

FISH CULTURE

ANNUAL REPORT BY J. A. RODD, DIRECTOR

Fish cultural operations of the Department of Fisheries are confined to those provinces in which it administers the fisheries in whole or in part, that is, Nova Scotia, New Brunswick, Prince Edward Island and British Columbia. The hatcheries located in the National Parks, Alberta, are also directed by the Department of Fisheries but at the expense of the National Parks branch, Department of the Interior.

The total distribution from the hatcheries operated by this department in 1935 was 145,878,304. The numbers of each species distributed were:—

STATEMENT BY SPECIES OF THE FISH AND FISH EGGS DISTRIBUTED FROM THE HATCHERIES DURING THE YEAR ENDED DECEMBER 31, 1935

Species	Green eggs	Eyed eggs	Fry	Advanced fry	Fingerlings	
					No. 1	No. 2
<i>Salmo salar</i> —Atlantic salmon.....	10,850	18,450	1,835,614	3,788,735	9,199,816	2,514,504
<i>Salmo salar sebago</i> —Landlocked salmon.....					71,772	16,775
<i>Salmo irideus</i> —Rainbow trout.....		116,034	75,000	312,272	761,429	68,178
<i>Salmo clarkii</i> —Cutthroat trout.....		105,000	49,401	36,000	1,601,590	
<i>Salmo rivularis</i> —Steelhead salmon.....					36,500	61,289
<i>Salmo rivularis kamloops</i> —Kamloops trout.....		3,157,616	2,935,895			
<i>Salmo levenensis</i> —Loch Leven trout.....						
<i>Salmo fario</i> —Brown trout.....					67,277	
<i>Salmo fario</i> —Hybrid brown trout (Brown trout—Atlantic salmon).....						
<i>Oncorhynchus nerka</i> —Sockeye salmon.....	83,284	35,796,328	60,877,489	1,880,000	4,519,269	1,084,734
<i>Oncorhynchus tshawytscha</i> —Spring salmon.....		391,435	666,779		295,938	27,900
<i>Oncorhynchus kennerlyi</i> —Kennerly's salmon.....		375,000	336,870			
<i>Oncorhynchus kisutch</i> —Coho salmon.....		200,000	490,673			
<i>Salvelinus fontinalis</i> —Speckled trout.....		99,150	571,736	1,220,072	5,964,847	1,448,265
<i>Cristivomer namaycush</i> —Salmon trout.....					148,745	
	94,134	40,259,013	67,839,457	7,237,079	22,667,183	5,221,645

Species	Fingerlings			Yearlings and Older	Total distribution
	No. 3	No. 4	No. 5		
<i>Salmo salar</i> —Atlantic salmon.....	1,000,247	314,070	6,000	29,541	18,717,827
<i>Salmo salar sebago</i> —Landlocked salmon.....	1,282			12,495	102,324
<i>Salmo irideus</i> —Rainbow trout.....	14,445	27,955	23,000	21,595	1,419,908
<i>Salmo clarkii</i> —Cutthroat trout.....				206	1,792,197
<i>Salmo rivularis</i> —Steelhead salmon.....		31,661			129,450
<i>Salmo rivularis kamloops</i> —Kamloops trout.....			911	87	6,094,509
<i>Salmo levenensis</i> —Loch Leven trout.....				871	871
<i>Salmo fario</i> —Brown trout.....	11,100	15,589		28,720	122,686
<i>Salmo fario</i> —Hybrid brown trout (Brown trout—Atlantic salmon).....				6,010	6,010
<i>Oncorhynchus nerka</i> —Sockeye salmon.....	99,112	19,836	93,719		104,453,771
<i>Oncorhynchus tshawytscha</i> —Spring salmon.....	23,915				1,405,967
<i>Oncorhynchus kennerlyi</i> —Kennerly's salmon.....					711,870
<i>Oncorhynchus kisutch</i> —Coho salmon.....					690,673
<i>Salvelinus fontinalis</i> —Speckled trout.....	347,375	208,116	121,288	99,084	10,079,933
<i>Cristivomer namaycush</i> —Salmon trout.....	863	700			150,308
	1,498,339	617,927	244,918	198,609	145,878,304

In addition to the above 511,745 cutthroat trout eyed eggs and fry were purchased from the Cranbrook Rod and Gun Club, and planted direct as follows:—

Arrow lake.....	66,000 eyed eggs
Crow's Nest lake.....	50,000 fry
Dunbar lakes.....	50,000 eyed eggs
Elk river.....	205,745 "
Goat river.....	105,000 "
Paddy Ryan lakes.....	35,000 "

511,745

Inspections were continued with a view to locating waters where fish eggs might be obtained in sufficient quantities to warrant the establishing of collecting camps and also with a view to locating sites where the Fish Cultural Service might be extended advantageously to districts that are not readily accessible from existing hatcheries.

Experiments with equipment, methods and foods of various kinds were continued at several hatcheries. The experiments and the investigations in relation to fish cultural problems that were made by the Biological Board of Canada are referred to in Appendix No. 2 of the Report of the Department of Fisheries for 1935-36.

The Fish Cultural Branch participated with units showing hatchery products and equipment in exhibits that were made at Kentville, Lunenburg, Halifax and Yarmouth, Nova Scotia, at Saint John and Fredericton, New Brunswick, and at the Sportsmen's Show, Boston, Mass.

Some 15,319 suckers, approximately 10.4 tons in weight were destroyed in the thoroughfare between First and Second lakes, Loch Lomond, and in Wilmot stream, which flows into Loch Lomond, New Brunswick. Some 6,000 carp, squawfish and suckers were also destroyed in traps that were operated for the purpose at Duck and Wood lakes in the Okanagan district, some 2,000 chub, squawfish and suckers in a trap at Lac La Hache, and some 1,699 suckers in a trap in Sweltzer creek, British Columbia.

Twenty-three main hatcheries, eleven subsidiary hatcheries, nine salmon-retaining ponds and several egg-collecting stations were operated in 1935. The output from these establishments was as follows:—

THE FOLLOWING TABLE SHOWS THE HATCHERIES OPERATED, THEIR LOCATION, DATE OF ESTABLISHMENT, THE SPECIES AND THE NUMBER OF EACH SPECIES DISTRIBUTED FROM EACH HATCHERY DURING 1935

