BIENNIAL REPORT

OF THE

FISH COMMISSION

OF THE

STATE OF OREGON

FOR

1933 AND 1934

BIENNIAL REPORT

OF THE

FISH COMMISSION

OF THE STATE OF OREGON

TO THE

GOVERNOR AND THE THIRTY-EIGHTH LEGISLATIVE ASSEMBLY

1935

FISH COMMISSION OF THE STATE OF OREGON
Hon. John C. Veatch, Chairman, Portland
Hon. C. A. Leinenweber, Astoria
Hon R. S. Farrell, Portland
M T. Hoy, Secretary and Master Fish Warden

LETTER OF TRANSMITTAL

Portland, Oregon, July 1, 1934.

TO HIS EXCELLENCY, the GOVERNOR, and the MEMBERS
of the THIRTY-EIGHTH LEGISLATIVE ASSEMBLY.

Gentlemen:

Herewith is transmitted the biennial report of the Fish Commission of the State of Oregon covering the period from December 1st, 1932, to June 30th, 1934.

FISH COMMISSION OF OREGON,
John C. Veatch, Chairman.

LETTER OF TRANSMITTAL

Portland, Oregon, July 1, 1934.

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

Gentlemen:

I herewith submit to you the financial statement of the Master Fish Warden for the years 1933 and 1934. As the fiscal year of all state departments was fixed by statute as ending June 30th, all statements herein are rendered as of that date. In changing from our former fiscal year ending of November 30th, we have for 1933 set up a short year—all reports therein covering the period December 1st, 1932, to June 30th, 1933. The report for 1934 covers a full fiscal year from July 1st, 1933, to June 30th, 1934.

While receipts and disbursements for each of the two periods as above stated are included under the same financial statement, the Master Fish Warden controls only such expenditures as are necessary for law enforcement under the Department of State Police, and for office employees under his supervision. All disbursements for hatchery operations or fish cultural functions are under the control of and made by the Supervisor of the Department of Fish Culture.

Respectfully submitted,

M. T. HOY,
Master Fish Warden.

HATCHERY FUND—RECEIPTS

	7 MONTHS Dec. 1, 1932, to June 30, 1933			12 MONTHS July 1, 1933, to June 30, 1934		
	No.	Amount	Deficit	No.	Amount	Deficit
Deficit	....	.....	$26,792.45	....	.....	$ 4,705.90
Gillnet licenses	989	$ 7,417.50		1321	$ 9,907.50	
Setnets @ $3.75	437	1,638.75		1044	3,915.00	
Setnets @ $23.75	1	23.75		0	.00	
Troll Delivery	6	45.00		5	37.50	
Traps	34	850.00		28	700.00	
Seines	18	797.40		56	2,059.98	
Trolls	0	.00		28	70.00	
Boatpullers	381	952.50		461	1,152.50	
Retail fish dealers and peddlers	774	3,870.00		853	4,265.00	
Buyers	89	178.00		104	208.00	
Wholesale fish dealers	75	1,875.00		96	2,400.00	
Salmon canners	9	225.00		14	350.00	
Shell fish canners	8	103.92		5	61.54	
Brokers	2	100.00		4	200.00	
Boat or scows	88	176.00		119	238.00	
Bagnets	91	455.00		150	750.00	
Clams	166	830.00		126	630.00	
Crabs	116	580.00		279	1,395.00	
Crawfish	16	80.00		39	195.00	
Oysters	0	.00		2	10.00	
Setlines	28	28.00		99	99.00	
	3328	$20,225.82		4833	$28,644.02	
Poundage fees		42,549.27			82,059.63	
Additional fees on crabs		184.74			703.14	
Additional fees on clams		96.49			130.69	
Additional fees on oysters		24.00			25.25	
Fines		545.00			1,284.30	
Sale of confiscated property		585.29			610.79	
Fish, crab and oyster tags		470.11			355.64	
Sundries		5,707.32			502.21	
		$70,388.04			$114,315.67	
Less 5 per cent deducted for Sinking Fund		2,363.82				
Less 3 per cent deducted for General Fund		.00			3,305.21	
		$68,024.22			$111,010.46	
Cancellation of Voucher No. 11349		.00			436.00	
Transferred money from Sinking Fund		2,980.90				
Transferred money from Seal Fund		2,760.18				
Transferred funds from State Police		14.30	$73,779.60			$111,446.46
			$46,987.15			$106,740.56

HATCHERY FUND—DISBURSEMENTS

	7 MONTHS Dec. 1, 1932, to June 30, 1933		12 MONTHS July 1, 1933, to June 30, 1934	
Commissioners:				
Salaries	$ .00		$ 453.00	
Expenses	.00	$ .00	197.75	$ 650.75
Master Fish Warden:				
Salary	$ 1,734.00		$ 2,952.00	
Expenses	89.96	1,823.96	144.20	3,096.20
Office Expense:				
Salaries	$ 3,855.75		$ 6,555.00	
Fares	94.80		219.20	
Meals and Lodging	15.00		69.40	
General Office Supplies	41.81		166.53	
Telephone and Telegraph	298.97		475.62	
Postage	406.02		580.80	
Stationery and Printing	801.40		655.33	
Rent	908.64		1,481.28	
Freight, Cartage and Express	1.92		2.98	
Repairs	37.09		27.90	
Reports	209.50		.00	
Photos	.00		10.00	
Towel Supply and Laundry	9.00		15.00	
Newspapers and Periodicals	20.10		35.00	
Furniture	5.25	6,705.25	.00	10,294.04
Patrol Service:				
Salaries	$ 3,494.06		$ 5,650.50	
Fares	88.85		88.85	
Gas and Oil	92.76		408.81	
Meals and Lodging	244.05		512.05	
Telephone and Telegraph	3.85		.00	
Postage	1.20		.00	
Freight, Cartage and Express	1.70		.70	
Rent	142.50		255.50	
Tools and Supplies	182.18		228.96	
Repairs and Supplies	310.96	4,562.11	2,121.45	9,266.82
State Police		6,933.83		11,748.00
Fishways		.00		883.23
Investigations		.00		465.25
Refunds		120.75		255.66
Motor Vehicles		1,097.14		3,535.38
Miscellaneous:				
Surety Bonds	$ 82.50		$ 82.50	
Insurance	211.20		156.61	
Workmen's Compensation Payments	916.11		1,514.20	
Restoration Fund	115.80		232.98	
Confiscated Property	43.00		71.00	
Ammunition	5.08		8.50	
Audit	137.50		127.60	
Fish, Crab and Oyster Tags	45.75		300.00	
Killing Seals	180.00		.00	
Reciprocal Fish Tax to Washington	.00		14,298.90	
Survey and Maps	.00		20.00	
Sewage Plant and Sulphite Waste Study	.00	1,736.94	150.00	16,962.29

HATCHERY FUND—DISBURSEMENTS—Continued

Distribution		171.03		734.13
Fish Food:				
Labor	$ 69.59		$ 260.46	
Employees' Expenses	87.35		65.75	
Gas and Oil	89.24		245.96	
Repairs	20.05		111.72	
Boxes, Ammonia and Supplies	288.52		458.40	
Freight, Cartage and Express	69.38		550.64	
Storage and Freezing	140.86		3,346.16	
Fish Food	.00		1,266.73	
Electricity and Water	3.86		91.86	
Cold Storage Construction, McKenzie	300.00	1,068.85	600.00	6,997.68
Director of Hatcheries:				
Salary	$ 1,960.00		$ 3,360.00	
Expenses	128.95	2,088.95	202.10	3,562.10
Salmon Propagation:				
General Expenses	$ 790.62		$ 2,004.16	
Operation	22,371.62		31,892.32	
Maintenance	1,553.57		14,339.91	
Capital Outlay	668.43	25,384.24	2,480.00	50,716.39
Total Disbursements		$51,693.05		$119,167.92
Deficit, June 30th		$ 4,705.90		$ 12,427.36
Accounts receivable, now due on account of poundage fees		$60,009.12		$ 48,954.06

Sherar's Falls

A natural barrier across the Deschutes River, some distance below Maupin, Oregon. Note present fishway along west bank, which is being augmented by the construction of a new passageway adjacent to small island in center of picture.

