

BOX 226
BAY CITY, OREGON

*Oregon Fish Comm.
Bay City Oregon*

BIENNIAL REPORT OF THE FISH COMMISSION STATE OF OREGON, 1919-1920



ROYAL CHINOOK SALMON — OREGON'S FINEST FOOD FISH

BIENNIAL REPORT
 OF THE
FISH COMMISSION
 of the State of Oregon
 TO THE
 GOVERNOR AND THE THIRTY-FIRST
 LEGISLATIVE ASSEMBLY
 1921



FISH COMMISSION OF THE STATE OF OREGON

HON. CHRIS SCHMIDT, <i>Chairman</i>	Astoria
HON. FRANK WARREN	Portland
HON. CHAS. HALL	Marshfield
<hr/>	
CARL D. SHOEMAKER	<i>Executive Secretary</i>
R. E. CLANTON	<i>Master Fish Warden</i>

LETTER OF TRANSMISSION

Portland, Oregon, December 31, 1920.

To the Fish Commission,
State of Oregon,
Portland, Oregon.

Gentlemen:

Agreeable to the provisions of law, I hand you herewith a brief resume of the work of the Fish Commission during the past two years. Attached to the resume will be found tables showing receipts and expenditures, and the operation of the patrol service.

Respectfully submitted,

CARL D. SHOEMAKER,
Executive Secretary.

Report of Carl D. Shoemaker

Executive Secretary of the Fish Commission,
State of Oregon.

To the Fish Commission,
State of Oregon,
Portland, Oregon.

Gentlemen:

DURING the fiscal year of 1920, the operations of the Fish Commission have been conducted through two separate commissions. In January the Special Session of the Legislature amended the old Fish and Game Commission law, which provided for a commission of five members, and divorced the commercial fishing interests from the sportsmen's or game interests. Under the new law, a Fish Commission consisting of three members was elected by the Legislature. A Game Commission consisting of five members was also created and its membership was likewise elected by the Legislature. The new commission act went into effect on March 1st. The offices of both commissions were maintained in the former offices of the Fish and Game Commission in the Oregon Building, in this city. On May 1st, a complete segregation of the two commissions was effected by the Fish Commission vacating its quarters in the Oregon Building and moving to new quarters in the Gasco Building. Since that time the two commissions have maintained separate identities.

All matters of joint interests have been satisfactorily settled between the two commissions, and just recently a complete segregation of the hatcheries has been effected. The Tumalo, Union Creek, Klamath, Butte Falls and McKenzie hatcheries were turned over to the Game Commission as trout hatcheries. Bonneville, Klaskanine, Alsea, Umpqua, Siuslaw and Coos hatcheries were designated as commercial or salmon hatcheries and turned over to the jurisdiction and control of the Fish Commission.

The Oak Ridge hatchery on the upper Willamette River has not yet been completed, although the site has been obtained from the United States Forestry Service. This location is sufficiently large to permit the establishment of hatching houses and nursery ponds for both trout and salmon operations; neither will interfere with the other. Within the next thirty days, a division of this site will be made and construction work started for the erection of suitable buildings and the screening off of ample nursery pond facilities for our work.

The Lower Santiam hatchery, for which an appropriation was made at the 1919 session of the Legislature, has been about completed. The hatching house and troughs have been installed and there remains yet only the bringing of the water supply to the hatching house itself to put the hatchery in operation. It was intended by the Legislature that this hatchery should be a joint salmon and trout hatchery.

The Nehalem or Salmonberry hatchery was made a joint salmon and trout hatchery by the appropriation act itself and will remain so.

The Gold Creek hatchery, in Tillamook County, located on the Trask River, a few miles from Tillamook, will for the time being be conducted as a joint hatchery, as neither the sportsmen nor the commercial fishermen of that locality desire to have it operated solely as either a salmon or trout hatchery.

PATROL WORK

The patrol service on the Columbia and coast streams has been as satisfactory as conditions would permit. The patrol boat used at the mouth of the Columbia has become less serviceable than in former years on account of its age, and if effective patrol service is to be maintained at the mouth of the Columbia and upstream, it will be necessary to purchase a new boat for this purpose. I have obtained estimates covering the cost of such a boat, and find that a 40-foot boat equipped with a six-cylinder 85 to 125 horsepower Sterling motor, will cost the sum of \$6,500. I recommend that the Commission request of the Legislature an appropriation in this amount for a new patrol boat to cover this important stretch of the river.