Established	Hatchery	Location	Species	Green eggs	Eyed eggs	Fry	Advanced fry	Fingerlings					Year-lings and older	Total distribution by species	Total distribution by hatcheries	
								No. 1	No. 2	No. 3	No. 4	No. 5				
1929	Antigonish	Fraser's Mills, N.S.	Atlantic salmon				260,000	700,000	20,279						980,279	
			Rainbow trout									795		795		
			Speckled trout		3,000		560,104	900,177	295,000		17,500	45,300	29,149	1,850,230	2,831,304	
1876	Bedford	Bedford, N.S.	Atlantic salmon	(e) 8,050	14,200			1,193,975	39,700					1,255,925		
			Landlocked salmon						3,710					3,710		
			Speckled trout		50		45,000	414,641	116,450					576,141	1,835,776	
1912	Lindlof (a)	St. Peter's, N.S.	Atlantic salmon				386,000	184,788	30,000					600,788		
			Rainbow trout						36,418					36,418		
			Speckled trout							45,000				45,000	682,206	
1902	Margaree	N.E. Margaree, N.S.	Atlantic salmon				500,000	2,170,000	440,000	280,000	259,038			3,649,038		
			Speckled trout						28,982	96,339	105,661	23,188	1,505	255,675	3,904,713	
1913	Middleton	Middleton, Annapolis Co., N.S.	Atlantic salmon					170,000	230,000	412,105				812,105		
			Landlocked salmon					17,700	13,065	1,282				32,047		
			Salmon trout					60,000		863				60,863		
			Speckled trout					227,000	265,000	107,805	17,395		21	617,221	1,522,236	
1933	Nictaux Falls (d)	Nictaux Falls, N.S.	Atlantic salmon							20,000	22,800			42,800	42,800	
1929	Yarmouth	South Ohio, N.S.	Atlantic salmon				110,000	90,000	225,000	95	25,955	6,000	1,000	455,050		
			Kamloops trout										87	87		
			Rainbow trout							7,045	27,955	23,000	20,800	78,800		
			Speckled trout					590,000	270,200	24,000	7,090	52,800	48,277	992,367	1,529,304	
1928	Florenceville	Florenceville, N.B.	Atlantic salmon				600,000	1,458,000	500	14,748			10,043	1,610,291		
			Speckled trout					1,419,000	23,000		57,000		241	1,538,241	3,148,532	
1880	Grand Falls	Grand Falls, N.B.	Atlantic salmon					1,419,000	394,265	273,299				2,086,564		
			Speckled trout				144,704	1,169,296	133,558	52,954				1,500,512	3,587,076	
1874	Miramichi	South Esk, N.B.	Atlantic salmon				1,190,400	1,484,800	1,131,700					3,806,900		
			Speckled trout					72,500	1,000	7,722			96	81,318	3,888,218	
1874	Restigouche	Flatlands, N.B.	Atlantic salmon				1,413,330	260	89,590					1,503,180		
			Speckled trout				222,897	159	2,220					225,276	1,728,456	
1914	Nipisiguit (a)	Bathurst Mines, N.B.	Atlantic salmon				422,084							422,084		
1914	Saint John	Saint John, N.B.	Atlantic salmon	(e) 2,800	4,250	200	550,075	175,055	3,060		6,277		13,695	755,412		
			Brown trout, hybrids										6,010	6,010		
			Landlocked salmon										12,495	66,567		
			Loch Leven trout										871	871		
			Speckled trout		1,100	100,300	125,000	790,275	25,075				19,795	1,061,545	1,890,405	
1906	Kelly's Pond	Southport, P.E.I.	Atlantic salmon				192,000	537,608						729,608		
			Rainbow trout					11,659						11,659		
			Speckled trout				30,000	114,878						144,878	886,145	
1914	Banff	Banff, Alberta	Cutthroat trout		50,000			1,230,360						1,280,360		
			Rainbow trout			75,000	40,000	332,520						447,520		
			Salmon trout					83,745				700		89,445		
			Speckled trout				315,105	225,860	290,000	13,555	3,470			847,990	2,665,315	
1928	Jasper Park (a)	Jasper, Alberta	Rainbow trout				157,272							157,272	157,272	
1928	Waterton lakes	Twin Butte, Waterton Park, Alberta	Cutthroat trout				36,000	371,230					206	407,435		
			Rainbow trout		116,034		115,000	417,250	31,760	7,400				687,444	1,094,880	

1916	Cultus lake.....	Cultus Lake, Ved- der Crossing, B.C.	Cutthroat trout.....	55,000	49,401													104,401	
			Sockeye salmon..	(e) 53,284	5,663,880			47,936										5,765,100	
			Steelhead salmon..					36,500	26,568									63,068	5,932,569
1927	Smiths Falls (a) ..	Cultus Lake, Ved- der Crossing, B.C.	Kamloops trout.....		43,706													43,706	
			Sockeye salmon..		10,000								93,551					103,551	147,257
1905	Harrison lake (a) ..	Harrison lake, B.C.	Sockeye salmon..	11,618,840	13,794,612													25,413,452	25,413,452
1906	Pemberton.....	Owl Creek, B.C.	Kamloops trout.....	90,000	64,700													154,700	
			Sockeye salmon..		19,309,300													19,309,300	19,464,000
1917	Pitt lake.....	Pitt river, Alvin, B.C.	Kamloops trout.....										826					826	
			Sockeye salmon..	2,180,000	3,356,940			59,944										5,796,884	5,797,710
1903	Lakelse lake.....	Lakelse lake, via Terrace, B.C.	Sockeye salmon..	7,943,905	7,625,460								168					15,569,533	15,569,533
1908	Babine lake.....	Babine lake, via Topley, B.C.	Sockeye salmon..	1,546,030	3,748,873			879,945										6,174,848	6,174,848
1906	Rivers Inlet.....	Rivers Inlet, B.C.	Sockeye salmon..	3,413,778	7,945,183													11,358,961	
			Spring salmon.....		318,140			59,861										378,001	11,736,962
1911	Anderson lake....	Anderson lake, Kitdonan, Van- couver Island, B.C.	Sockeye salmon..	1,472,440	4,897,121													6,369,561	
			Spring salmon.....		92,903								23,915					116,818	6,486,379
1933	Sproat river (c) ..	Sproat river, B.C.	Spring salmon....	316,435														316,435	316,435
1911	Cowichan lake....	Lake Cowichan, Vancouver Isl- and, B.C.	Atlantic salmon..															4,803	
			Brown trout.....					67,277		11,100	15,589							28,720	
			Coho salmon.....	200,000	490,673														122,686
			Spring salmon....	75,000	255,736			236,077		27,900								690,673	
			Steelhead salmon							34,721								594,713	
			Sockeye salmon..	(e) 30,000	1,947,455	1,880,000	3,591,388	1,024,790	99,112	19,836								66,382	1,479,257
																		8,592,581	8,592,581
1933	Beaver lake (a) ..	Kelowna, B.C.	Kamloops trout..	555,000	330,185													885,185	885,185
1922	Lloyd's creek (a) ..	Kamloops, B.C.	Kamloops trout..	1,375,500	910,675													2,286,175	2,286,175
1934	Argenta (a).....	Argenta, B.C.	Kamloops trout..		468,800													468,800	468,800
1923	Nelson.....	Nelson, B.C.	Kamloops trout..	287,923	230,548								85					518,556	
			Kennerly's salmon	375,000	336,870													711,870	
			Speckled trout....	95,000	248,539													343,539	1,573,965
1928	Penask lake (a) ..	Penask lake, via Quilchena, B.C.	Kamloops trout..	151,000	257,902													408,902	408,902
1928	Summerland (a) ..	Summerland, B.C.	Kamloops trout..	698,193	629,379													1,327,572	1,327,572
				94,134	40,259,013	67,839,457	7,237,079	22,667,183	5,221,645	1,498,339	617,927	244,918	198,609					145,878,304	145,878,304

(a) Subsidiary hatchery.

(d) Pond and rearing station combined.

(c) Eyeing station.

(e) All autumn collection 1935, except 50 Atlantic salmon eggs.

The eggs, fry and fingerlings included in this distribution, with the exceptions indicated, were from collection in the autumn of 1934 and the spring of 1935. In addition to the above 511,745 Cutthroat trout eyed eggs and fry were planted direct in British Columbia waters as detailed in previous statement.