SALMON PROPAGATION

December 1, 1932, to June 30, 1933

7 MONTHS

Station	General Expense	Operation	Maintenance	Capital Outlay	Total
McKenzie	$ 36.79	$ 1,870.94	$ .00	$ .00	$ 1,907.73
McKenzie Egg Collecting	.60	764.24	.00	350.00	1,114.84
Willamette	38.76	1,539.55	.75	200.00	1,779.06
Willamette Egg Collecting	.00	810.14	.00	.00	810.14
North Santiam	9.03	1,385.41	.00	.00	1,394.44
Breitenbush Egg Collecting	17.97	568.51	24.98	.00	611.46
Bonneville	77.40	3,247.34	526.62	.00	3,851.36
Klaskanine	68.31	1,533.02	136.30	16.25	1,753.88
Trask	131.00	1,166.57	101.73	.00	1,399.30
Coos	46.04	1,481.95	143.24	46.78	1,718.01
Wallowa	32.31	1,352.00	147.26	.00	1,531.57
Umpqua	4.94	1,386.00	84.00	.00	1,474.94
South Santiam	56.00	974.42	205.49	8.75	1,244.66
Nestucca	66.00	436.36	6.67	.00	509.03
Herman Creek	10.25	615.95	14.02	.00	640.22
Alsea	21.08	1,138.39	134.20	46.65	1,340.32
Siuslaw	12.88	504.50	.00	.00	517.38
Coquille	55.51	520.00	12.16	.00	587.67
Nehalem	105.75	626.33	16.15	.00	748.23
U. S. Government Cooperation	.00	450.00	.00	.00	450.00
	$ 790.62	$22,371.62	$1,553.57	$ 668.43	$25,384.24

SALMON PROPAGATION

July 1, 1933, to June 30, 1934

12 MONTHS

Station	General Expense	Operation	Maintenance	Capital Outlay	Total
McKenzie	$ 230.91	$ 3,175.36	$ 900.44	$ .00	$ 4,306.71
McKenzie Egg Collecting	2.59	2,025.87	57.96	26.00	2,112.42
Willamette	193.86	1,904.26	778.55	931.18	3,807.85
Willamette Egg Collecting	120.00	802.21	30.08	.00	952.29
North Santiam	60.37	1,878.95	1,129.82	.00	3,069.14
Breitenbush Egg Collecting	11.50	863.08	295.12	.00	1,169.70
Bonneville	192.00	4,496.69	3,134.36	736.08	8,559.13
Klaskanine	214.14	1,772.82	2,139.57	396.65	4,523.18
Trask	147.37	1,710.07	1,189.71	.00	3,047.15
Coos	32.78	2,119.23	758.83	22.50	2,933.34
Wallowa	95.89	2,522.38	1,063.87	.00	3,682.14
Umpqua	136.39	1,755.23	831.13	.00	2,722.75
South Santiam	97.53	1,654.64	147.13	.00	1,899.30
Nestucca	66.82	698.22	86.70	9.30	861.04
Herman Creek	20.61	1,083.73	62.97	.00	1,167.31
Alsea	95.46	935.04	868.31	30.81	1,929.62
Coquille	68.30	143.12	149.48	.00	360.90
Nehalem	123.90	506.42	407.92	300.93	1,339.17
Rogue	34.60	388.00	307.96	26.55	757.11
U. S. Government Cooperation	.00	1,457.00	.00	.00	1,457.00
Salmon, Idaho	59.14	.00	.00	.00	59.14
	$2,004.16	$31,892.32	$14,339.91	$2,480.00	$50,716.39

FINANCIAL STATEMENT—PERIOD ENDING JUNE 30, 1933

SEAL FUND—RECEIPTS

Balance on hand, November 30, 1932			$3,054.81
5 Gillnet certificates @ $2.50	$12 50		
12 Setnet certificates @ 2.50	30 00	$42 50	
Less 5 per cent deducted for Sinking Fund		2 13	40.37
			$3,095.18

SEAL FUND—DISBURSEMENTS

		No. Bounties — Seals	Amount			No. Bounties — Seals	Amount
Beck, Thorvold	Astoria	7	$35 00	Jones, Ralph	Cushman	1	$5 00
Bell, John H	Svensen	7	35 00	Jordan, Herman	Taft	1	5 00
Casper, C	Astoria	1	5 00	Jutstrom, Alfred	Marshfield	2	10 00
Clinton, Fred	Leneve	1	5 00	Larson, Otto	Oswego	2	10 00
Driscoll, Tim L	Wauna	7	35 00	Larson, Otto	Oswego	1	5 00
Erickson, Albert	Astoria	1	5 00	McColley, Roy	Wedderburn	1	5 00
Gentry, Loyd	Otis	1	5 00	Olsen, H J	Netarts	1	5 00
Gorman, Andy	Astoria	1	5 00	Peck, J J	Waldport	1	5 00
Haataja, Matt A	Astoria	1	5 00	Perry, L C	Warrenton	1	5 00
Hanson, Karl I	Astoria	2	10 00	Puustinen, William	Svensen	2	10 00
Harris, Joe R	Bandon	1	5 00	Reiling, Chas	Oregon City	1	5 00
Hicks, James	Wauna	2	10 00	Renfro, Bert	Tillamook	1	5 00
Holthe, Martin	Astoria	1	5 00	Smith, William	Florence	1	5 00
Hubbard, C	Waldport	1	5 00	Steenson, Alexander	Brighton	1	5 00
Ingram, Carl	Gold Beach	1	5 00	Turner, Nick	Gold Beach	2	10 00
Jackson, Victor	Astoria	1	5 00	Wade, E M	Oswego	2	10 00
Jenson, J P	Astoria	1	5 00	Walker, L	Hammond	9	45.00
						67	
							$335.00
Balance on hand June 30th							$2,760.18

SUMMARY

67 Seal Bounties @ $5.00 ..... $335.00

NOTE: Law creating the Seal Fund was repealed at the 1933 Legislative Assembly. The balance on hand June 30th was transferred to the Hatchery Fund.

ARRESTS FOR VIOLATION OF COMMERCIAL FISHING LAWS

December 1, 1932, to June 30, 1933

7 MONTHS

Attempting to take fish from fishway	2
Dealing in food or shell fish without license	33
Digging overlimit of clams	4
Fishing closed season	13
Fishing closed waters	6
Fishing without license	71
Gaffing or foul-hooking food fish	32
Operating Chinese sturgeon line	2
Operating crab cannery without license	1
Operating setnet without monument	1
No license number on boat	6
Possession of illegal fish	11
Possession of wet net in boat during closed season	1
Purchasing food fish from unlicensed seine	1
Selling undersized crabs	1
Using explosives to kill salmon	1
Using razor clams for bait	1
	187

ARRESTS AND DISPOSITION OF CASES

December 1, 1932 to June 30, 1933

7 MONTHS

County	Number of Arrests	Number of Convictions	Number Dismissed or Not Guilty	Amount of Fine Imposed	Amount of Fine Remitted or Suspended	Number Paroled or Suspended	Number Imprisoned	Number Continued for Sentence
Clackamas	19	17	2	$ 360.00	$ 275.00	12	4	..
Clatsop	22	21	1	610.00	535.00	17	3	1
Columbia	10	9	1	900.00	360.00	4	4	..
Coos	2	2	..	200.00	.....	..	2	..
Curry	13	4	9	400.00	400.00	4	..	..
Douglas	10	8	2	250.00	175.00	6	1	..
Hood River	2	1	1	100.00	90.00	1	..	..
Jackson	5	3	2	300.00	.....	..	..	..
Josephine	2	2	..	.....	.....	..	2	..
Lane	14	12	2	475.00	475.00	10	5	..
Lincoln	45	39	6	1,020.00	975.00	35	..	..
Linn	3	3	..	50.00	25.00	1	1	..
Marion	2	2	..	150.00	150.00	2	..	..
Morrow	3	3	..	75.00	50.00	2	..	..
Multnomah	4	3	1	130.00	125.00	2	..	..
Tillamook	15	14	1	475.00	455.00	14	1	..
Union	1	1	..	100.00	.....	..	..	..
Wasco	14	12	2	600.00	600.00	12	..	..
Washington	1	1	..	50.00	40.00	1	..	..
	187	157	30	$6,245.00	$4,730.00	123	23	1

