	.....	.....	1,936,035	South Santiam River.
Herman Creek	2,590,100	.....	.....	2,590,100	Herman Cr.—Columbia R. Trib.
Alsea	1,976,205 } 1,694,950 }	272,950	198,560	4,142,665	Peek, Fall, Smallwood, Cedar Creeks—Alsea R. Trib., No. Fork Alsea R.	
Ten Mile	.....	1,440,500	.....	1,440,500	Templeton Cr.—Ten Mile L. Trib.
Coquille	.....	1,054,670	96,680	1,151,350	Coquille River.
Nehalem	1,973,400	279,150	174,750	2,427,300	Coal, Benathol, Soapstone, Rack Heap, Foley Creeks, S. Fork Nehalem R.—Nehalem R. Trib., Kilehis, Miami Rivers.	
Yaquina	204,000	124,500	.....	328,500	Simpson Cr.—Yaquina R. Trib.
Deschutes	224,000	.....	.....	224,000	Deschutes River.
Grand Totals	53,790,465	12,188,681	2,852,218	1,070,700	549,000	70,451,064

Showing the number of Salmon and Steelhead eggs collected at stations operated by the Fish Commission of the State of Oregon during the period July 1, 1937, to June 30, 1938:

Fisheries Station	Chinook	Silver Salmon	Steelheads	Blueback	Humpback	Chum	Totals
McKenzie	5,022,000						5,022,000
Willamette	4,635,000						4,635,000
Santiam	1,036,000						1,036,000
Santiam Egg Coll. Sta.			774,000				774,000
Bonneville	12,470,000	25,000		105,900			12,600,900
Klaskanine	190,240	2,835,248	101,950			111,600	3,239,038
Trask	3,825,000	3,335,000			5,000		7,165,000
Coos	118,000	9,538,000	1,417,000				11,073,000
Wallowa	255,200						255,200
Umpqua	1,680,100						1,680,100
South Santiam	1,013,000		745,000				1,758,000
Alesea		77,000					77,000
Ten Mile		15,788,000					15,788,000
Nehalem		219,800	82,500				302,300
Yaquina		484,000					484,000
Siletz		629,000					629,000
Tahkenitch		2,305,575					2,305,575
North Lake		6,080,000					6,080,000
Grand Totals	30,541,540	41,316,623	3,120,450	105,900	5,000	111,600	75,201,113

Showing the number of Salmon and Steelhead fingerlings liberated into the waters of the State of Oregon by the Fish Commission during the period July 1, 1937, to June 30, 1938:

Fisheries Station	Chinook	Silver Salmon	Steelheads	Blue-back	Hump-back	Chum	Totals	Where Liberated
McKenzie	4,658,000						4,658,000	Gate and Cogswell Creeks, McKenzie and Yaquina Rivers.
Willamette	3,760,000						3,760,000	Salmon Cr.—Willamette R. Trib.
Santiam	968,000						968,000	North Santiam R.—Willamette R. Trib.
Santiam Egg Coll. Sta.			739,880				739,880	Elk and Dundlap Lakes, Breitenbush River.
Bonneville	8,493,100	1,495,000		88,450			10,076,550	Hood, Sandy Rivers, Suttle L., Eagle, Tannaer Creeks—Columbia R. Trib., Gordon Cr.—Sandy R. Trib.
Klaskanine	1,167,672	4,634,294	94,814			107,645	6,004,425	Klaskanine R.—Youngs Bay Trib.
Trask	3,545,000	3,186,000			3,500		6,734,500	Gold Cr., Trask River.
Coos	111,910	8,855,400	1,088,000				10,055,310	South Coos River.
Mill Creek		2,105,300					2,105,300	Umpqua River.
Wallowa	249,788						249,788	Wallowa River—Snake R. Trib.
Umpqua	1,669,850						1,669,850	Rock Cr.—Umpqua R. Trib.
South Santiam	995,490		705,840				1,701,330	South Santiam River.
Rogue			210,500				210,500	Rogue River and Trib.
Ox Bow (Herman Creek)	1,001,075	1,741,050 2,548,870					5,290,995	Herman Cr.—Columbia R. Trib.
Alesea	498,530	2,925,830					3,424,360	Eckman and Full Creeks, Alesea R. and Trib.
Ten Mile		2,032,000					2,032,000	Templeton Cr.—Ten Mile L. Trib.
Coquille		2,013,050	48,730				2,061,780	Coquille River.
Nehalem	990,000	3,130,000	79,750				4,199,750	Roy, Coal, Jack Horner, Foley, Anderson, Kack Heap, Batterson Creeks.
Yaquina	278,750	1,408,050					1,686,800	Simpson Cr.—Yaquina R. Trib.
Siletz		1,536,500					1,536,500	Rock Cr.—Siletz R. Trib.
Tahkenitch		1,358,000					1,358,000	Harry and Five Mile Cr.—Tahkenitch L. Trib.
North Lake		129,000					129,000	Big Creek—North Lake Trib.
Grand Totals	28,387,165	39,098,344	2,967,514	88,450	3,500	107,645	70,652,618	

SUMMARY

Showing the total number of eggs collected during the fiscal years 1937 and 1938:

	Chinook	Silver Salmon	Steelheads	Blueback	Humpback	Chum	Totals
Total Egg Take—1937.....	57,553,000	9,186,118	3,299,834	509,640	.....	580,000	71,128,592
Total Egg Take—1938.....	30,541,540	41,316,623	3,129,450	105,900	5,000	111,600	75,201,113
Grand Totals.....	88,094,540	50,502,741	6,420,284	615,540	5,000	691,600	146,329,705

Showing the total liberations during the fiscal years 1937 and 1938:

	Chinook	Silver Salmon	Steelheads	Blueback	Humpback	Chum	Totals
Total Liberation—1937.....	53,790,465	12,188,681	2,852,218	1,070,700	.....	549,000	70,451,064
Total Liberation—1938.....	28,387,165	39,098,344	2,967,514	88,450	3,500	107,645	70,652,618
Grand Totals.....	82,177,630	51,287,025	5,819,732	1,159,150	3,500	656,645	141,103,682

Showing egg transfers made during the fiscal year 1937:

Chinook Salmon	Steelheads
118,000 Helsingfors, Finland.	250,080 Game Commission (Bandon).
2,000,000 U. S. Bureau (Clackamas).	
150,000 State of California.	