HATCHERY OUTPUT, BY PROVINCES, OF EGGS, FRY, FINGERLINGS, YEARLINGS AND OLDER FISH DURING 1935

	Green eggs	Eyed eggs	Fry	Advanced fry	Fingerlings					Yearlings and older	Total distribution by species	Total distribution by province
					No. 1	No. 2	No. 3	No. 4	No. 5			
<i>Nova Scotia—</i>												
Atlantic salmon.....	8,050	14,200		1,256,000	4,508,763	984,979	712,200	307,793	6,000	1,000	7,798,985	
Kamloops trout.....										87	87	
Landlocked salmon.....					17,700	16,775	1,282				35,757	
Rainbow trout.....						36,418	7,045	27,955	23,000	21,595	116,013	
Salmon trout.....					60,000		863				60,863	
Speckled trout.....		3,050		605,104	2,131,818	975,632	273,144	147,646	121,288	78,952	4,336,634	
	8,050	17,250		1,861,104	6,718,281	2,013,804	994,534	483,394	150,288	101,634	12,348,339	12,348,339
<i>New Brunswick—</i>												
Atlantic salmon.....	2,800	4,250	1,835,614	2,340,735	4,153,445	1,529,525	288,047	6,277		23,738	10,184,431	
Brown trout, hybrids (Brown trout—Atlantic salmon).....										6,010	6,010	
Landlocked salmon.....					54,072					12,495	66,567	
Loch Leven trout.....										871	871	
Speckled trout.....		1,100	323,197	269,863	3,492,291	182,633	60,676	57,000		20,132	4,406,892	
	2,800	5,350	2,158,811	2,610,598	7,699,808	1,712,158	348,723	63,277		63,246	14,664,771	14,664,771
<i>Prince Edward Island—</i>												
Atlantic salmon.....				192,000	537,608						729,608	
Rainbow trout.....					11,659						11,659	
Speckled trout.....				30,000	114,878						144,878	
				222,000	664,145						886,145	886,145
<i>Alberta—</i>												
Cutthroat trout.....		50,000		36,000	1,601,590					206	1,687,796	
Rainbow trout.....		116,034	75,000	312,272	749,770	31,760	7,400				1,292,236	
Salmon trout.....					88,745			700			89,445	
Speckled trout.....				315,105	225,860	290,000	13,555	3,470			847,990	
		166,034	75,000	663,377	2,665,965	321,760	20,955	4,170		206	3,917,467	3,917,467
<i>British Columbia—</i>												
Atlantic salmon.....					67,277		11,100	15,589		4,803	4,803	
Brown trout.....										28,720	122,686	
Coho salmon.....		200,000	490,673								690,673	
Cutthroat trout.....		55,000	49,401								104,401	
Kamloops trout.....		3,157,616	2,935,895						911		6,094,422	
Kennerly's salmon.....		375,000	336,870								711,870	
sockeye salmon.....	83,284	35,796,328	60,877,489	1,880,000	4,519,269	1,084,734	99,112	19,836	93,719		104,453,771	
Speckled trout.....		95,000	248,539		295,938	27,900	23,915				343,539	
Spring salmon.....		391,435	666,779		36,500	61,289		31,661			1,405,967	
Steelhead salmon.....											129,450	
	83,284	40,070,379	65,605,646	1,880,000	4,918,984	1,173,923	134,127	67,086	94,630	33,523	114,061,582	114,061,582
												145,878,304

In addition to the above 511,745 cutthroat trout eyed eggs and fry were planted direct in British Columbia waters as detailed in previous statement.

The Canadian National Railway, the Canadian Pacific Railway, the Esquimalt and Nanaimo Railway and the Dominion Atlantic Railway Companies continued their generous assistance and co-operation by furnishing free transportation for shipments of game fish and game fish eggs with their attendants. The extent of this co-operation is indicated in the following summary:—

Railways	Total mileage on trip passes	Number of passages	Mileage baggage car permits			Number of cases or cans			Number of permits
			Full	Empty	Total	Full	Empty	Total	
C.N.R.....	6,163	25	3,165	3,094	6,259	71	90	161	43
C.P.R.....	7,973	50	6,818	6,386	13,204	310	297	607	95
E. & N.R.....	122	2	61	61	122	2	2	4	2
D.A.R.....	824	8	412	412	824	8	8	16	2
	15,082	85	10,456	9,953	20,409	391	397	788	142

NOTE:—Number of passages refers to transportation one way. A return trip counts as two passages. Number of permits refers to one way passages for cases or cans.

An increased interest is being shown in fish cultural operations and assistance was tendered by private individuals and local organizations such as the boards of trade and fish and game clubs, angling and protective associations, service clubs, etc. Great assistance was afforded by the Madawaska Fish and Game Club in distributing hatchery output in the waters in which they are interested. In addition to the help of its members, the club provided motorboats, teams, canoes, etc., where they were needed. The Grand Falls Fish and Game Club also extended valuable assistance of a similar nature.

Officials and employees of other dominion departments, provincial officials, officers and crews of fishery patrol and protection boats, and other branches of this department have cordially co-operated in all instances where they could be of assistance. The Research Committee of the Biological Board continued its courteous consideration of all fish culture problems that were referred to it.

An exchange of Kamloops trout for salmon trout eyed eggs was made with the Department of Game and Fisheries, Toronto, Ontario, and speckled trout for ouananiche salmon eyed eggs with the Department of Labour, Game and Fisheries, Quebec, details of which are given in a subsequent statement.

As a practical test to ascertain if Atlantic salmon introduced into new environment retain the habits of their native rivers, Restigouche salmon which provide good angling during May, June and the greater part of July, were distributed in the Saint John and Nashwaak rivers. Some anglers believe that salmon will retain in a new habitat the habits their parents had in the old. Others maintain that imported stock will take on the ways of the native stock of any stream into which they are introduced. The experiment should provide some proof as a considerable number of the Restigouche fish were marked before they were liberated in the Saint John river and its tributaries.

Observations made by Mr. H. C. White under the direction of the Biological Board, indicate that artificial propagation or artificial feeding does not weaken racial instinct of fish to select suitable food nor do they lose their ability to forage for themselves because of the time spent in hatchery troughs and ponds. There had been nothing to indicate that artificially hatched fry did not thrive when liberated in open water. The evidence supplied by observations and experience had been in the other direction, but Mr. White's investigation furnishes definite information on this point.

This

An investigation was carried on in Prince Edward Island. Several lots of speckled trout were studied. Some of the fry had been hatched naturally in the streams and the balance were hatchery product. Some of the hatchery fry were not liberated until they had become somewhat emaciated and weakened, and it might, therefore, be expected that they would not be in a condition to look after themselves very well. After intervals of varying length, from 48 to 88 hours, numbers of the different groups of fry were recaptured and their stomach contents were examined and compared with the contents of the stomachs of the naturally hatched fry. Mr. White found that the artificially hatched fry fed in a natural manner and in the same way as the native fry, taking out in the main the same food. Although the hatchery fry had no experience with food of any kind except liver, before they were liberated, they knew instinctively what organisms were the accepted diet of young trout.

At Antigonish hatchery one pond of speckled trout yearlings, produced by selective breeding, yielded an average of 963 eggs each and the average yield of all yearlings stripped was 605 eggs each, the latter being an increase of approximately 150 eggs per yearling fish over the yield of 1934. The yield from the two-year-old fish was also higher than it was during the previous year. The average yield of three- and four-year-old fish was smaller, principally due to the fact that a large proportion of these fish were of the Lochaber lake strain, which are poor yielders as compared with the hatchery fish.

An interesting experiment was made at Margaree hatchery in regard to the relative efficiency of natural and artificial spawning of speckled trout. A spring-fed pond was divided into three sections, each approximately 10 feet long by 5 feet wide with the bottom composed of fine and coarse gravel. One pair of trout was placed in each section on October 31 and removed on November 15 after they had spawned. The females were 14, 15 and 13 ounces in weight before, and respectively 11, 12½ and 11 ounces in weight after they had spawned. The loss in weight, due to spawning, was 7½ ounces or 17·8 per cent of their original weight. One thousand one hundred and fourteen fingerlings were later recovered from these enclosures.

Three females, 14, 16 and 13½ ounces in weight were stripped in the usual way. Their eggs were handled in the hatchery and produced 4,263 fry in the April following. These fish lost 6·5 ounces or 15·4 per cent of their original weight due to stripping. The loss in weight in both groups of six trout was 16·3 per cent of their original weight, which is considerably smaller than the percentage loss in Atlantic salmon referred to later in this report.

During the autumn of 1934, three spawning beds for Atlantic salmon were made below No. 3 development in the Mersey river, Nova Scotia. These beds were examined during the following January. It was found that one of them, which was about 11 feet long by 5 feet wide, its length at right angles to the current, had been used by at least two pairs of salmon.