ARRESTS FOR VIOLATION OF COMMERCIAL FISHING LAWS

July 1, 1933, to June 30, 1934

12 MONTHS

Canning crabs without license	1
Dealing in food or shell fish without license	68
Failure to close traps during weekend closed period	2
Failure to keep proper records, transportation of food fish	1
Falsifying crab catch records	1
Fishing closed season	3
Fishing closed waters	24
Fishing without license	43
Gaffing or foul-hooking food fish	36
Hauling fish from a closed stream	1
Illegally operating a setline	1
Illegally taking oysters from State oyster beds	1
No license number on boat or nets	7
Operating setnets closer than 150 feet	2
Over bag limit of salmon	3
Possession of illegal fish	11
Possession of net in boat during closed season	3
Possession of under-sized sturgeon	5
Setting net more than one-third across stream	22
Transportation and illegal possession of untagged salmon	4
Trapping salmon with wire net	5
Trespassing on fishway, molesting and taking fish therefrom	3
Using explosives to kill salmon	2
Using razor clams for bait	1
Whip-seining in Sixes River	7
	257

ARRESTS AND DISPOSITION OF CASES

July 1, 1933, to June 30, 1934

12 MONTHS

County	Number of Arrests	Number of Convictions	Number Dismissed or Not Guilty	Amount of Fine Imposed	Amount of Fine Remitted or Suspended	Number Pardoned, Paroled or Suspended	Number Imprisoned	Number Continued for Sentence
Clackamas	8	4	4	$ 60.00	$ 40.00	2	..	..
Clatsop	5	4	1	500.00	50.00	1	2	..
Columbia	8	7	1	450.00	380.00	6	2	1
Coos	27	26	1	2,200.00	1,750.00	25	2	1
Curry	12	9	3	875.00	605.00	7	1	..
Douglas	18	11	7	1,025.00	265.00	3	6	..
Jackson	1	1	..	25.00	25.00	1	..	..
Jefferson	1	1	..	50.00	50.00	1	..	..
Josephine	3	3	..	25.00	25.00	2	1	..
Lane	14	14	..	410.00	295.00	10	..	..
Lincoln	43	39	4	1,441.50	1,275.00	38	5	..
Linn	7	7	..	250.00	75.00	3	4	..
Malheur	1	1	..	100.00	100.00	1	..	..
Marion	2	2	..	30.00	5.00	1	1	..
Morrow	4	4	..	225.00	150.00	3	..	..
Multnomah	41	5	36	350.00	50.00	1	..	2
Tillamook	55	46	9	2,405.00	1,730.00	42	2	1
Union	3	3	..	75.00	50.00	2	..	..
Wasco	3	3	..	150.00	100.00	3	..	..
Yamhill	1	1	..	25.00	25.00	1	..	..
	257	191	66	$10,671.50	$7,045.00	153	26	5

PACK OF CANNED SALMON ON THE COLUMBIA RIVER FROM THE INCEPTION OF THE INDUSTRY TO 1933

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	288,773	1,559,374	30,459	152,295	29,107	116,428	2,311	$ 6,933	65,226	260,904	415,876	2,095,934
1894	24	351,106	1,896,976	43,814	224,430	42,758	171,032	.....	.....	52,422	209,688	490,100	2,501,126
1895	24	444,909	2,428,658	18,015	86,523	99,601	329,683	22,493	62,591	49,678	203,542	634,696	3,110,997
1896	24	370,943	1,804,511	16,983	81,518	44,108	141,145	.....	.....	49,663	198,652	481,697	2,261,826
1897	22	432,753	1,804,221	12,972	51,888	60,850	197,762	.....	.....	46,146	165,440	552,721	2,219,311
1898	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	2,282,296
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	258,433	.....	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	99,776	†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	2,319,856
1913	15	192,116	1,664,670	11,152	93,677	40,969	175,412	13,303	29,486	8,939	49,142	266,479	2,012,387
1914	17	289,464	2,573,502	35,311	376,924	69,769	380,666	49,285	205,541	10,792	59,356	454,621	3,595,989
1915	19	406,486	3,694,361	5,459	56,707	33,336	173,234	86,530	251,632	26,723	129,358	558,534	4,305,292
1916	20	395,166	3,572,203	3,790	27,288	52,084	335,114	77,766	307,483	18,999	118,987	547,805	4,361,075
1917	20	403,637	5,023,529	7,968	111,552	64,299	700,680	53,659	386,596	23,783	292,538	555,218	6,530,939
1918	20	400,952	5,222,983	37,833	605,328	98,145	1,072,843	29,846	215,669	24,605	350,071	591,381	7,466,924
1919	21	392,125	5,455,550	7,268	145,360	90,728	1,142,767	75,493	541,989	14,414	205,254	580,028	7,490,920
1920	22	429,467	5,661,580	2,617	62,808	27,024	257,806	18,792	99,564	12,645	116,859	481,545	6,198,617
1921	20	267,582	3,761,321	6,045	120,900	34,381	233,372	4,821	19,791	10,142	68,266	323,241	4,203,649
1922	23	237,230	3,724,393	30,743	614,860	90,437	633,935	8,844	47,130	24,920	186,675	392,174	5,206,993
1923	23	289,586	4,967,657	38,309	766,180	101,554	673,954	25,508	135,168	25,968	187,965	480,925	6,730,924
1924	22	293,716	4,508,236	7,366	129,840	112,308	992,865	57,748	303,356	29,734	285,107	500,872	6,219,404
1925	21	350,809	5,423,129	5,650	106,220	113,554	1,488,855	55,812	272,398	14,637	177,866	540,452	7,468,468
1926	21	295,302	4,744,113	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
												27,346,861	$213,191,728

*Of these, 2,846 cases, valued at $23,203, were packed with Sockeyes brought from Puget Sound.

†55 cases of Humpbacks, valued at $132, were also packed with Humpbacks brought from Puget Sound.

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

To the
Honorable John C. Veatch, Chairman,
Honorable C. A. Leinenweber,
Honorable R. S. Farrell,
MEMBERS of the FISH COMMISSION of the STATE OF OREGON.

Gentlemen:

During the past biennium the work of the department of Master Fish Warden and that of the Supervisor of Hatcheries overlapped considerably. Therefore it has been decided, for the sake of clarity and to avoid repetition, to make a joint report. This procedure was also deemed advisable in view of the fact that we have carried on a great deal of the Department's work jointly, rather than as the executive officers of our respective departments.

The 1933 session of the legislature fixed the fiscal year of all state departments as June 30th, making it necessary to change the ending of our fiscal year from November 30th to June 30th. For that reason our biennial report has been prepared on the basis of nineteen months instead of twenty-four months as formerly. The short period of seven months being from December 1st, 1932, to June 30th, 1933; the full year covering from July 1st, 1933, to June 30th, 1934.

During this biennium the Department has been confronted with and has been called upon to give consideration to many things in connection with the hydro-electric project at Bonneville, relief work under the CWA, PWA, SERA, etc., which were not formerly met as a part of our regular routine. It is not necessary to call attention to the fact that matters of the importance of those referred to have required an unusual amount of our personal time and attention, as well as having exacted much extra time and attention of the Commission itself, as a body. These matters, due to their importance and ultimate effect on the industry in general, are deemed of sufficient interest to justify individual comment. We, therefore, desire to deal with each subject separately in the order of their importance.