Mr. Clanton has discussed in his report the efficiency of the

hatchery service of the state and the constantly increasing results achieved therefrom. It is, therefore, vitally necessary that the patrol service be maintained at a high standard of effectiveness. The old boat in use at the mouth of the river at the present time would, in case we obtain a new boat, be brought to Portland and used in patrolling the upper drifts of the Columbia and those of the Willamette. The coast stream patrol work is even a more difficult problem than that of the Columbia, for the reason that funds are not sufficient to maintain a warden on each stream, and the two or three wardens who are employed must move constantly from one stream to another and do as effective work as is possible under these conditions. Small skiffs, with Evinrude motors attached, are owned by the department on Tillamook, Yaquina and Coos Bays. These serve our purpose well and no increase in their number is desired at this time.

The mouth of the Rogue River, where commercial fishing operations are conducted, offers a problem in itself. A deadline has been established below which commercial fishing is prohibited, and it is necessary to maintain a warden at this point throughout the season.

The dam at Winchester on the Umpqua, and the fishway at the Willamette Falls, at Oregon City, offer two special problems of the department, both of which must be dealt with according to the needs. The problem is made complex at both places because of the fact that in addition to the commercial character of the situation there is added the sportsmen's angle, which makes the burden of patrol service much heavier.

FINANCES

The revenues derived from the sale of licenses, confiscated property and fines are inadequate to the needs of the operations of the Commission. It has been definitely established that best results are achieved in salmon propagation by holding and feeding the young fry until they reach a length of four or five or more inches and an age equivalent to that growth. This entails a corresponding increase in operation and food expense, the hatcheries being in continuous operation throughout the year. The older the fry, the more food they consume and the more costly is this operation.

To meet this increased cost of the hatchery work, it is necessary to have an increased revenue for the department. This is best achieved by the imposition of a tonnage tax on all fish caught and sold. A careful estimate fixes the minimum tax needed to produce the necessary revenue at \$5.00 per ton. I therefore earnestly recommend that the Commission request the Legislature at the forthcoming session to provide additional revenue through the imposition of such a tax.

The Master Fish Warden's department consists of the Master Fish Warden, a deputy for District No. 1, a deputy for District No. 2, and a clerk. There should be an additional warden to act as a special patrol officer along the Columbia and the coast streams. This department has been maintained as an arm of the police force of the State through appropriations from the General Fund.

In order to adequately take care of the operation, construction and equipment costs of the coast stream hatcheries, an appropriation from the General Fund in the sum of \$30,000 should be provided. Our coast streams are constantly becoming a greater factor in the fresh fish market, and hatchery work should be extended and the facilities increased in order to take care of the increased demands upon these streams.

For the operation, construction and maintenance of hatcheries on the Columbia River and its tributaries, the sum of \$25,000 is needed for the biennium.

These appropriations mentioned are in addition to any contemplated revenue which may be derived from the sale of licenses and the imposition of a tonnage tax above referred to, and are necessary if the efficiency of the hatchery work is to be maintained and continued.

Respectfully submitted,

CARL D. SHOEMAKER,

Executive Secretary.

LETTER OF TRANSMISSION

Bonneville, Oregon, December 31, 1920.

To the Fish Commission,
State of Oregon,
Portland, Oregon.

Gentlemen:

I herewith submit for your consideration report covering the important features of the hatchery operations and tabulated figures showing the output of young salmon for the past two years at the various hatcheries operated by the Commission.

Respectfully submitted,

R. E. CLANTON,
Master Fish Warden and Superintendent of Hatcheries.

Report of R. E. Clanton

Master Fish Warden and Superintendent of Hatcheries

Fish Commission,
State of Oregon,
Portland, Oregon.

Gentlemen:

IN commenting upon the conditions of Oregon salmon fisheries, it can be said that while the fisheries of all other sections have almost universally for the past several years shown a rapid decline (some of the once most famous salmon streams now being almost depleted), Oregon fisheries for a like period of time have continued to show a healthy growth.

Notwithstanding that this state's industry is now on a stable basis, only a few years back the commercial fishing interests were faced by the same serious conditions which now confront the fishermen of other districts.

As it can be recalled, the Oregon salmon fishing industry likewise for a number of years showed a rapid decrease, the number of cases having reached bedrock in 1912 and 1913, only 285,666 and 266,479 cases, respectively, having been canned those years, this amount being a little more than one-third of the number packed in some of the former seasons.

It was not surprising that those who were vitally interested began to take pessimistic views of the future, and the prediction was general that the great salmon runs, which were once thought inexhaustible, were doomed, and that the millions of dollars invested in the canneries and other equipment bid fair to become almost a total loss.

Notwithstanding the gloomy outlook, there still were a few of the more substantial packers, who had three years previous got behind the fisheries department and assisted in putting into effect a new system of hatchery work; these men, having backed the movement, financially and otherwise, withheld their opinions, trusting that the experiment for which they were respon-

sible would prove of some benefit when the four year cycle, or the time the young fish could be expected to return, arrived.