As the natural spawning beds in the Mersey river were very largely destroyed by hydro development and in view of the experience of 1934, ~~three~~ ¹⁵ additional beds were made during 1935 and were used to a considerable extent during the autumn of that year. The pools in the fishway in this development were screened and used experimentally for rearing salmon. Unfortunately the screens were undermined by ascending eels and most of the fish escaped into the river.

During the season 149 Atlantic salmon ascended the fishway and were counted into the Nictaux retaining pond between 6 a.m. and 6 p.m. and 17 between 6 p.m. and 6 a.m. The latter group ascended shortly after dark and just before daylight in the morning. The former group ascended mostly between 7 and 9 o'clock in the morning, 11 and 12.30 noon, with an occasional one in the afternoon.

One hundred and seventy-one salmon were taken for fish cultural purposes in the Sackville river near the Bedford hatchery between August 28 and October 31, inclusive. Of this number 73 were taken on September 10 and 11. The river was quite low prior to September 10, when a heavy rainfall occurred and the salmon immediately began to move. This is a further indication of the effect of rainfall or increased flow of water on the ascent of salmon, other conditions being satisfactory.

On November 30, 1935, a number of adult speckled trout were marked and distributed from Yarmouth hatchery in the outlet of lake Skinner, and the following spring a number of these fish were caught at Hicks' falls, a distance of from 10 to 12 miles from the point of liberation. The fish went down the outlet from lake Skinner into the Carleton river, then proceeded upstream to where they were caught. On April 15, 1936, a number of two-year-old speckled trout were distributed in lake Ellenwood. On April 25, eight of these were caught at Whitehouse Mill on the Salmon river, a distance of some three miles from the point of distribution. Twenty two-year-old speckled trout distributed on April 14, 1936, in Gardener brook were caught at lake Edward dam, a tributary of Gardener brook, one mile from the point of distribution. The last group was released in lake Edward above the dam. With the exception of those liberated in lake Skinner, the fish had proceeded upstream a considerable distance in a comparatively short time. Lake Skinner, however, has no inlet which the fish could ascend and this condition may have something to do with the fish having gone downstream.

The Nipisiguit hatchery, which is subsidiary to the Restigouche hatchery, obtained its water supply from Little Church brook which flows into the Nipisiguit river not far from Grand Falls on that stream. The water supply creek flows through a quicksand formation and has always given some trouble on account of quicksand and other sediment being carried into the hatchery. In addition to this sediment, Little Church creek has been polluted in recent years in other ways, such as drainage from hardwood ashes, manure piles, etc., outside the hatchery property. Heavy losses in eggs occurred during the last few years and the Pathologist of the Biological Board attributes these losses to some toxic matter or polluting substance.

The transportation facilities available at the time that the Nipisiguit hatchery was established did not permit of the Nipisiguit river being stocked effectively from the Restigouche hatchery. These facilities have since then been greatly improved and it is now quite feasible to transfer fry from Restigouche to the Nipisiguit and other streams in the district. Under these conditions the Nipisiguit hatchery was discontinued at the close of the distribution season of 1935.

During the season Little river, below the reservoir from which the Saint John hatchery obtains its water supply, was diverted to a new channel, thus removing the danger that has always existed of flooding the hatchery ponds during high freshets. The wire screens previously used in the outlets of the trout ponds were replaced by gates made of wooden slats which have proved far superior to the wire screens, as the former do not clog and last much longer.

During the year the Cobequid hatchery was constructed at Jackson on Second river, river Philip, Cumberland county, Nova Scotia. The main building, which includes the hatchery, men's quarters, office, feed room, and cold storage, is 38 feet by 71 feet 6 inches. The hatchery is 36 feet 8 inches by 42 feet 6 inches and is equipped with 30 hatching troughs, each 16 feet long, 10½ inches wide and 6½ inches deep inside; 6 hatching troughs 16 feet long, 20 inches wide and 10 inches deep. The Superintendent's dwelling, which is equipped with all modern conveniences, is 30 feet by 30 feet. In addition to the above a combined storage room, ice-house and garage 21 feet by 50 feet 5 inches and a concrete water supply dam were built and the water supply pipes laid. Con-

struction was brought to a close in the late autumn by unfavourable weather conditions, but arrangements have been made to complete this establishment with rearing and brood ponds early next season.

At the close of the fiscal year, March 31, 1935, the department lost the valuable services of three of its oldest fish cultural officers through retirement and superannuation, as they had reached the age limit. The officers in question were:—

Mr. J. H. Castley, Superintendent of the Cowichan lake hatchery, British Columbia, who was first employed in 1910 and who was retired on superannuation after nearly twenty-five years continuous service.

Mr. W. A. Mowat, Superintendent of the Restigouche hatchery, New Brunswick, who was first employed in 1886 and who was retired on superannuation after nearly forty years' service.

Mr. H. C. Crawford was first employed on the construction of the sockeye salmon hatchery at Stuart lake in northern British Columbia in 1907. At the time of construction this portion of British Columbia was not as readily accessible as it is at present. The Canadian National Railway had not been built, supplies, etc., had to be brought in from outside and taken up the Skeena by river steamer, packed around the rapids by Indians, and finally transported by pack-horse and by boat to the hatchery site. Mr. Crawford continued at the hatchery after construction was completed and rose through various stages until he was finally appointed Superintendent of the hatchery. He was employed in the same capacity at Babine lake, and for shorter periods at Pitt, Lloyd's creek and other hatcheries, finally retiring as Superintendent of the Nelson hatchery in southern British Columbia with nearly 28 years' experience in the fish cultural service.

MARITIME PROVINCES EASTERN DIVISION

DISTRICT SUPERVISOR OF FISH CULTURE, JAMES CATT

Speaking generally, in spite of adverse conditions brought about by excessive drought, hatchery operations showed a distinct and efficient progress. Fish cultural operations, at present made up to a major extent by hatchery work, were of greater value than has heretofore been achieved in the Maritimes. This was largely due to an increased efficiency in the hatchery staffs, closer co-operation with the administrative branch of the department, the fish and game protective associations for the maritime provinces and closer association with the directors and staffs of the St. Andrews and Halifax biological stations.

The local or county branches of the fish and game protective associations rendered valuable co-operation in the distribution of hatchery output and their officers, who attended the meetings convened by the District Supervisors of Fisheries for the purpose of discussing local conditions and the best disposal to make of available hatchery stock, contributed much intimate information regarding their respective districts. These associations at the annual meetings of their parent bodies further showed their interest in fish cultural work by passing resolutions of appreciation of the department's efforts after specific discussion of the work carried out in past and suggested future programs. Letters to this effect were received from Dr. E. H. Cook, president of the New Brunswick Fish and Game Protective Association and Rev. A. W. L. Smith, president of the Nova Scotia Fish and Game Protective Association.

Whilst generalized in the foregoing, certain specific cases of co-operation might be mentioned.

Major D. H. Sutherland, Chief Supervisor of Fisheries personally attended many conferences on distribution. Under his direction the district supervisors and their inspectors carried out a program of assistance in restocking the waters

of the Maritimes. It was particularly gratifying to observe that much work along these lines was done in Supervisor J. F. Calder's district. Inspector C. E. Kilpatrick, under Supervisor L. H. Parks, has as in the past been of great assistance in stock distribution from the Florenceville hatchery. Inspector J. A. Jardine, under Supervisor Colonel A. L. Barry, has obtained a great deal of data as to the stocking requirements of the Restigouche district. In Supervisor H. H. Marshall's district, Inspector J. P. Buchanan not only assisted in distribution but also in fish cultural experimental work. Inspector P. E. Filleul assisted in one of the most difficult distributions attempted in the Maritimes, which was restocking the headwaters of the Sissiboo river. Inspector Bruce Hunter assisted in the examination of the upper waters of the Sissiboo, and obtained extremely valuable data as to the possibility for future collections of wild speckled trout ova in the lakes in North Mountain area and the collection of Atlantic salmon ova from the headwaters and tributaries of the Annapolis river. He also furnished data on the trout fishery of the lakes of North Mountain together with an accurate map, which describing the accessibility of the several waters, should prove of great assistance to the department in its future operations.