Bonneville Hydro-electric Project

In 1933 Congress appropriated the sum of thirty-one million dollars for the construction of a proposed hydro-electric project in the Columbia River near Bonneville, Oregon. Under governmental administration the actual work of constructing this dam was turned over to the U. S. Engineers under the War Department. Immediately upon making public the information that the proposed construction was to become a reality, all persons directly connected with the fishery of the Pacific Northwest became vitally concerned over the future of their industry. It was at once realized, and frankly admitted, that the great Columbia River salmon runs, and indirectly the industry itself, would be seriously menaced unless proper and adequate provisions were made for the passage of adult salmon upstream to their spawning areas and for passing seaward migrants downstream over this barrier. With the first preliminary considerations of the problems confronting the industry and the realization of the obstacles which must be overcome in safeguarding it, more than the usual apprehension occasioned by previous installations of this nature was found in the minds of those depending upon the preservation and continued perpetuation of these valuable salmon runs. The fact that the construction of a dam of the magnitude of that proposed at Bonneville in a major salmon stream such as the Columbia River was without precedent was recognized. True, hydro-electric projects had been previously constructed in the upper reaches of the Columbia River, but never, so far as was known, had a dam been constructed on a major salmon stream in tidewater, as was the case in this instance. The location of this proposed dam was not only at tidewater, but was immediately below the first natural rapids or white water area which the salmon in their annual migration were required to ascend. Obviously the safeguarding of this valuable resource and the designing of plans to provide adequate passageways over this barrier was too great a task, and the ultimate results to be achieved of too vast importance, to be carried out by any one state department or individual.

It was found that all state departments, fisheries officials, fishermen, packers and sportsmen's organizations directly interested were apparently of one mind insofar as this particular conclusion was concerned. It was also apparent that to adequately safeguard and insure the future of the salmon industry of the Columbia River, both during and after the construction of the project, would challenge the combined efforts and endeavors of all parties even though it was felt—and

rightfully so—that the invaluable cooperation and assistance of the U. S. Engineers would be available in formulating and completing whatever plans the combined groups might decide upon.

Since the states of Oregon and Washington were most vitally concerned, their respective fisheries officials met in a general round-table discussion of the problems in November, 1933. The outcome of this informal conference resulted in the soliciting of the cooperation of the Idaho Fish and Game Department, as well as of packers and fishermen in the three states, and the organization of the tri-state committee, so called, to deal with the problem. On November 8th, 1933, the various officials of the respective Fish and Game Departments met at Lewiston, Idaho, and formed the nucleus of a committee later to be known as the Interstate Fish Conservation Committee—the expressed purpose and duty of which was to consider the proposed Bonneville project and to decide upon the general types of passageways and other safeguards for the protection, preservation and continued perpetuation of the Columbia River salmon.

At a subsequent meeting of this Committee held in Portland, final organization was completed and the Committee was in a position to function. The Committee was to consist of eleven members to be made up as follows:

One to represent the Fish Commission of the State of Oregon,
One to represent the Fish Commission of the State of Washington,
One to represent the Game Commission of the State of Oregon,
One to represent the Game Commission of the State of Washington,
One to represent the Fish and Game Department of the State of Idaho.
One to represent the packers on the Oregon side of the Columbia River,
One to represent the packers on the Washington side of the Columbia River,
One to represent the fishermen on the Oregon side of the Columbia River,
One to represent the fishermen on the Washington side of the Columbia River,
One to represent the fishermen of the Pacific Coast at large,
One to represent the U. S. Bureau of Fisheries.

The Committee on the same day held their first official meeting and elected officers. Harlan B. Holmes, representative of the U. S. Bureau of Fisheries, was elected Chairman; Hugh C. Mitchell, representative of the Fish Commission of the State of Oregon, was elected Secretary. The Committee then secured the services of Milo C. Bell as engineer to work in cooperation with Mr. Henry F. Blood, as engineer for the U. S. Bureau of Fisheries. Both engineers were to maintain close contact with the U. S. Engineers, Bonneville Dam Section, who were directly engaged in the preparation of plans for the proposed structure.

After many subsequent meetings of the Committee and weeks of studying the problem from a fisheries standpoint, during which time many experiments were made, the Committee met early in the summer of 1934 to give final consideration to the general type and location of fishways for installation at Bonneville. Two general types had survived by process of elimination as being more meritorious and dependable, and were considered by the Committee. These were the so-called lift or fish locks, and the conventional type gravity fishway. In the final consideration of the Committee, the conventional type of gravity fishway was decided upon by a five to two vote. It was also decided that the fish lift or locks might be installed in addition to the gravity type as an experiment for the purpose of proving its efficiency.

It was decided that an installation of the magnitude of Bonneville would require not less than five fishways, the general locations of which were to be as follows:

One on the north side of the main spillway dam in the State of Washington,
One on the south side of the main spillway dam on Bradford Island,
One on the north end of the power house section in Bradford Slough on Bradford Island,
One on the south end of the power house section in Bradford Slough on the Oregon shore,
One from the up-river end of the ship locks on the Oregon Shore to the mouth of Tanner Creek.

Following the meeting of the Committee above referred to, the various fisheries departments, as well as the U. S. Bureau of Fisheries, presented their written recommendations as to general type and location of fishways at Bonneville to Colonel Robins, Divisional Engineer. Shortly after receiving these recommendations Colonel Robins held a public hearing at the Chamber of Commerce, Portland, Oregon, at which all parties interested were heard. The consensus of opinion at this hearing was in favor of conventional type gravity fishways for installation at Bonneville and was apparently based upon and justified by the fact that conventional gravity type fishways were the only tried and proven devices for the passing of fish over artificial barriers; also that it was

illogical to jeopardize an industry of the magnitude of the Columbia River fisheries through placing dependence in the so-called lift or locks, since they were theoretical and unproven so far as could be learned.

Colonel Robins, after carefully considering the presentations at the hearing, rendered a report and recommendation to his superior in Washington, D. C., in which he stated that in his opinion it was obvious that the major dependence for the passage of fish at Bonneville must be placed in the conventional gravity type fishways and that he, therefore, recommended the installation of five gravity type fishways at the general locations heretofore described; and that in addition he recommended the installation of a fish lift at the north end of the main spillway dam on the Washington shore, and a fish lift at the south end of the power house section on the Oregon shore—both to be in addition to the conventional type gravity fishways already recommended for these locations.

Up to the present time only general types and locations of fishways at Bonneville have been decided upon. There yet remains for the consideration and determination of state fisheries departments and of all others concerned, the final details and permanent locations of these devices, as well as the important consideration of additional water supply, attraction, control, location of downstream by-passes, etc. The question of fishways to adequately safeguard the salmon runs at Bonneville is by no means settled. We feel that the problems enumerated, which yet confront fisheries departments of the three states affected, as well as the industry in general, is of the utmost importance and that the future of the industry depends to a great extent upon their final determination. We would also call the attention of your Honorable Body to the fact that in addition to the final determination of these details, there is yet to be met and surmounted the difficult task of passing and safeguarding our salmon runs during the two or three years required for the construction of this project. To successfully do so will obviously require the whole attention of one or more individuals possessing a complete and thorough knowledge of the subject, and whose reputation and experience in fishway matters is not to be questioned.

Construction, Expansion and Rearrangement of Hatchery Facilities at Bonneville Hatchery Occasioned by the Construction of the Bonneville Hydro-electric Project and the Relocation of the Union Pacific Railroad

During the early stages of actual construction on the Bonneville hydro-electric project it was found that the U. S. Engineers, under the War Department, would require certain parcels of land owned by the Fish Commission of the State of Oregon. It being the desire and purpose of the Commission, and of you members thereof as individuals, to assist and cooperate with the U. S. Engineers, we have, in accordance with your instructions, assisted in every way possible whenever opportunity presented. Many applications and petitions which were filed with this Department for the leasing or purchase of properties in this area to be used by private individuals or commercial enterprises, were denied in order that the U. S. Engineers might obtain whatever land necessary or desirable. Workmen, contractors, engineers and others dealing with the government at Bonneville were given free access to, as well as ingress and egress over and through, the hatchery properties for the purpose of facilitating and rendering their operations more convenient.