Showing egg transfers made during the fiscal year 1938:

Chinook Salmon	Silver Salmon
650,000 U. S. Bureau (Clackamas).	70,000 U. S. Bureau (Clackamas).
100,000 Helsingfors, Finland.	

STOCK ON HAND AS OF JUNE 30, 1937

Fisheries Station:	Blueback	Total
Bonneville	90,750	90,750

STOCK ON HAND AS OF JUNE 30, 1938

Fisheries Station:	Blueback	Total
Bonneville	91,550 } 87,350 }	178,900



TABLE OF 1937 LIBERATIONS

Species Liberated	Number Liberated	Size Inches	Age Months
Chinook	53,790,465	1 ¼—5	5—13
Silver Salmon	12,188,681	1 —4	3—12
Steelheads	2,852,218	1 ½—2 ½	3— 5
Blueback	1,070,700	2 ½—3	11—13
Chum	549,000	1 —2 ¾	4— 7
Total Liberated.....	70,451,064		

TABLE OF 1938 LIBERATIONS

Species Liberated	Number Liberated	Size Inches	Age Months
Chinook	28,387,165	1 ¼—5	5—10
Silver Salmon	39,098,344	1 —4 ½	3— 8
Steelheads	2,967,514	1 ¾—3	2— 6
Blueback	88,450	2 ¾—4 ½	13—19
Humpback	3,500	1 ½	6
Chum	107,645	1	5
Total Liberated.....	70,652,618		

FISHERIES STATIONS OPERATED BY THE FISH COMMISSION OF OREGON

Station	Stream	Post Office	In Charge
No. 1	McKenzie River	Leaburg, Oregon	Walter Carter
No. 2	Willamette River	Oakridge, Oregon	Chas. J. Hills
No. 3	Santiam River	Stayton, Oregon	LeRoy Ledgerwood
No. 4	Columbia River	Bonneville, Oregon	E. J. W. Anderson
No. 5	Klaskanine River	Astoria, Oregon	L. W. Hickey
No. 6	Trask River	Tillamook, Oregon	Henry Bolle
No. 7	Coos River	Marshfield, Oregon	Frank W. Smith
No. 8	Mill Creek	Scottsburg, Oregon	Eugene Wessela
No. 9	Umpqua River	Idleld Park, Oregon	Lee McCarn
No. 10	So. Santiam River	Foster, Oregon	C. R. Ellis
No. 11	Rogue River	Illahe, Oregon	Max Frame
No. 12	Ox Bow Springs	Cascade Locks, Oregon	Archie W. Anderson
No. 13	Alsea River	Tidewater, Oregon	M. H. Bales
No. 14	Ten Mile Lake	Lakeside, Oregon	Clifford B. Monson
No. 15	Coquille River	Powers, Oregon	F. L. Thomas
No. 16	Nehalem River	Mohler, Oregon	L. W. Strass
No. 17	Yaquina River	Toledo, Oregon	Chas. Buckbee
No. 18	Deschutes River	Maupin, Oregon	A. B. Smith
No. 19	Siletz River	Nashville, Oregon	Tom Nicklaus
No. 20	Tahkenitch Lake	Gardiner, Oregon	Lloyd N. Taylor
No. 21	North Lake	Lakeside, Oregon	Norman Carlson
No. 22	Sandy River	Sandy, Oregon	Orval Greer
No. 23	Siuslaw River	Mapleton, Oregon	Jess J. Bales
Further expansion:			
No. 24	Siltcoos Lake	Florence, Oregon	
No. 25	Tillasqua River	Astoria, Oregon	



FISH COMMISSION OF THE STATE OF OREGON

- SALMON CULTURE STATIONS
- SUBSTATION - FEEDING PONDS
- ⊕ SUBSTATION - BAIT DRES

- | | |
|--------------------------------|-----------------------------|
| 1 - WILLAMETTE RIVER | 11 - ROUSE RIVER |
| 1A - WILLAMETTE FEEDING PONDS | 12 - DE BON STATION |
| 1B - WILLAMETTE COG STATION | 13 - ALMA RIVER |
| 2 - WILLAMETTE RIVER | 14 - TEN MILE LAKE |
| 2A - WILLAMETTE COG STATION | 15 - COPOLAN RIVER |
| 3 - NORTH SANTIAM RIVER | 16 - MOUNTAIN RIVER |
| 3A - NORTH SANTIAM COG STATION | 17 - TAPUNA RIVER |
| 4 - BONNEVILLE | 18 - DESCHUTES (OUT ON MAP) |
| 5 - KUMMING RIVER | 19 - SILETS RIVER |
| 6 - TUMAS RIVER | 20 - TANKERSON LAKE |
| 7 - COOK RIVER | 21 - NORTH LAKE |
| 8 - MILL CREEK | 22 - SANDY RIVER |
| 9 - UMPQUA RIVER | 23 - SULLY RIVER |
| 10 - SOUTH SANTIAM RIVER | 24 - SULLY LAKE |

SCALE IN MILES

PACIFIC OCEAN

WASHINGTON

CALIFORNIA