That they were not disappointed can be seen, when it is known that the pack on the Columbia River at the end of the season of 1914 totaled up almost double that of either of the two previous years. Here it might not be amiss to say that to these few cannerymen, who by valuable advice and financial assistance, the larger part of the credit should be given for the inauguration of what is now known in all salmon sections as the Oregon hatchery system. This system has now been in effect for better than ten years, and has long since passed the experimental stage. And to prove that the same has been a success, we only have to point to the following tables, showing the pack for the past eight years:

1912	.....	285,666
1913	.....	266,479
1914	.....	454,621
1915	.....	558,534
1916	.....	547,805
1917	.....	555,218
1918	.....	591,381
1919	.....	580,028

While the figures above apply only to the Columbia River, Oregon's many coast streams have likewise, for a number of years, shown an increase annually in salmon production, and there has, no doubt, more fish entered these rivers during the season just passed than any former years.

That the increased run of salmon annually, which have brought in millions of dollars into the State, is due almost entirely to Oregon hatchery methods, is the almost universal opinion of our packers and fishermen, as well as those interested in the business in other sections. Numerous articles commending the Fish Commission upon its efficient hatchery methods have appeared in the papers and fishery magazines published in the various sections of the Northwest.

Cannerymen of the Puget Sound and British Columbia who are interested in a project to rehabilitate the Frazer River have recently formed an organization, and have asked the Fish Commission for the services of the head of the hatchery department,

with a view to putting in the Oregon system in the headwaters of that stream.

HATCHERY OPERATIONS

Considering the age, size and healthy condition of the young salmon liberated, the hatchery operations as a whole for the past biennium were much more efficient than for any like previous period.

As can be seen from the following tables; there were liberated from our hatcheries into the various streams of the State more than 50,000,000 Spring or Royal Chinook salmon fingerlings, at an average age of 8 months. In addition there were nearly 40,000,000 of young fish of the less valuable varieties, consisting of the Fall Chinook, Silversides and Steelhead, making a total output for the past two years of approximately 90,000,000 fish.

	1919	1920
Spring Chinook salmon.....	30,057,291	20,196,162
Fall Chinook salmon.....	3,675,140	5,837,247
Silversides	9,140,769	2,775,785
Sockeye		600,000
Steelhead (Commercial)	3,407,958	5,240,190
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	46,281,158	34,649,384
		<hr/>
		46,281,158
		<hr/>
Biennial total.....		80,930,542
Retained in feeding ponds—		
Steelheads	404,180	
Fall Chinooks.....	265,000	
Sockeye	2,589,478	3,258,658
	<hr/>	<hr/>
A total of.....		84,189,200

It will be noted that the number of Spring salmon turned out the past season was less than in 1919. This was due to the unfavorable water conditions which affected our egg take; but having a smaller number to care for, we were enabled to hold and feed them for a much longer time, thereby increasing the age and size, which no doubt enabled them to better escape their

natural enemies in their migration to the ocean, and as the larger per cent of these fish had attained the size of 5 to 6 inches when liberated, there is very little doubt but what we can expect more beneficial results from the past year's work than any previous year since the Oregon hatchery system was put into effect.

Respectfully submitted,

R. E. CLANTON,

Master Fish Warden and Superintendent of Hatcheries.

RECEIPTS AND DISBURSEMENTS 1919

FOR HATCHERY FUND, DISTRICT NO. 1

RECEIPTS

	Dec. 1, 1918, to Nov. 30, 1919	
Balance on hand Dec. 1, 1918.....		\$ 157,93
Licenses issued.....	\$36,969.31	
Additional fees.....	2,472.56	
Fines	3,130.31	
Donations	1,300.00	
Sale—Salmon Eggs.....	226.82	
Sundries	5.26	
Transfer fees.....	26.00	
Sale—Confiscated property.....	2,300.80	\$46,431.06
		<hr/>
		\$46,588.99

DISBURSEMENTS

Office	\$ 3,949.98
Commissioners	276.52
Patrol service.....	7,547.11
Repairs—Oregon City "Fishway".....	164.12
Fish car "Rainbow".....	1,388.29
State Game Warden.....	449.65
Shad expense.....	1,134.70

*SALMON PROPAGATION—

Operation	10,077.28	
Construction	2,764.87	
Equipment	844.71	\$28,597.23
		<hr/>
		\$17,991.76

*Note—For distribution of Salmon Propagation see below.