Almost immediately after active construction in the excavation of the ship-locks and the construction of cofferdams was begun, the engineers found it necessary to construct a roadway from the Columbia River Highway near Tyrrell's Tavern to the general site. They applied to this Department for the purchase of a strip of land along the east boundary of the hatchery properties on which to construct the proposed road. Title to the desired parcel of land, which was approximately 150 feet wide and something over 480 feet long, and which contained slightly over four acres, was immediately conveyed to the United States of America. As the work progressed those in charge of acquiring rights of way and land found it desirable, for the purpose of straightening and arranging their boundary line and setting their permanent monuments, to include a small parcel of land along our northeast boundary. This parcel contained approximately two and one-half acres.

During the summer, U. S. Engineers, under Major McKennett, conferred with the Union Pacific Railroad relative to the relocation of their main line and passing track on some route which would be above the high water line east of the dam. In working out this problem, the engineers were considering two plans. The first contemplated a dirt fill across the low-lying area south of the state hatchery over Tanner Creek, following a course which would keep the tracks just a short distance north of the main Columbia River Highway. The second contemplated the construction

of a spandrel arch viaduct over the same route. The fill would have required a strip of ground approximately 250 feet in width, to provide sufficient top-breadth for double tracks. It was finally decided to abandon the fill idea and to construct in its stead the concrete spandrel arch viaduct. The ground or property necessary for this structure was a strip approximately 75 feet in width and some 900 to 1000 feet in length. Upon finding that this met with the approval of the Fish Commission, and that the necessary property would be conveyed, the U. S. Engineers proceeded with the relocation of the railroad and are at the present time making necessary surveys to establish the description of the property to be acquired.

From the above it is easy to understand that the U. S. Engineers found it necessary to utilize parcels of land on the north, east and south sides of the hatchery grounds—in all, probably ten acres, more or less, has been taken from Commission's holdings. While one might realize that this would tend to confine future hatchery operations to a more central area, it is not possible, without complete and detailed knowledge of the Commission's facilities at that point, to accurately visualize and fully comprehend to what degree the whole scheme has confined hatchery operations and necessitated rearranging and adjusting facilities not permanently abandoned. In fact it might be said, without any undue stretch of the imagination, that the Commission's future operation at this station will be limited or confined to a very centralized area, which, when its final readjustment is completed, will not comprise more than seventy-five per cent of the area formerly available. The decision of the U. S. Engineers to construct a viaduct instead of utilizing a dirt fill for the relocation of the railroad necessitated a relocation of their own entrance roadway to the project. Under the schedule calling for the dirt fill, it was planned to have used an underground crossing near the present roadway. The construction of the viaduct will not permit the use of this underground crossing, but will require their roadway in that area immediately adjacent to the Columbia River Highway to pass through or under the first or easterly arch of the viaduct. This relocation requires a still further small parcel of ground from Commission properties. In fact the proposed location of this new entrance road so closely crowds the water flume near our power house as to make it impossible at this time to determine whether or not the flume will have to be moved.

In addition to changes indicated above, the relocation of the railroad will necessitate the complete removal of the feed room and cold storage plant. In all probability it will interfere with the operations of ponds 14 and 17, and where it crosses the flume and water supply pipe-lines (12-inch and 24-inch, respectively), will require the relocation and reinstallation of same in that area covered by the structure. In addition, the viaduct crosses the Commission's present entrance road in such a manner as to render it undesirable as a future entrance to the hatchery. Therefore, the present roadway has been abandoned and the U. S. Engineers have constructed in lieu thereof a new entrance along the northern line of our property adjacent to the Federal Reserve. It is proposed that the Commission use the entrance roadway to the Bonneville Dam as far as the northern boundary line, at which point the new roadway to the hatchery branches off. This will in effect mean that the general layout of the Commission's holdings is reversed. The front or entrance to the hatchery and grounds will now be on the north side facing government properties and the Columbia River, while the former entrance will become the rear or back-door to the hatchery grounds.

Since the cold storage room and feed room are to be reconstructed, the water supply pipe-lines partially renewed and relocated, a new dwelling and cottage constructed to replace the three which are on the new roadway and will be razed, additional pond area provided, not only to replace or make up for the possible loss of the use of ponds 14 and 17 but to provide the necessary space for handling the increased load or output which it is believed this station will be called upon to handle due to the ultimate effects of the project, and since certain other adjustments and rearrangements appear necessary or desirable from the standpoint of efficiency and economy, it is planned to rearrange the entire station in a general way. Realizing that you gentlemen favor this tentative proposal for the rebuilding, rearrangement and improvement of the station as a whole, plans toward that end are already well under way. An architect has prepared tentative plans for the cold storage plant; the utility building containing feed room, garage, general shop and store room; a dwelling; a cottage, and a modern and up-to-date hatchery building to be located in a more scenic and commanding setting in the grove facing the residential district of the Bonneville Dam project. The site of the present hatchery will be utilized for the construction of additional ponds to provide the increased capacity necessary for the future operation of this station. Engineers for a local refrigeration and ice machine company have prepared and furnished detailed specifications covering adequate refrigeration for the cold storage plant which has a one hundred ton

capacity; also to provide for a sharp freezer of suitable size, and to operate a small ice making plant of nominal tonnage.

To further, and to eventually consummate this proposed rehabilitation of the Bonneville hatchery, we have given our time and attention to details of construction, rearrangement and relocation of facilities which will offer the utmost in efficiency, utility and economy of operation, and which may, at the same time, be favorably looked upon as a neighboring institution by those responsible for the Bonneville project.

In calling attention to the land to be acquired from this Department by the U. S. Engineers, or to the hatchery buildings, dwellings or other facilities rendered inoperative by the necessary construction in connection with this great project, or in presenting plans for the rehabilitation and expansion of the Bonneville station, no mention has been made of remuneration or damage. In considering these matters and in dealing with the engineers, no amount for damage or fixed remuneration has been determined on any single item or parcel of ground to which title was or is to be conveyed. We have dealt with the engineers in a manner which would result in the least delay, it being understood that after they had completed their plans and were reasonably sure that they would not require any additional properties or interfere with any other facilities of the Department, that a general settlement would be made covering the combined transactions. Throughout the past three or four months we have, together with John C. Veatch, Chairman, spent many days conferring with the engineers and discussing proposed plans for these various structures, roadways, etc., to assure the least possible damage to Fish Commission properties and hatchery facilities, and at the same time to provide to the fullest extent those things necessary or desired by the U. S. Engineers. The U. S. Engineers, through their staff officers with whom we came in contact, were courteous, considerate and in all transactions displayed that spirit of cooperation and fairness which might be expected of those representing our government.

In presenting these recommendations affecting the Bonneville station, we do so with the feeling and absolute conviction that, if carried to fruition, they will result in a salmon hatchery, the efficiency, capacity and beauty of which is unsurpassed in the United States, and of which the Fish Commission and the State of Oregon may well feel proud.

Relief Projects Carried on by the Commission Under CWA, PWA, SERA or County Relief Agencies

Early in 1934 we applied for and received, through the SERA in Clackamas County, the necessary appropriations to make extensive repairs to the fishway over the Oregon City falls. This fishway had had no repairs, except temporary seasonal ones, during the last seven years, or since 1927, when the present Commission and executives assumed control.

The SERA and County Relief Agencies of Clackamas cooperated very closely with the Department in obtaining approval of the State Relief Agency for this project. In all the total appropriation as finally approved was something over $2,100.00. This amount was sufficient to provide a crew of from twenty-five to thirty men—running a double shift each day—one crew working in the forenoon and one in the afternoon, with each working six hours in conformance with rulings of the relief agency. The Commission furnished all materials and tools which it was not possible to borrow either from Clackamas County or industrial plants locally.

The work of repairing fishways was begun after a general survey had been made showing the estimated amount of sand, cement, lumber and other materials needed. These items represented a considerable amount since the repairs and improvements outlined required approximately 150 barrels of cement and something over 225 yards of sand and gravel, together with structural steel, angle iron, etc., for key-ways and other points of unusual stress.