Supervisor E. D. Fraser through his inspectors obtained most valuable information in regard to failures and successes of stocking the waters in his district. He has consistently shown a keen and useful interest in fish cultural operations.

Under Supervisor A. G. McLeod, Inspector T. H. Kitchen obtained much information with regard to stocking the waters in his area. He has also shown a great deal of interest in endeavouring to locate suitable sites on which may be constructed fish cultural plants, both rearing ponds and hatcheries.

The Government of New Brunswick has during the year sent representatives to discuss fish cultural matters at local conferences on distribution. They have assisted in obtaining data on experimentally closed waters, those temporarily closed to angling, to furnish advice as to the possibility of future collections of wild trout eggs and to offer the services of game wardens of the Department of Lands and Mines to generally assist the Department's work in any such matter as may be seasonable.

In Nova Scotia the department has received assistance comparable to that of New Brunswick.

The directors of the Atlantic Biological station, St. Andrews, and of the Atlantic Fisheries Experimental station, Halifax, were at all times most cordial in their readiness to render assistance. As far as possible Doctor A. H. Leim from St. Andrews station personally investigated many fish cultural problems. His work included the obtaining of data as to the efficiency of the rearing pond on Stephenson's brook, Loch Lomond, built and operated by the Saint John branch of the New Brunswick Fish and Game Protective Association and the Loch Lomond Protective Association. As the opportunity occurred he also visited the experimental natural rearing pond near Wittenberg, Nova Scotia. Doctor D. B. Finn from the Halifax station not only assisted the Department's officers by advice, but when requested to do so immediately supplied certain equipment such as indicators for pH determinations. Doctor R. H. M'Gonigle from the Saint Andrews station investigated all hatchery epidemics in so far as limited funds permitted him. He also carried out valuable work in connection with the elimination of algae at the Kelly's Pond hatchery.

Dr. M. W. Smith of the Atlantic Biological station spent considerable time in field observations; in determining scientific data in connection with the copper sulphating experiment of Jesse lake and in the selection of Boar's Back and Tedford lakes in which the aforesaid experiment is to be continued; in connection with a rearing pond at Bishop's brook, New Minas, and Sutton's pond, Kentville, operated by the Kentville branch of the Nova Scotia Fish and Game Protective Association, and the proposed rearing pond at Coldbrook near

Kentville by the same branch. Bishop's and Sutton's brooks were stocked from the Middleton hatchery, but results of the stocking will not be determined until the summer of 1936. He also gave valuable information as to aquatic trout food organisms to several of the hatchery superintendents and the District Supervisor of Fish Culture to whom his field contact was such that he was enabled to illustrate his remarks.

A biological and a fish cultural examination and an engineering survey were also made of a possible rearing pond site at Parker brook, Middleton, Nova Scotia.

The work of the Saint John branch of the New Brunswick Fish and Game and the Loch Lomond Protective Associations in connection with the Stephenson's brook pond is to be highly commended. The actual work of stocking the pond and of making determinations as to the results was chiefly carried out by the staff of the Atlantic Biological station and the Department's fish cultural employees at the Saint John hatchery.

Members of the Cape Breton branches of the Nova Scotia Fish and Game Protective Association were of material assistance in the distribution of stock from the Margaree hatchery in the Sydney area. Their very keen interest and constructive criticism have been most helpful.

Successful live fish exhibits were held during the year at Kentville, Lunenburg, Halifax and Yarmouth under the supervision of Mr. H. V. Gates, Superintendent of the Yarmouth hatchery; at Fredericton under Mr. George Sutherland, Superintendent of the Florenceville hatchery, and at the Saint John Exhibition with Mr. J. D. Nichol, Superintendent of the Saint John Hatchery, in charge. Assistant Mr. W. T. Owens with representative specimens of hatchery fish from the Florenceville and Saint John hatcheries, New Brunswick, was loaned in connection with the exhibit made at the Sportsmen's Show at Boston.

At Margaree hatchery the treatment of speckled trout fingerlings with copper sulphate followed by acetic acid proved successful in combating the diseases which affected this species. Similar work with excellent results was carried out at Antigonish hatchery.

The salmon rearing facilities at Nictaux Falls were increased, which will enable a large production of speckled trout fingerlings to be made from Steven's brook ponds as eggs and fry may be transferred to Nictaux Falls and later moved in the fingerling stage to Steven's brook ponds for further growth.

A new salmon and trout hatchery, called Cobequid hatchery, with Superintendent's residence, complete, was built at Second river, River Philip, Cumberland county, Nova Scotia. This plant will be in operation next year.

A supply of landlocked salmon was provided by Bedford and Middleton hatcheries for the ponds at Grand lake, Nova Scotia, operated by the Provincial Government.

The elimination of suckers from Wilmot stream, the main trout nursery for Loch Lomond, and from the thoroughfare between First and Second lakes, Loch Lomond, New Brunswick, was continued in 1935.

Deep lake, Queens county, Nova Scotia, promises to provide excellent rainbow trout angling. It is comparatively small, being approximately 40 acres in area, fed by underground springs and has no outlet. It was stocked with yearling rainbow trout in 1934. During test fishing to ascertain how the trout were doing, fish weighing a pound and measuring 12 inches were taken. When liberated the fish were between 5 and 6 inches long and had weighed a few ounces. The increase in growth and the numbers of fish that are apparent in the lake promises some excellent sport.

Lake George, in southwestern Nova Scotia, may now be included in the angling waters of that region. Until a few years ago it carried a large population of perch and was almost barren of trout. It was stocked with speckled trout yearlings from the Yarmouth hatchery and it is reported that in 1935 numbers of large trout were taken by the sportsmen.

ANTIGONISH HATCHERY

K. G. Shillington, Superintendent

An excellent distribution was made of Atlantic salmon advanced fry and fingerlings, speckled trout advanced fry, fingerlings, yearlings and older fish which exceeded the size of those of preceding years. Some rainbow trout yearlings and four year old fish were also distributed. Three thousand speckled trout eyed eggs were shipped to the Seignior Club, Montebello, Quebec.

One fifty-foot circular pond was constructed on the hatchery grounds. A new storage dam was built at the outlet of Loch Katrine so that a reserve of water will in future be available. Concrete bottoms were made in nineteen rectangular ponds; also many additional improvements to the hatchery ponds with a view to rearing fish more successfully.

A collection of 5,647,161 speckled trout eggs was made from the fine quality of brood stock developed at the hatchery, thus enabling the plant to become a source of supply for several of the maritime hatcheries. The hatchery ponds also produced 109,000 rainbow trout eggs.

Evidence of the importance of selective breeding and efficient feeding is apparent at this hatchery. One hundred fingerlings, the progeny of selected parents, weighed all told 15.2 ounces. At the end of the first month of the test their aggregate weight increased to 50.5 ounces or more than 230 per cent; in the next three months there was a further gain of over 300 per cent and their total weight rose to 223 ounces. The next seven months brought their weight to 700 ounces, an increase of over 460 per cent in eleven months. This is an average weight of 7 ounces each and according to Doctor Wm. E. Ricker's studies is equivalent to the average weight of speckled trout in open waters of Ontario on August 1 of their fourth year, as stated by Doctor Ricker in Publications of the Ontario Fisheries Research Laboratory, No. 44, 1932.