SALMON PROPAGATION—1919 HATCHERY FUND, DISTRICT NO. 1

	Operation	Construction	Equipment	Totals
Bonneville	\$ 5,634.29	\$ 648.67	\$ 182.96	\$ 6,465.92
Klaskanine	1,450.70	1,427.65	168.36	3,046.71
McKenzie	1,086.51	63.65	470.39	1,620.55
Herman Creek.....	978.24	153.16	.....	1,131.40
Wallowa River.....	23.00	315.39	.....	338.39
Willamette	234.40	100.00	23.00	357.40
Sandy River.....	410.40	.....	.....	410.40
Santiam	259.74	30.00	.....	289.74
Eagle Creek.....	.....	26.35	.....	26.35
	<u>\$10,077.28</u>	<u>\$ 2,764.87</u>	<u>\$ 844.71</u>	<u>\$13,686.86</u>

RECEIPTS AND DISBURSEMENTS 1919 FOR HATCHERY FUND, DISTRICT NO. 2

RECEIPTS

Dec. 1, 1918, to
Nov. 30, 1919

Balance on hand Dec. 1, 1918.....		\$ 3,647.33
Licenses issued.....	\$19,382.05	
Additional fees.....	1,046.86	
Fines	769.05	
Sale—Confiscated property.....	90.79	
Transfer fees.....	80.00	
Sundries	10.00	
		<u>\$21,378.75</u>
		<u>\$25,026.08</u>

Operation—

DISBURSEMENTS

Office	\$ 3,153.70
Commissioners	259.34
Patrol service.....	2,149.33
State Game Warden.....	383.40
Superintendent of Hatcheries' Account.....	9.00
Tillamook	83.41
Alsea	1,186.18
Siuslaw	207.93
South Coos	921.90
Coquille	423.70
Umpqua	1,025.01
Gold Creek.....	599.35
Nehalem	52.36

Construction—

Alsea	205.02
Nehalem	1,028.23
Umpqua	22.50
Gold Creek.....	644.39

Equipment—

Alsea	6.40
South Coos.....	111.70
Coquille .....	.45
Gold Creek.....	10.50
	<u>\$12,483.80</u>
	<u>\$12,542.28</u>

*Note—For distribution of Salmon Propagation see below.

SALMON PROPAGATION 1919

HATCHERY FUND, DISTRICT NO. 2

	Operation	Construction	Equipment	Totals
Tillamook	\$ 83.41	.....	.....	\$ 83.41
Alsea	1,186.18	205.02	6.40	1,397.60
Siuslaw	207.93	.....	.....	207.93
Umpqua	1,025.01	22.50	.....	1,047.51
South Coos.....	921.90	.....	111.70	1,033.60
Coquille	423.70	.....	.45	424.15
Gold Creek.....	599.35	644.39	10.50	1,254.24
Nehalem	52.36	1,028.23	.....	1,080.59
	<u>\$ 4,499.84</u>	<u>\$ 1,900.14</u>	<u>\$ 129.05</u>	<u>\$ 6,529.03</u>

RECEIPTS AND DISBURSEMENTS 1920

FOR HATCHERY FUND, DISTRICT NO. 1

RECEIPTS

	Dec. 1, 1919, to Nov. 30, 1920
Balance on hand Dec. 1, 1919.....	\$17,991.76
Licenses issued.....	\$37,245.98
Additional fees.....	2,395.81
Fines	2,526.00
Donations	6,535.57
Sundries	546.12
Transfer fees.....	25.00
Sale—Confiscated property.....	1,083.48
	<u>\$50,357.96</u>
	<u>\$68,349.72</u>

DISBURSEMENTS

Office	\$ 5,176.03	
Commissioners	378.65	
Patrol service.....	9,336.55	
Superintendent of Hatcheries.....	70.16	
Fish car "Rainbow".....	160.01	
Fishways	535.62	
State Game Warden.....	153.52	
Industrial insurance.....	624.85	
Government co-operative work.....	998.75	
*SALMON PROPAGATION—		
Operation	41,592.30	
Construction	11,732.11	
Equipment	3,181.38	\$73,939.93
		<u>\$ 5,590.21</u>

*Note—For distribution of Salmon Propagation see below.

SALMON PROPAGATION

1920

HATCHERY FUND, DISTRICT NO. 1

	Operation	Construction	Equipment	Totals
Bonneville	\$20,267.86	\$ 1,756.59	\$ 2,396.08	\$24,420.53
Klaskanine	5,608.98	1,534.89	64.10	7,207.97
McKenzie	6,424.56	268.66	118.45	6,811.67
Willamette	2,088.33	450.30	.....	2,538.63
Santiam	2,738.83	48.39	88.87	2,876.09
Herman Creek.....	3,820.28	2,208.91	64.90	6,094.09
Wallowa	8.15	3.35	.....	11.50
Sandy .....	.64	.....	.....	.64
Lower Santiam.....	.....	3,223.88	176.83	3,400.71
Oakridge	634.67	2,210.89	272.15	3,117.71
Eagle Creek.....	.....	26.25	.....	26.25
	<u>\$41,592.30</u>	<u>\$11,732.11</u>	<u>\$ 3,181.38</u>	<u>\$56,505.79</u>