For slightly over one month, during which the crews above referred to worked four days weekly, general repairs were made to the entire ladder system over the Oregon City falls. Operations included the removal of debris, rocks, sand, gravel and other accumulations in the various pools in the ladder; repairs to side walls where erosion was crumbling the rock away and permitting the loss of water, thereby affecting proper control; construction of concrete walls at such points where gaps had actually been taken completely out of the ladder sides, as well as the strengthening of weak points which might, due to their present condition, give way at some immediate future time; repairs to the main entrance of the fishway in the lower water levels by the construction of two new dams of concrete across the mouth of the ladder to carry the water level to the new elevation which resulted from the dredging of the Clackamas Rapids by the U. S. Engineers, the effect of

this dredging being to lower the water elevation immediately below the falls approximately three feet—this particular work being done under our supervision and direction by the engineers, who furnished all material, workmen and other supplies; the construction of three new pools at the head or outlet of the present ladder, which were located parallel or alongside the existing pools—this necessitated the construction of four new baffles and one entire side-wall for the full distance, as well as requiring a new orifice some four and one-half feet in width through the main section of the dam at the head wall and the capping of same to provide a headworks corresponding to that surrounding the orifices or outlets of the old ladder; the blasting of a new channel through the rocky mass easterly to the main river from the irregular pool in the high water ladder, so-called, which lies immediately under the base of the cliff near the head of the fall—after blasting this out, which was approximately 35 feet long, it was necessary to construct therein two new baffles for control and operation during high water; and general repairs and cleaning out of the other branch entrance to the main and side ladder, as well as raising the elevation of the concrete wall formerly constructed, strengthening same, repairing existing key-ways, etc., as found necessary or desirable to provide more effective regulation of the water during actual operation of the entire ladder system.

The work above outlined has been fully completed and the Oregon City fishway is now in a better condition than it has been at any time during the past ten years. We feel confident that its operation will be more satisfactory and that its efficiency from the standpoint of easier operation during that period of spring chinook salmon migration will be much greater.

Klaskanine Hatchery

Under an SERA program a new settling pond for the purpose of settling the water supply to be used in the hatchery building was constructed at the Klaskanine hatchery in Clatsop County. This pond, which was approximately 25 feet in width and 200 feet long, was excavated and connected with the main water supply. A new line discharging the water from or connecting the settling pond to the hatchery building was installed.

In addition, the hatchery building was ceiled and painted an appropriate color—two coats being applied. The roof of the building was also painted and the main head-trough supplying the water to the hatchery troughs was rearranged and repaired.

A crib to afford protection to our property during high water stages in Klaskanine River was constructed from heavy timber or poles. This crib, which was rock-filled, was six feet wide and eight feet high and approximately 450 feet long. As an added protection, the channel of the creek paralleling this structure was dredged to a sufficient depth to afford a freer outlet for the waters during flood stages. The material so dredged was used in filling the crib.

A new cement flume, headgate and fish trap was constructed in connection with the water supply for the retaining ponds. A new pond approximately 125 feet long and six feet wide is now being dug on the south side of the river for the purpose of increasing the station's holding capacity.

In addition, minor repairs and improvements were made to water supply, ponds, hatchery or other buildings as needed.

Coos River Hatchery

A number of men were obtained under a relief project in Coos County, and new fish racks were installed across the main Coos River—the old rack, having served a useful purpose for a number of years, was removed.

The labor hours remaining under the allotted time were utilized in having the relief workers clear up the station property, removing underbrush, debris, leaves and other unsightly materials, and in general landscaping and beautifying the lawn and grounds immediately surrounding the hatchery and hatchery dwellings.

Bonneville Hatchery

As previously stated in this report, the Bonneville station is undergoing a stage of readjustment and rearrangement. Hence no actual construction work might be carried out under a relief project. However, sufficient men were obtained from Multnomah County to thoroughly clear the grounds in and around the hatchery and buildings. This crew also performed signal services in disposing of or clearing out what remained of the Cat Creek slide in Tanner Creek, thereby minimizing any danger therefrom to our water supply during the coming winter season.

Wallowa Hatchery

A small crew of men were engaged for a time under a relief project at this station and were utilized in a general way to improve the appearance of the entire area. Their work consisted principally in leveling off the grounds, building new walks and repairing old ones, revetting retaining ponds and repairing revetments in those formerly constructed. This work, as stated, was of a general nature and no program of construction or expansion was attempted.

In availing ourselves of free labor for construction, reconstruction or betterment to hatcheries or hatchery facilities, we endeavored in outlining such projects to include in most instances items which would not necessitate the furnishing of any great amount of material or supplies. It was felt that a great deal could be accomplished and that we could receive desirable benefits by utilizing labor in that way. At the same time it was realized that the financial condition of the Department would not permit the expenditure of any great amount of money for material and supplies. In the combined projects herein referred to, work was furnished for a large number of worthy and needy heads of families. These projects required thousands of labor hours and were welcomed by the agencies to whom we applied in furthering their commendable program of providing work for the unemployed.

In addition to the work referred to in Clackamas, Clatsop, Coos, Multnomah and Wallowa counties, the Department outlined projects and submitted applications to the SERA or other relief organizations in Curry, Douglas, Hood River, Lane, Lincoln, Marion, Tillamook and Wasco counties, which were not granted. The fact that these applications were not approved was through no fault of the county organizations or any individual connected therewith, but was due directly to the fact that the allotments of these counties were either exhausted or the men available were already employed on county projects, such as school houses, county roads, etc.

We will, within the next week, begin a project in Wasco County, the application for which until recently was not granted, as above stated. This project contemplates the blasting of a natural channel through Sherars Falls on the Deschutes River and will, when completed, provide, in addition to the fishway already at that point, a second channel or passageway over the natural falls itself for our migrating salmon and steelhead. The allotment for this project, as we were recently advised, will amount to approximately $700.00, and will provide ample labor hours to assure a thorough and efficient job. It is anticipated that the addition of this new channel will definitely relieve or do away with a serious situation at Sherars Falls, where salmon have bunched or schooled and have become easy prey for "snaggers" and "gaffers" before reaching the spawning grounds and completing their destined mission.

General Fish Cultural Activities

During the past biennium the fish cultural work of the Commission has been carried on in a gratifying and efficient manner at the hatcheries and egg-taking stations operated by the Department and for which, elsewhere in this report, will be found detailed records of egg collections and fish liberations. For the two-year period comprising this report, egg collections were not as great as anticipated, or as might have been desired. The first year of the period was an unusually dry season, which prevented average runs of adult salmon from reaching the holding racks on a number of our better streams. The second year of the period presented a condition just the reverse. Through the visitation of flood or freshet conditions, racks at six of our major egg-collecting points were swept away in June. Even though the work of re-racking was carried on with promptness and dispatch, the escapement of brood stock which occurred during the interim was reflected in the egg take for the period. In spite of these difficulties, however, we are pleased to report that the total take for each of these periods was not as far below an average normal as was at first anticipated.

During these periods of minimum egg takes, liberations were equal to those of previous normal years, and at the close of the biennium, June 30th, every indication pointed to a heavy egg take for all stations. In fact, the migration of spring chinook salmon over Oregon City Falls, as well as in a number of coast streams, was such as to justify this belief. The early migrants arrived at the Willamette and McKenzie racks in such numbers during the early summer months that in order to make way for the remainder of the run we were obliged to release a considerable number at each point and permit them to ascend to the upper tributaries, where they will spawn under natural conditions.

Throughout the biennium we endeavored to carry on as much general maintenance work at our various stations as finances would permit. While more maintenance work at some stations is yet necessary, we are pleased to advise that maintenance has not been permitted to get behind in any perceptible or appreciable degree. This statement is supported by the fact that we were enabled during this period of general economic depression to paint all hatcheries and other buildings throughout the entire field, except the McKenzie, South Santiam and Trask stations, and to keep our other hatchery facilities in good condition—making necessary repairs and minor improvements to water supplies, ponds, etc., from time to time.