In March 1,000,000 Atlantic salmon eyed eggs were received from Miramichi hatchery. Outgoing shipments were: 500,000 speckled trout eyed eggs to Bedford hatchery, 250,000 each to Lindloff and Restigouche hatcheries, 100,000 each to Margaree and Miramichi hatcheries and 1,000,000 each to Middleton and Yarmouth hatcheries and 64,000 rainbow trout eyed eggs to Lindloff hatchery. Distributions for the season were: Atlantic salmon 980,279, rainbow trout 795, and speckled trout 1,850,230; total, 2,831,304.

BEDFORD HATCHERY AND SACKVILLE RIVER SALMON POND

George Heatley, Superintendent

In spite of heavy losses through an epidemic in speckled trout fingerlings, a good distribution of this species was made from Bedford hatchery this year. A few Atlantic salmon green and eyed eggs and speckled trout eyed eggs were shipped to various institutions, and a large number of Atlantic and some landlocked salmon fingerlings were produced and distributed.

The results of capacity tests conducted in rearing ponds at this hatchery proved to be futile in an endeavour to raise any great number of fry to the fingerling stage. Arrangements are therefore being made to increase the distribution in the early spring in order to prevent future heavy losses later in the season when adverse conditions occur.

Twenty-seven thousand landlocked or sebago salmon eggs were collected at Grand lake.

In the autumn of 1934, an unusually large number of Atlantic salmon were in evidence in the upper part of Bedford basin, an extension of Halifax harbour entered by the Sackville river. The Superintendent of the Bedford hatchery at Sackville reported at the time that "the basin was practically alive with salmon." An extended period of dry weather brought the water in the

Sackville river to an unusually low level, and after waiting about the mouth of the river for some time most of the salmon, which were apparently headed for this stream, evidently went in search of more favourable conditions elsewhere. Very few of these salmon ascended the Sackville river as from early September to early November the river was enclosed by a fence with traps installed to intercept the fish and take them for fish cultural purposes. This particular case is only an example of the possible effect of low water conditions on the movements or the ascent of Atlantic salmon in our eastern rivers.

In February 1,250,000 Atlantic salmon eyed eggs were received from Kelly's Pond hatchery and in March 500,000 speckled trout eyed eggs from Antigonish hatchery. In November 806,400 Atlantic salmon eggs were received from Sackville pond and 2,868,000 from river Philip camp.

Distributions for the year were: Atlantic salmon 1,255,925, landlocked salmon 3,710, and speckled trout 576,141; total, 1,835,776.

Some 171 Atlantic salmon were impounded at Sackville river pond between August 28 and October 31 inclusive, from which there was only a loss of 2. A satisfactory collection of 806,400 eggs was made which were laid down in the Bedford hatchery.

LINDLOFF SUB-HATCHERY

J. C. Goswell, Officer in Charge

The rearing capacity of this station was increased by the construction of four additional circular ponds. Other improvements include the building of an icehouse and garage.

Eyed eggs received during the season were: 612,196 Atlantic salmon from Miramichi hatchery and 250,000 speckled and 64,000 rainbow trout from Antigonish hatchery. Distributions were made as follows: Atlantic salmon 600,788, rainbow trout 36,418, and speckled trout 45,000; total, 682,206.

MARGAREE HATCHERY

W. D. Turnbull, Superintendent

The superintendent is to be commended for the excellent distribution of Atlantic salmon and speckled trout stock from the plant this year, which included for the first time some 1,500 speckled trout yearlings.

A very satisfactory collection of 873,574 speckled trout eggs, much larger than the collection of any previous year, was made from the splendid brood stock that is being developed at this hatchery.

Additional improvements were made to rearing ponds and sixteen large troughs constructed during the summer gave excellent results. Trout and salmon fingerlings held in these larger troughs spread out and showed a much better growth than those held in smaller troughs.

From Antigonish hatchery 100,000 speckled trout eyed eggs were received in March. In November and December 5,450,000 Atlantic salmon green eggs were received from Margaree salmon pond. Distributions were: Atlantic salmon 3,649,038, and speckled trout 255,675; total, 3,904,713.

MARGAREE SALMON POND

J. P. Chiasson, Superintendent

Exceedingly low water conditions in the Margaree river prevented the capture of a large number of early run salmon. Of the 144 early run fish obtained from June 12 to July 29 the loss was 14, the percentage loss being much less than last year.

The fall run of salmon was very satisfactory. Some 560 were impounded from September 17 to November 1. Owing to the scarcity of males additional

salmon were secured for their milt. A total collection of 5,450,000 eggs, exceeding the collection of recent years, was taken and laid down in Margaree hatchery.

MIDDLETON HATCHERY AND RIVER PHILIP SALMON POND

F. M. Millett, Superintendent

Notwithstanding the disappearance of a large number of speckled trout fingerlings from Steven's ponds a good distribution of this species was made. During October the hatchery pond was drained and 21 speckled trout yearlings were taken and distributed in Lilly lake, Annapolis county. The pond was restocked with some 1,200 speckled trout No. 4 fingerlings.

In addition to speckled trout; Atlantic salmon, landlocked salmon and salmon trout fingerlings were distributed.

Extensive repairs were made to the hatchery dam and spillway.

In July and August 45,000 Atlantic salmon fingerlings were transferred to the newly constructed rearing station at Nictaux Falls.

The following eyed eggs were received during the season: in January 100,000 salmon trout from the Department of Game and Fisheries, via Glenora hatchery, Ontario, and 1,000,665 speckled trout from the Cape Cod Trout Company, Wareham, Mass. In March 30,000 ouananiche salmon from the Department of Labour, Game and Fisheries, Quebec, 30,000 sebago salmon from Saint John hatchery originally collected at Chamcook lakes, 1,000,000 speckled trout from Antigonish hatchery and 600,000 Atlantic salmon from Miramichi hatchery. In the autumn 679,200 Atlantic salmon eggs were received from Nictaux salmon pond and 1,705,100 from river Philip camp.

Distributions from Middleton hatchery were: Atlantic salmon 812,105, landlocked salmon 32,047, salmon trout 60,863 and speckled trout 617,221; total 1,522,236.

Operations at river Philip camp were most successful in 1935, as there was no excessive high water this season. Some 816 salmon were impounded from October 1 to November 9. The total collection was 4,573,100 eggs of which 2,868,000 were laid down in Bedford hatchery and 1,705,100 in Middleton hatchery.

NICTAUX SALMON POND AND REARING STATION

J. W. Heatley, Officer in Charge

A better run of Atlantic salmon at Nictaux river this year was reflected in a collection of 679,200 ova, which greatly exceeded that of last year. These ova were laid down in Middleton hatchery. Of the 166 salmon obtained from May 18 to November 7 the loss was 12. A hole gnawed in the power dam permitted some 30 impounded salmon to ascend to the storage dam. By permission of the Avon River Power Company the water was shut off the dam for short periods enabling the salmon to be recaptured and returned to the pond.

In addition to the collection of brood salmon, in July and August 45,000 Atlantic salmon fingerlings were received from Middleton hatchery. In January a heavy rain and ice jam demolished the old Nictaux rearing station. During March a new site was located and 10 standard troughs that had been salvaged and 10 new large troughs were set up, over which a roof was built and closed in with drop sides. The new station operated very satisfactorily. Facilities now provide that eggs as well as fry and fingerlings may be carried. Distribution consisted of 42,800 Atlantic salmon in the Nictaux river.

YARMOUTH HATCHERY

H. V. Gates, Superintendent

Operations at the Yarmouth hatchery were successful. An excellent distribution of Atlantic salmon advanced fry, fingerlings and yearlings, rainbow and speckled trout fingerlings, yearlings and older fish was made. Some Kamloops trout, three year old fish were also distributed.

Ova obtained from the hatchery ponds consisted of 633,000 speckled trout and 127,000 rainbow trout.

Two new circular ponds constructed proved most satisfactory as retainers for brood fish.