SALMON PROPAGATION

1920

HATCHERY FUND, DISTRICT NO. 2

	Operation	Construction	Equipment	Totals
Tillamook	\$ 551.37	\$ 24.67	\$	\$ 576.04
Alsea	5,504.24	656.81	167.61	6,328.66
Siuslaw	1,577.18	139.27	.....	1,716.45
Umpqua	5,217.51	45.00	41.50	5,304.01
South Coos	3,931.33	51.66	39.25	4,022.24
Coquille	924.73	20.00	.....	944.73
Nehalem	2,234.74	1,290.93	3.03	3,528.70
Gold Creek.....	2,831.14	.....	54.45	2,885.59
	<u>\$22,772.24</u>	<u>\$ 2,228.34</u>	<u>\$ 305.84</u>	<u>\$25,306.42</u>

RECEIPTS AND DISBURSEMENTS 1920

FOR HATCHERY FUND, DISTRICT NO. 2

RECEIPTS

		Dec. 1, 1919, to Nov. 30, 1920
Balance on hand Dec. 1, 1919.....		\$12,542.28
Licenses issued.....	\$15,231.77	
Additional fees.....	827.28	
Fines	1,596.20	
Sale—Confiscated property.....	181.76	
Transfer fees.....	70.00	
Donation	500.00	
Sundries	222.43	\$18,629.44
		<hr/>
		\$31,171.72

DISBURSEMENTS

Operation—

Office	3,136.20
Commissioners	480.26
Patrol service.....	3,484.17
Industrial insurance.....	289.84
State Game Warden.....	61.20
Superintendent of Hatcheries.....	70.15
Fishways	133.40
Tillamook	551.37
Alsea	5,504.24
Siuslaw	1,577.18
Umpqua	5,217.51
South Coos.....	3,931.33
Coquille	924.73
Nehalem	2,234.74
Gold Creek.....	2,831.14

Construction—

Tillamook	24.67
Alsea	656.81
Siuslaw	139.27
Umpqua	45.00
South Coos.....	51.66
Coquille	20.00
Nehalem	1,290.93

Equipment—

Alsea	167.61
Umpqua	41.50
South Coos.....	39.25
Nehalem	3.03
Gold Creek.....	54.45
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	\$32,961.64

Deficit	<hr/>	\$ 1,789.92
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GENERAL FUND MASTER FISH WARDEN—SALARIES AND EXPENSES

January 1, 1919, to December 31, 1920.

Appropriation for two years ending Dec. 31, 1920.....	\$20,400.00
Master Fish Warden, salary	\$ 7,016.67
Master Fish Warden, traveling expense.....	2,313.19
Master Fish Warden, office expense.....	1,064.26
Deputy Fish Warden, Dist. No. 1, salary ..	3,016.67
Deputy Fish Warden, Dist. No. 1, expense ..	715.94
Deputy Fish Warden, Dist. No. 2, salary ...	2,466.65
Deputy Fish Warden, Dist. No. 2, expense ...	1,406.62
Clerk to the Master Fish Warden, salary.....	2,400.00
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Balance in fund December 31, 1920.....	.00

SPECIAL APPROPRIATION

FOR MAINTENANCE AND CONSTRUCTION OF FISH LADDERS ON DESCHUTES RIVER

Appropriation 1919-1920.....	\$5,000.00
Labor	\$3,468.55
Employees' expense	301.90
Tools and equipment.....	436.85
Powder	312.95
Horse hire.....	48.80
Supplies	317.21
Fuel	24.77
Lumber	88.97
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Balance in fund.....	.00

SPECIAL APPROPRIATION

FOR CONSTRUCTION AND IMPROVEMENTS OF OREGON CITY "FISHWAY"

Appropriation 1919-1920.....	\$5,000.00
Supplies	\$ 724.86
Lumber	246.34
Labor	3,730.63
Tools	90.18
Boots and coats.....	41.83
Employees' expense.....	27.69
Launch hire.....	126.00
Expense	12.47
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Balance in fund.....	.00

CONSTRUCTION AND MAINTENANCE OF HATCHERY ON SANTIAM RIVER

Appropriation 1919-1920.....		\$5,000.00
Labor	765.02	
Tools	197.50	
Lumber	3,488.48	
Employees' expenses.....	132.49	
Office expense.....	1.75	
Boots and coats.....	36.47 *	
Freight, cartage and express.....	48.03	
Equipment	49.37	
Transporting eggs.....	10.89	
Surveyor	117.00	
Lease of land.....	144.00	
Abstract	9.00	\$5,000.00
		<hr/>
* Operation	\$1,101.86	
Construction	3,848.77	
Equipment	49.37	\$5,000.00
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Balance in fund.....		.00