While no general plan of expansion or new construction has been followed out during 1933 or 1934, several improvements of major importance were made in the general system. An egg-collecting and small feeding station was constructed on Foley Creek, tributary of the Nehalem River; a settling pond for the hatchery water supply was constructed at the Klaskanine Station, in Clatsop County; property on which the feeding ponds of the McKenzie Station at Gate Creek are located was acquired by purchase from the Drew Timber Company; a small parcel of land utilized by the Commission in its egg-taking operations at Hendricks Bridge on the McKenzie River was purchased from J. D. Waterman—this property abuts county-owned property which is also used by the Department and its acquisition was desirable; a distribution tank was purchased in order that a wider distribution of fingerlings might be made throughout the entire area. This tank was utilized to a good advantage during the spring of 1934, when salmon or steelhead were released into each and every river or stream of consequence along the coast of Oregon from the Columbia River to the California line, as well as in distributing liberations from our stations on tributaries of the Columbia River generally over the area from the John Day River, in Gilliam County, to Seaside, Oregon.

During the latter part of the biennium plans were made for the construction of a hatchery building at Oakridge, on the Willamette River; a new hatchery and cottage at Gold Creek, on the Trask River; a new cement-faced levee at the Gate Creek Station on the McKenzie River for the purpose of protecting feeding ponds during flood stages; a new hatchery and dwelling on the South Santiam; a station at Cogswell Creek, tributary of the McKenzie River, to take care of the overload by permitting rearing and further liberation into the McKenzie. In view of the fact that actual construction of these proposed improvements cannot take place during the present biennium, it necessarily follows that the details thereof are to be withheld from this report and included in the 1935-36 report covering the biennium during which we trust the work will be fully completed.

This department, in an effort to cooperate with the Game Commission and the U. S. Bureau of Fisheries, has reared and cared for considerable numbers of game fishes. In fact, the facilities of our hatcheries were placed at the disposal of these organizations wherever convenient or desirable, in an effort to avoid duplication and to hold the cost of operation of all departments at the lowest possible minimum.

HUGH C. MITCHELL
Director of the Department of Fish Culture

M. T. HOY
Master Fish Warden

LETTER OF TRANSMITTAL

Portland, Oregon, July 1, 1934.

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

Gentlemen:

In accordance with the provision of law, I herewith respectfully submit the report of the activities of the Department of Fish Culture for the biennium 1933-1934.

Respectfully,

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 December 1st, 1932, to June 30, 1933:

(Seven months only, due to change in fiscal year)

Fisheries Station	Silver Salmon	Steelheads	Totals
Santiam	.....	145,000	145,000
Klaskanine	.....	57,400	57,400
Coos	1,637,000	963,500	2,600,500
South Santiam	.....	474,790	474,790
Nestucca	112,760	1,569,300	1,682,060
Siuslaw	35,000	.....	35,000
Coquille	144,000	.....	144,000
Grand Totals	1,928,760	3,209,990	5,138,750

NOTE: The above seven months' period covers that time of the year when the only species spawning are silvers and steelheads.

Showing the number of salmon and steelhead fingerlings liberated into the waters of the State of Oregon by the Fish Commission during the period December 1st, 1932, to June 30th, 1933:

(Seven months only, due to change in fiscal year)

Fisheries Station	Spring Chinook	Fall Chinook	Silver Salmon	Steel-heads	Blueback	Sockeyes	Totals	Where Liberated
McKenzie	7,654,150	.....	.....	.....	.....	.....	7,654,150	Gate Cr.—McKenzie R. Trib.
Willamette	7,287,914	.....	.....	.....	.....	.....	7,287,914	Salmon Cr.—Will. R. Trib.
Santiam	5,143,400	.....	.....	.....	.....	.....	5,143,400	North Santiam—Will. R. Trib.
Santiam Egg Coll. Sta...	.....	.....	.....	137,050	.....	.....	137,050	Breitenbush R.—Santiam R. Trib.
Bonneville	8,634,785	274,360	.....	.....	.....	994,000 89,210	9,903,145 89,210	Salmon R., Tanner Cr.—Col. R. Trib.
Klaskanine	4,032,078	.....	4,664,699	55,298	.....	.....	8,752,075	Klaskanine R.—Youngs Bay Trib.
Trask	5,237,250	.....	2,055,400	245,350	.....	.....	7,538,000	Gold Cr.—Trask R. Trib.
Coos	1,306,484	1,209,190	1,631,520	854,100	.....	.....	5,001,294	South Coos River.
Wallowa	2,885,400	.....	.....	.....	29,000	.....	2,914,400	Wallowa River—Snake R. Trib.
Umpqua	3,271,385	.....	.....	.....	.....	.....	3,271,385	Rock Cr.—Umpqua R. Trib.
South Santiam	1,986,026	.....	.....	467,108	.....	.....	2,453,134	So. Santiam R.—Santiam R. Trib.
Herman Creek	1,005,400	.....	.....	.....	.....	1,981,275	2,986,675	Herman Cr.—Col. R. Trib.
Alsea	1,895,340	.....	229,400	.....	.....	.....	2,124,740	Alsea River.
Siuslaw	1,019,100	.....	505,550	.....	.....	.....	1,524,650	Lake Cr.—Siuslaw R. Trib.
Coquille	302,530	.....	924,100	.....	.....	.....	1,226,630	Coquille River.
Nehalem	989,600	.....	497,200	.....	.....	.....	1,486,800	East Foley, Big Rackheap, Coal, Bobs and Anderson Creeks, Siletz River.
Grand Totals	52,650,842	1,483,550	10,507,869	*1,758,906	29,000	3,064,485	69,494,652	

*Part of the steelhead collections at Nestucca were turned over to the Game Commission for release into Three Rivers and Nestucca River.

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 1st, 1933, to June 30th, 1934:

Fisheries Station	Spring Chinook	Fall Chinook	Silver Salmon	Steelheads	Blueback	Totals
McKenzie	11,441,000	.....	.....	.....	.....	11,441,000
Willamette	5,220,600	.....	.....	.....	.....	5,220,600
Santiam	3,288,000	.....	.....	1,963,000	.....	5,251,000
Bonneville	6,050,000	2,630,000	.....	.....	.....	8,680,000
Klaskanine	186,576	.....	335,696	115,680	.....	637,952
Trask	1,834,500	.....	118,100	.....	.....	1,952,600
Coos	.....	125,000	131,000	1,024,500	.....	1,280,500
Wallowa	212,290	.....	.....	.....	1,002,680	1,214,970
Umpqua	2,125,200	.....	.....	.....	.....	2,125,200
South Santiam	.....	.....	.....	1,283,050	.....	1,283,050
Nestucca	.....	.....	692,780	1,122,740	.....	1,815,520
Herman Creek	.....	50,000	.....	.....	.....	50,000
Alsea	.....	.....	317,000	.....	.....	317,000
Cooperative Stations—U. S. Bureau	6,100,000	.....	.....	.....	.....	6,100,000
Cedar Creek Hatchery	.....	.....	131,390	.....	.....	131,390
Necanicum Hatchery	.....	.....	2,246,280	.....	.....	2,246,280
Lewis River Hatchery	.....	.....	6,049,700	.....	.....	6,049,700
Grand Totals	*36,458,166	2,805,000	10,021,946	5,508,970	1,002,680	55,796,762

*NOTE: The collection of spring chinook salmon eggs was decreased materially by floods in June, carrying away the racks which had to be replaced after the flood waters subsided.