Live fish of three species, Atlantic salmon, rainbow and speckled trout of different ages from fingerlings to adult fish were shown at the Apple Blossom Carnival, Kentville, at the Nova Scotia Fisheries Exhibition, Lunenburg, and the Nova Scotia Provincial Exhibition, Halifax; also a decorated float was on exhibit at the Natal Day Celebration at Yarmouth, Nova Scotia.

In March 1,000,000 speckled trout eyed eggs were received from Antigonish hatchery. From Miramichi salmon pond 1,000,000 Atlantic salmon green eggs were received in October. In May 35,000 rainbow trout eyed eggs were shipped to Kelly's Pond hatchery. Distributions were: Atlantic salmon 458,050, Kamloops trout 87, rainbow trout 78,800 and speckled trout 992,367; total 1,529,304.

FLORENCEVILLE HATCHERY

George Sutherland, Superintendent

Mr. Murdock McKenzie, Hatchery Assistant at the Florenceville hatchery, was retired on account of age. He was first employed at the Sparkle sub-hatchery in 1914.

An excellent distribution of Atlantic salmon advanced fry, fingerlings and yearlings and speckled trout fingerlings and older fish was made during the summer.

The brood stock developed at this hatchery yielded 2,248,377 speckled trout eggs.

Live fish exhibits of Atlantic salmon and speckled trout of different ages were shown at the Fredericton Exhibition, New Brunswick, and 20 five-year-old and 5 six-year-old speckled trout were displayed at the Sportmen's Show at Boston, Mass.

From February to April 143,653 Atlantic salmon eyed eggs were received from Miramichi hatchery, and in July and August 150,000 Atlantic salmon fingerlings from Grand Falls hatchery the latter for distribution in Skiff lake and Nashwaak river. In the autumn 1,054,550 Atlantic salmon ova were transferred from Saint John salmon pond. Distributions were: Atlantic salmon 1,610,291 and speckled trout 1,538,241; total 3,148,532.

GRAND FALLS HATCHERY

W. A. McCluskey, Superintendent

Operations at the Grand Falls hatchery were most satisfactory. The superintendent is to be commended for the very superior quality of Atlantic salmon fingerlings and speckled trout advanced fry and fingerlings distributed in 1935.

Experimental work proved the feasibility of circular ponds as retainers for brood stock in the future development of the plant.

A most successful collection of 1,006,910 speckled trout ova, which exceeds any former collection, was made at Fraser's pond, Three brooks, in the autumn.

The general appearance of the hatchery and grounds was again a great attraction to visitors and tourists.

In April 300,000 Atlantic salmon eyed eggs were received from Restigouche hatchery. In the autumn 2,036,650 Atlantic salmon ova were transferred from the Saint John salmon pond. In July and August 150,000 Atlantic salmon fingerlings were transferred to Florenceville hatchery. Distributions were: Atlantic salmon 2,086,564 and speckled trout 1,500,512; total 3,587,076.

MIRAMICHI HATCHERY, MIRAMICHI SALMON POND AND BARTIBOG SALMON POND

Frank Burgess, Superintendent

The largest collection in years, viz., 12,028,107 eggs, was made at Miramichi salmon retaining pond during the fall of 1935. While the greater part of this collection, 10,528,107 was laid down in Miramichi hatchery, a shipment of 500,000 was made to Restigouche hatchery and 1,000,000 to Yarmouth hatchery. The first fish was captured on September 9 and the last on September 25. Two thousand five hundred were impounded.

Two hundred and sixty two brood fish were collected at Bartibog salmon pond from May 24 to June 14 inclusive. In spite of considerable loss through an epidemic 177 fish were, on August 31, transferred without loss from Bartibog to Miramichi pond at South Esk. They yielded 901,080 eggs, which were laid down in Miramichi hatchery. Of the 177 there were 146 females and 31 males—that is the ratio of females to males was 82.5 to 17.5.

In addition to Atlantic salmon ova from Miramichi and Bartibog fish, 100,000 speckled trout eyed eggs were received at Miramichi hatchery from Antigonish hatchery in March. Atlantic salmon eyed eggs transferred from February to April were:—to Antigonish hatchery 1,000,000; Florenceville hatchery, 143,653; Lindloff hatchery, 600,000; Middleton hatchery, 600,000 and to Restigouche hatchery, 500,000. Through an exchange agreement with the United States Bureau of Fisheries 1,000,000 Atlantic salmon eyed eggs were shipped to Craig Brook hatchery, Maine. A satisfactory distribution of 3,806,900 Atlantic salmon and 81,318 speckled trout was made; total distribution 3,888,218.

NEW MILLS SALMON POND

Wm. White, Superintendent

Three hundred and seventy two fish were purchased for New Mills pond from the commercial fishermen of the district from May 27 to July 27. There was a small loss of 10 fish due to injuries received in the nets, and not detected when the salmon were being placed in the pond. The fish gave an excellent yield of good quality eggs, amounting to 1,771,450 which were laid down in Restigouche hatchery.

NIPISIGUIT SUB-HATCHERY

J. T. Comeau, Officer in Charge

This plant was operated quite satisfactorily during the season. Owing to sediment and the contamination of the water supply by drainage from hardwood ashes, manure piles, etc., and also due to the improved highways and transportation facilities which makes it possible to distribute fish from Restigouche hatchery to the Nipisiguit river and other streams in the district, this hatchery was closed at the end of the distribution season of 1935.

In April 479,275 Miramichi river eggs were received via Restigouche hatchery. Distribution was Atlantic salmon 422,084 fry.

RESTIGOUCHE HATCHERY

W. A. Mowat and I. A. Mowat, Officers in Charge

An increased distribution of Atlantic salmon and speckled trout fry and fingerlings was made during the summer.

In March 500,000 Atlantic salmon eyed eggs from Miramichi hatchery and in April 250,000 speckled trout eyed eggs from Antigonish hatchery were received. In the latter month from the Miramichi allotment 479,275 Atlantic salmon eyed eggs were transferred to Nipisquit sub-hatchery and from the New Mills eggs 300,000 to Grand Falls hatchery. In October and November 1,771,450 salmon ova were received from New Mills pond and 500,000 from Miramichi salmon pond. Distributions were: Atlantic salmon 1,503,180 and speckled trout 225,276; total 1,728,456.

SAINT JOHN HATCHERY, SAINT JOHN SALMON POND AND CHAMCOOK
COLLECTING STATION

J. D. Nichol, Superintendent

The following satisfactory collections of eggs at the hatchery ponds were made: Atlantic salmon hybrids 9,135, brown trout hybrids 5,516, landlocked salmon hybrids 7,105, Loch Leven trout 1,580 and speckled trout 1,543,078.

The superintendent and hatchery staff are to be commended for the excellent distribution of fry, fingerlings, yearlings and older fish made from the various species propagated at the hatchery.

In March 30,000 landlocked salmon eyed eggs were forwarded to Middleton hatchery. Nine hundred and thirty speckled trout wild stock were captured in October in Rairdon brook and retained at the hatchery. In the autumn 692,300 Atlantic salmon eggs were received from Saint John pond. Distributions were: Atlantic salmon 755,412, brown trout hybrids 6,010, landlocked salmon 66,567, Loch Leven trout 871 and speckled trout 1,061,545; total 1,890,405.

A tide of 23.2 feet above chart datum is needed to enter the Saint John salmon retaining pond. The higher spring tides flood the marsh and during the ebb carry a considerable amount of what is probably deleterious matter into the pond. In 1934, the maximum temperature of the pond was above 60 degrees F. continuously; the spring tides with two exceptions were above 24 and the population was greatest and contained a considerable proportion of fresh arrivals during the period that the heavy loss occurred. This combination of circumstances suggested the advisability of a change in procedure, such as declining to accept salmon during or immediately preceding periods of high spring tides. Following this procedure 811 salmon were impounded from June 9 to August 10, 1935. The loss was approximately 31 per cent. The percentage loss of salmon during the summer 1935 was as great as when fish were impounded as they were caught. Efforts are now being made to locate a better site and a different method of retention. The salmon stripped yielded 3,783,500 eggs of excellent quality, which were laid down as follows: at Florenceville hatchery, 1,054,550, Grand Falls hatchery 2,036,650 and Saint John hatchery 692,300.