CONSTRUCTION AND MAINTENANCE OF HATCHERY ON WILLAMETTE RIVER

Appropriation 1919-1920.....		\$5,000.00
Employees' expenses.....	\$ 56.12	
Labor	3,192.50	
Boots and coats.....	74.00	
Supplies	700.16	
Transporting eggs.....	1.60	
Lumber	952.11	
Tools	11.30	
Fish food.....	12.21	\$5,000.00
		<hr/>
* Operation	\$1,309.61	
Construction	3,661.97	
Equipment	28.42	\$5,000.00
		<hr/>
Balance in fund.....		.00

*NOTE: Construction and Equipment accounts were paid from Hatchery Fund, No. 1, during the year 1920, on the Lower Santiam Hatchery, amounting to \$3,400.71.

Construction and Equipment accounts were paid from Hatchery Fund, No. 1, during the year 1920, on the Oakridge Hatchery, amounting to \$2,483.04. This makes a total, therefore, as follows:

Construction and Equipment Lower Santiam Hatchery.....	\$7,298.85
Construction and Equipment Oakridge Hatchery.....	6,173.43

**SPECIAL APPROPRIATION
FOR RECONSTRUCTION AND OPERATION OF KLASKANINE
HATCHERY**

Appropriation 1919-1920.....		\$10,000.00
Labor	\$ 5,932.38	
Equipment	1,482.50	
Tools and supplies.....	104.62	
Employees' expenses.....	146.50	
Fish food.....	355.54	
Cement, sand and lumber.....	116.77	
Office expense.....	4.95	
Freight, cartage and express.....	147.17	
Surveyor	135.20	
Wood pipe.....	1,532.25	
Transporting eggs.....	3.87	
Boots and coats.....	38.25	\$10,000.00
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Operation	3,686.22	
Construction	4,831.28	
Equipment	1,482.50	\$10,000.00
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Balance in fund.....		.00

**SPECIAL APPROPRIATION
FOR OPERATION AND CONSTRUCTION OF HATCHERIES IN
DISTRICT NO. 1**

Appropriation				\$24,000.00
	Operation	Construction	Equipment	Totals
Bonneville	\$ 8,589.92	\$ 2,302.31	\$ 331.28	\$11,223.51
McKenzie	4,062.71	367.31	9.50	4,439.52
Herman Creek.....	1,986.75	174.45	.....	2,161.20
Eagle Creek .....	.....	4,079.55	.....	4,079.55
Willamette River.....	881.18	8.00	31.00	920.18
Wallowa River.....	63.25	63.25
Klaskanine	7.75	7.75
Santiam	495.80	495.80
Sandy River.....	609.24	609.24
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	\$16,696.60	\$ 6,931.62	\$ 371.78	\$24,000.00
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Balance in fund.....				.00

SPECIAL APPROPRIATION
FOR OPERATION AND CONSTRUCTION OF HATCHERIES IN
DISTRICT NO. 2

Appropriation, 1919-1920.....				\$20,000.00
	Operation	Construction	Equipment	Totals
Gold Creek.....	\$ 1,756.34	\$ 353.86	\$.....	\$ 2,110.20
Alsea River.....	3,276.65	1,522.58	45.00	4,844.23
South Coos.....	3,151.66	18.37	8.00	3,178.03
Coquille	1,099.09	21.00	8.65	1,128.74
Umpqua	3,591.55	778.82	.....	4,370.37
Siuslaw	1,207.78	.....	.....	1,207.78
Nehalem	460.38	2,037.00	86.90	2,584.28
Tillamook	576.37	.....	.....	576.37
	<u>\$15,119.82</u>	<u>\$ 4,731.63</u>	<u>\$ 148.55</u>	<u>\$20,000.00</u>
Balance in fund.....				.00

SPECIAL APPROPRIATION
FOR MAINTENANCE AND OPERATION OF HATCHERY ON
NEHALEM RIVER

Appropriation 1919-1920.....		\$3,000.00
Employees' expense.....	\$ 377.91	
Labor	1,692.90	
Freight, cartage and express.....	78.82	
Tools and supplies.....	525.00	
Fish food.....	1.55	
Equipment	275.00	
Boots	37.86	
Office expense.....	10.96	\$3,000.00
Operation	679.22	
Construction	2,045.78	
Equipment	275.00	\$3,000.00
Balance in fund.....		.00

PATROL SERVICE RECORD

Year	Number Arrests	Fines Collected	Confiscated Property Sold
1915	51	\$ 700.57	\$ 452.12
1916	50	1,256.28	41.50
1917	124	1,973.35	1,207.31
1918	80	1,778.69	369.15
1919	127	3,899.36	2,391.56
1920	119	4,122.20	1,265.24