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 1st, 1933, to June 30th, 1934:

Fisheries Station	Spring Chinook	Fall Chinook	Silver Salmon	Steel-heads	Sockeyes	Totals	Where Liberated
McKenzie	4,962,000	.....	.....	.....	.....	4,962,000	Lower McKenzie R. and Gate Cr.—McKenzie R. Trib.
Willamette	5,092,900	.....	.....	.....	.....	5,092,900	Salmon Cr.—Willamette R. Trib.
Santiam	3,121,800	.....	.....	35,200	.....	3,157,000	North Santiam R.—Will. R. Trib.
Santiam Egg Coll. Sta	.....	.....	.....	1,033,000	.....	1,033,000	Pine, Davis, Temple, Elk, Dunlap and Mellis Lakes, Lake of the Woods, and Breitenbush R.
Bonneville	7,238,000	2,475,900	500,000	.....	346,410 886,590	10,560,310 886,590	Hood, Sandy and Bull Run Rivers, Tanner and Eagle Creeks—Columbia R. Trib.
Klaskanine	2,647,514	.....	3,215,874	380,964	.....	6,244,352	Klaskanine R.—Youngs Bay Trib.
Trask	2,292,680	.....	532,790	679,608	.....	3,505,078	Gold Cr., Trask and Nestucca Rivers.
Coos	.....	120,740	1,156,310	892,850	.....	2,169,900	South Coos River.
Wallowa	875,000	.....	931,000	.....	.....	1,806,000	Wallowa River—Snake R. Trib.
Umpqua	1,978,330	.....	.....	.....	.....	1,978,330	Umpqua River.
South Santiam	988,343	.....	.....	1,155,720	.....	2,144,063	So. Santiam R.—Santiam R. Trib.
Nestucca	.....	.....	.....	59,137	.....	59,137	Beaver Cr.—Nestucca R. Trib.
Herman Creek	295,900	.....	1,397,500	.....	1,984,000	3,677,400	Herman Cr.—Col. R. Trib.
Alsea	1,484,350	.....	815,658	.....	.....	2,300,008	Yew, Peek, Maltby, Fall, Butter, Scott and Smallwood Creeks, Yachats, Siuslaw, Siletz, Yaquina and Alsea Rivers.
Coquille	.....	.....	399,168	.....	.....	399,168	Coquille River.
Nehalem	985,700	.....	485,100	.....	.....	1,470,800	Bobs, Anderson, Coal, Little Rackheap, Big Rackheap and East Foley Creeks, South Fork Nehalem River, Nehalem River.
Rogue	1,481,630	.....	.....	.....	.....	1,481,630	Floras, Euchre and Hunters Creeks, Sixes, Elk, Rogue, Pistol, Chetco and Winchuck Rivers.
Grand Totals	†33,444,147	2,596,640	9,433,400	*4,236,479	3,217,000	52,927,666	

*Part of the steelhead collections at Santiam Egg Collecting Station were turned over to the Game Commission for release into coastal streams between the California line and the Alsea River.

†There was but one foreign shipment made during this biennium. This consisted of 100,000 spring chinook eggs shipped from the McKenzie Station to the Minister of Agriculture, Helsingfors, Finland. The shipment will be followed by a like number in 1934, 1935, 1936 and 1937, in an effort to establish runs.

SUMMARY

Showing the total number of eggs collected during the fiscal years 1933 and 1934:

	Spring Chinook	Fall Chinook	Silver Salmon	Steelheads	Blueback	Totals
Total Egg Take—1933*	.....	.....	1,928,760	3,209,990	.....	5,138,750
Total Egg Take—1934	36,458,166	2,805,000	10,021,946	5,508,970	1,002,680	55,796,762
Grand Totals	36,458,166	2,805,000	11,950,706	8,718,960	1,002,680	60,935,512

Showing the total liberations during the fiscal years 1933 and 1934:

	Spring Chinook	Fall Chinook	Silver Salmon	Steelheads	Blueback	Sockeyes	Total
Total Liberation—1933*	52,650,842	1,483,550	10,507,869	1,758,906	29,000	3,064,485	69,494,652
Total Liberation—1934	33,444,147	2,596,640	9,433,400	4,236,479	.....	3,217,000	52,927,666
Grand Totals	86,094,989	4,080,190	19,941,269	5,995,385	29,000	6,281,485	122,422,318

*Seven months only, due to change in fiscal year.

STOCK ON HAND AS OF JUNE 30, 1933

Fisheries Station	Sockeyes	Totals
Bonneville	363,110	363,110
	950,390	950,390
Herman Creek	2,016,300	2,016,300
	3,329,800	3,329,800

STOCK ON HAND AS OF JUNE 30, 1934

Fisheries Station	Blueback	Totals
Bonneville	92,400	92,400
Wallowa	665,700	665,700
	758,100	758,100

CO-OPERATIVE SHEET

Showing eggs received and cared for by the Fish Commission for the Game Commission during the period December 1st, 1932, to June 30th, 1933:

Fisheries Station	Rainbow	Eastern Brook	Loch Leven	Totals
Bonneville	555,000	500,000	1,000,000	2,055,000
Wallowa	.....	500,000	.....	500,000
	555,000	1,000,000	1,000,000	2,555,000

Showing eggs received and cared for by the Fish Commission for the Game Commission during the period July 1st, 1933, to June 30th, 1934:

Fisheries Station	Rainbow	Eastern Brook	Steelhead	Cutthroat	Totals
Bonneville	689,000	975,000	250,000	.....	1,914,000
Wallowa	504,000	500,000	.....	250,000	1,254,000
	1,193,000	1,475,000	250,000	250,000	3,168,000

TABLE OF 1933 LIBERATIONS

Species Liberated	Number Liberated	Size Inches	Age Months
Spring Chinook	52,650,842	1¼—5	7—14
Fall Chinook	1,483,550	2½—2⅝	6— 8
Silver Salmon	10,507,869	2¼—3½	5— 9
Steelheads	1,758,906	1⅛—2¾	3— 6
Bluebacks	29,000	4	19
Sockeyes	3,064,485	4 —5½	15—16
Total Liberated	69,494,652		

TABLE OF 1934 LIBERATIONS

Species Liberated	Number Liberated	Size Inches	Age Months
Spring Chinook	33,444,147	1½—5	6—14
Fall Chinook	2,596,640	2½—3	6— 7
Silver Salmon	9,433,400	2 —4½	5—12
Steelheads	4,236,479	1 —2½	2— 6
Sockeyes	3,217,000	2¾—6	14—18
Total Liberated	52,927,666		

FISHERIES STATIONS OPERATED BY THE FISH COMMISSION OF OREGON

Station	Stream	Post Office	In Charge
McKenzie	McKenzie River (trib. of Willamette R.)	Vida, Oregon	Walter Carter
Willamette	Willamette R. (trib. of Columbia R.)	Oakridge, Oregon	Chas. J. Hills
Santiam	Santiam River (trib. of Willamette R.)	Stayton, Oregon	LeRoy Ledgerwood
Bonneville	Tanner Creek (trib. of Columbia R.)	Bonneville, Oregon	E. J. W. Anderson
Klaskanine	Klaskanine River (trib. of Youngs Bay)	Astoria, Oregon, M.R.A.	L. W. Hickey
Trask	Trask River (trib. of Tillamook Bay)	Tillamook, Oregon	Chas. Buckbee
Coos	So. Coos River (trib. of Coos Bay)	Marshfield, Oregon	Frank W. Smith
Wallowa	Wallowa River (trib. of Snake R.)	Enterprise, Oregon	Irvine French
Umpqua	Umpqua River (trib. of Winchester Bay)	Idleyld Park, Oregon	Lee McCarn
South Santiam	So. Santiam River (trib. of Santiam R.)	Foster, Oregon	C. R. Ellis
Herman Creek	Herman Creek (trib. of Columbia R.)	Cascade Locks, Oregon	Geo. Nelson
Alsea	Alsea River (trib. of Alsea Bay)	Tidewater, Oregon	M. H. Bales
Ten Mile	Ten Mile Lake	Lakeside, Oregon	Otto Magill
Coquille	So. Coquille River (trib. of Coquille R.)	Powers, Oregon	F. L. Thomas
Nehalem	Nehalem River (trib. of Nehalem Bay)	Mohler, Oregon	L. W. Strass
Rogue	Rogue River	Gold Beach, Oregon	Edgar Ledgerwood