REPORT OF SALMON LIBERATED—SHOWING STATIONS AND STREAMS

1919

DISTRICT NO. 1

Spring Chinook—

Bonneville Station, liberated in Tanner Creek and Columbia River.....	6,219,464	
Shipped by truck to Herman Creek, liberated from feeding ponds—Columbia River.....	5,290,144	
Liberated Eagle Creek.....	100,000	
Shipped to The Dalles—Columbia River.....	518,400	
Shipped to Arlington	328,860	
Shipped to Hood River.....	291,600	
Shipped to Reserve—Willamette River.....	87,500	
Shipped to Oswego Lake.....	32,500	
Shipped to Jefferson	282,690	
Shipped to Seaside	179,400	
	<hr/>	
	13,330,558	
McKenzie Station, liberated McKenzie River.....	4,057,299	
Klaskanine Station, liberated Klaskanine River.....	7,011,463	24,399,320

DISTRICT NO. 2

Gold Creek, liberated Gold Creek.....	705,656	
Siuslaw Station, liberated Middle Creek.....	743,057	
Umpqua Station, liberated Umpqua River.....	3,259,258	
Alsea Station, liberated Alsea River.....	950,000	5,657,971
	<hr/>	
Total Spring Chinook.....		30,057,291

DISTRICT NO. 2

Fall Chinook—

Alsea Station, liberated Alsea River.....	251,720	
South Coos Station, liberated Coos River.....	1,932,210	
Coquille Station, liberated Coquille River.....	1,491,210	
	<hr/>	
Total Fall Chinook.....		3,675,140

DISTRICT NO. 1

Sockeye (Alaska)—

Bonneville Station, shipped by truck to Herman Creek (held in feeding ponds).....	3,126,800	
Shipped to Enterprise.....	48,000	
	<hr/>	
	3,174,800	

Sockeye (Montana—Dwarf)—

Bonneville Station (held in pond).....	25,000	
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Total Sockeye.....		3,199,800
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NOTE—A good many of Sockeye at Herman Creek escaped during the year. This was determined when fish were measured up.

DISTRICT NO. 1

Silversides—

Bonneville Station, liberated, Tanner Creek.....	622,734
Shipped by truck, liberated Eagle Creek.....	392,000
Shipped by truck, liberated Sandy River.....	130,000
Shipped to Oswego	140,000
	<hr/>
	1,284,734

DISTRICT NO. 2

Nehalem Station, liberated Salmonberry River.....	1,257,132
Gold Creek Station, liberated Gold Creek.....	840,310
Alsea Station, liberated Alsea River.....	1,872,473
South Coos Station, liberated Coos River.....	2,416,680
Coquille Station, liberated Coquille River.....	1,469,440
	<hr/>
	7,856,035

Total Silversides.....	<hr/>	9,140,769
Total Salmon (liberated and held).....		<hr/>
		46,073,000

TABLE SHOWING NUMBER AND AGE OF SALMON LIBERATED*

1919

Spring Chinook

2 mo.	3 mo.	4 mo.	5 mo.	6 mo.	Total
1,346,640	717,823	3,396,465	4,013,427	6,555,284	
7 mo.	8 mo.	9 mo.	10 mo.	11 mo.	
6,923,332	2,174,105	2,091,215	1,839,000	1,000,000	30,057,291

Fall Chinook

4 mo.	5 mo.	6 mo.	
1,491,210	1,983,930	200,000	3,675,140

Silversides

2 mo.	3 mo.	4 mo.	5 mo.	6 mo.	
678,616	5,015,678	2,256,165	800,000	390,310	9,140,769

Sockeye

9 mo.	10 mo.	11 mo.	
48,000	3,126,800*	25,000*	3,199,800

Total 46,073,000

*Retained in ponds, 3,126,800 Sockeye at Herman Creek ponds, 25,000 Dwarf Sockeye at Bonneville.

STEELHEAD LIBERATED IN STREAMS WHERE THEY WOULD BE USED FOR COMMERCIAL PURPOSES

1919

DISTRICT NO. 1

Bonneville Station, liberated in Tanner Creek (Columbia River)	819,280	
Shipped to Dee, liberated in tributaries to Hood River	120,000	
Shipped to Deschutes River	211,200	
Shipped to Hood River, liberated in Hood River and tributaries.....	120,000	
		1,270,480

DISTRICT NO. 2

Gold Creek Station, liberated Trask River	384,370	
Alsea Station, liberated Alsea River.....	1,753,104	2,137,474
Total		3,407,958

SUMMARY, 1919

Grand total Spring Chinook Salmon.....	30,057,291
Grand total Fall Chinook Salmon.....	3,675,140
Silversides, grand total.....	9,140,769
Sockeye, grand total.....	3,199,800
Steelhead (commercial).....	3,407,958
	49,480,958

REPORT OF SALMON LIBERATED, SHOWING STATIONS AND STREAMS

1920

DISTRICT NO. 1

Spring Chinook—

Bonneville, liberated Tanner Creek and Columbia River	4,147,567
Liberated Sandy River.....	264,000
Liberated Eagle Creek	125,000
To Herman Creek, held in feeding ponds and liberated in Columbia River.....	4,004,880
To Oakridge Station, held and liberated in Willamette River.....	225,000
Total	8,766,447
McKenzie Hatchery, liberated McKenzie River....	1,663,233
Klaskanine Hatchery, liberated Klaskanine River...	5,870,043
Total Spring Chinook, District No. 1.....	16,299,723

DISTRICT NO. 2

Umpqua Hatchery, liberated Umpqua River.....	3,896,439	
Total Spring Shinook.....		20,196,162

DISTRICT NO. 1**Fall Chinook—**

Bonneville, liberated Columbia River.....	1,750,000	
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DISTRICT NO. 2

Gold Creek, liberated Gold Creek.....	1,077,090	
Siuslaw, liberated Middle Creek.....	738,182	
Alsea, liberated Alsea River.....	1,295,375	
South Coos, liberated Coos and Salmon Rivers.....	976,600	

Total Fall Chinook, Districts 1 and 2.....		5,837,247
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DISTRICT NO. 1***Sockeye (Alaska)—**

Herman Creek Feeding Ponds, liberated in Columbia River (18 months old).....	600,000	
Held in ponds November.....	2,589,478	
		3,189,478

DISTRICT NO. 2**Silversides—**

Nehalem, liberated in Salmonberry River.....	472,285	
Gold Creek, liberated in Gold Creek.....	597,850	
Alsea, liberated in Alsea River.....	1,705,650	2,775,785

Total Salmon liberated.....		29,409,194
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*A number of these fish escaped during the summer through screens and some during the heavy snowstorm in the winter. The larger per cent of those escaping were about a year old.

STEELHEAD LIBERATED IN STREAMS WHERE THEY WOULD BE USED FOR COMMERCIAL PURPOSES

1920

DISTRICT NO. 1**Bonneville—**

Shipped to Hood River.....	160,000	
Liberated Tanner Creek	170,000	
Liberated Eagle Creek.....	275,300	

Total		605,300
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DISTRICT NO. 2

Nehalem, liberated Salmonberry River.....	105,020	
Gold Creek, liberated Trask River.....	721,975	
Alsea, liberated Alsea River.....	3,707,300	
Siuslaw, liberated Middle Creek.....	100,595	4,634,890

Total		5,240,190
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TABLE SHOWING NUMBER AND AGE OF SALMON LIBERATED 1920

DISTRICT NO. 1

Spring Chinook—

6 mo.	7 mo.	8 mo.	9 mo.	
276,000	4,225,000	500,000	400,000	
10 mo.	11 mo.	12 mo.	13 mo.	
3,970,043	4,271,880	2,579,563	77,237	16,299,723
Average age 9½ months.				

DISTRICT NO. 2

3 mo.	4 mo.	5 mo.	6 mo.	
650,000	1,450,000	720,000	1,076,439	3,896,439
Early liberation necessary on account of lack of feeding pound space.				

DISTRICT NO. 1

Fall Chinook—

5 mo.	6 mo.	7 mo.	8 mo.	
500,000	1,000,000	500,000	545,375	2,545,375

DISTRICT NO. 2

5 mo.	6 mo.	10 mo.	
1,238,182	976,600	1,077,090	3,291,872
			26,033,409

Silversides—

DISTRICT NO. 2

3 mo.	4 mo.	5 mo.	9 mo.	
472,285	500,000	1,205,650	597,850	2,775,785

DISTRICT NO. 1

Sockeye (Alaska)—

18 months old.....	600,000
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Total	29,409,194
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*Retained in ponds, Herman Creek, 2,589,478 Sockeye. At Bonneville, 404,180 Steelheads, 265,000 Fall Chinook.

BIENNIAL SUMMARY, 1919-1920

	1919	1920
Grand total Spring Chinook Salmon.....	30,057,291	20,196,162
Grand total Fall Chinook Salmon.....	3,675,140	5,837,247
Grand total Silversides	9,140,769	2,775,785
Grand total Sockeye	3,199,800	*600,000
Grand total Steelhead (commercial).....	3,407,958	5,240,190
	49,480,958	34,649,384
		49,480,958

Biennial total	84,130,342
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*These fish were 18 months old.

On hand Bonneville—

Steelheads	404,180
Fall Chinook.....	265,000
Retained in ponds Herman Creek feeding station—	
Sockeye	2,589,478
	3,258,658

Total number liberated and held in feeding ponds	87,389,000
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