Owing to low water salmon were prevented from ascending to the Chamcook lakes in any number, and as a result no collection of landlocked or sebago salmon was made at this point in 1935.

KELLY'S POND HATCHERY

F. C. Hayley, Superintendent

Heavy losses in fry and fingerlings due to bad water conditions were experienced at Kelly's Pond hatchery in 1935. The Pathologist of the Biological Board attributes these losses which occur the same time each spring to the

growth of algae in the hatchery pond and believes that the variation in severity of loss as between years may be interpreted as a variation in the quantity of algal growth. The pond was treated with copper sulphate in May and again in June in an effort to improve conditions. After the distribution season it was drained and treated with lime to further destroy any growth.

A shipment of 1,250,000 Atlantic salmon eyed eggs was made in February to Bedford hatchery. In May 35,000 rainbow trout eyed eggs were received from Yarmouth hatchery. In October and November 3,516,000 salmon eggs were laid down from Morell salmon pond and in November and December 20,100 speckled trout ova were collected from the hatchery pond, 184,550 from Ings' and 2,000 from Cole's ponds. Distributions were: Atlantic salmon, 729,608, rainbow trout 11,659, and speckled trout 144,878; total 886,145.

MORELL RIVER SALMON POND

A. Tait, Officer in Charge

The collection of Atlantic salmon eggs at Morell salmon pond exceeded that of any preceding year. Some 1,032 salmon were caught from October 11 to November 18. One night during the season holes were cut in the retaining net and 284 salmon escaped before repairs could be made. The collection amounted to 3,516,000 eggs, which were laid down in Kelly's Pond hatchery.

WESTERN DIVISION

DISTRICT SUPERVISOR OF FISH CULTURE, C. W. HARRISON

The return of parent sockeye in 1935 to all districts in which the Department of Fisheries operates fish breeding establishments in the province of British Columbia was, without exception, most gratifying, consequently all stations secured their full quota of eggs.

The following conditions prevailed in connection with the return and escapement of parent sockeye to the different areas where hatcheries are maintained:—

Anderson lake district; the sockeye escapement to the spawning areas of Sproat, Great Central and Anderson lakes was one of the best experienced, notwithstanding the very satisfactory commercial catch secured.

Clayoquot Sound district; the number of sockeye that reached Kennedy lake was unusually large, although the early run did not materialize.

Fraser river system; the supply of parent sockeye that reached the Birkenhead river was the largest for a number of years. These conditions also obtained in the Pitt lake system where the run was the heaviest in the experience of the hatchery staff. At Cultus lake the run was about what was expected and can be considered as reasonably satisfactory.

Skeena river system; although the commercial pack in this system was comparatively small, the escapement of parent sockeye to all parts of this system was fairly heavy, nearly as good as the large run of 1930, and much better than that of 1931. In the Babine area heavy runs occurred in Fifteen Mile creek, Pierre creek, both upper and lower Babine river, and in a lesser degree to Fulton river. There was an excellent run to all tributaries of Lakelse lake, particularly Williams creek, where the return was the largest in years. Unfortunately however, heavy freshets that occurred after the completion of the spawning period practically destroyed all eggs naturally deposited and undoubtedly the return of sockeye to this area in the cycle year of 1939 will depend entirely on the distribution from eyed eggs made from Lakelse Lake hatchery.

A very heavy run of sockeye occurred in Owikeno lake, Rivers Inlet, greater this year than for some time past, notwithstanding an unusually large commercial catch. Consequently all spawning areas were heavily seeded naturally and the hatchery secured a collection of 18,680,090 sockeye eggs.

The total collection of sockeye eggs at all hatcheries in this province was 77,427,774 as against 105,689,080 secured in 1934. This lesser collection is due to the fact that, in accordance with the Biological Board's investigation at Cultus lake, no collection of sockeye eggs at that point was made during the fall of 1935, except an experimental lot of 53,284 which were water hardened and planted in prepared gravel beds in the hatchery creek, Cultus lake, whereas in 1934 the collection in this area was 41,350,240 eggs.

A test was made in 1934-35 of three methods of securing eggs from sockeye salmon. In the expression method the eggs are gently pressed from the ripe female; in the expression and incision method partial expression takes place, the fish is then killed, bled, cut open and the remaining eggs taken out. In the full incision method the fish is killed, bled, cut open and all eggs taken. The loss in incubated eggs using the first method averaged 2.9 per cent; using the second method 5.9 per cent and using the third method 3.3 per cent. The loss in eggs due to opening immature fish in the third method only amounted to 0.8 per cent of total eggs taken by this method.

A collection of spring salmon was made at Cowichan Lake hatchery only, where 277,152 eggs of this variety were laid down. The run of this species to this district was slightly better than an average one. The run of coho was heavy and well above average.

The introduction of brown or Loch Leven trout to the Cowichan and Little Qualicum rivers, Vancouver Island, was continued, and during the year distributions to the waters of the Cowichan lake district totalled 55,409 from the Cowichan lake hatchery, consisting of 26,689 fingerlings and 28,720 yearlings, and from the Qualicum Beach ponds 6,500 yearlings.

Distribution of sporting fish were made in the Little Qualicum river area from the Qualicum Beach ponds of 77,321 brown trout yearlings. At the end of the year there were 49,271 brown trout and 26,632 Kamloops trout fingerlings being retained and fed in the Qualicum Beach ponds under the supervision of employees of the Biological Board.

It is reported that the angling season of 1935 was one of the best in the history of the Banff National Park, Alberta, both from the standpoint of the number of anglers and the number of fish taken. All previously barren lakes lying within the boundaries of the park have been stocked and excellent results are apparent in most instances. Excellent sport was enjoyed in Marvel lake, considerable numbers of ~~rainbow~~ trout up to 3½ pounds in weight having been taken.

After a good many years most promising results are apparent from the introduction of Loch Leven or brown trout into certain Alberta waters, which introduction was undertaken before the natural resources were transferred from the Dominion to the prairie provinces. During the past year brown trout are reported to have been reasonably plentiful and to have provided some good angling in the Red Deer and South Raven rivers, including such tributaries as Grant, Spring, Stauffer creeks, Horseshoe and Rainy lakes and several other waters in the same region.

The Medicine-Maligne system of Jasper Park, which was barren of fish life prior to 1928, continued to afford excellent sport. During 1935, 8,378 speckled trout were taken which weighed 8,798 pounds. The lakes were visited by nearly 1,000 fishermen of whom 640 were non-residents of the province of Alberta.

Excellent results, paralleling the results that were obtained with speckled trout in this system, are apparent in Amethyst lake in the same park. Prior to 1932, Amethyst lake was barren of fish life. It was stocked with kamloops trout and when it was opened to angling in 1935, large numbers of trout weighing up to 3½ pounds were taken. Noted anglers who were at the lake stated that they never found better trout fishing anywhere.

As in previous years the fish cultural staff of the Western Division have given most conscientious, faithful and unsparing service in the execution of their duties.

In Kootenay district, British Columbia, water conditions were such that many fingerlings, yearlings and some old fish became stranded. These were transferred to suitable locations as shown in the following statement:—

Salvaged from	Transferred to	Date	Size	Cut-throat trout	Kamloops trout	Speckled trout
Ben Albe creek, from holes in ditch flowing into	Paddy Ryan lakes.	Oct. 13, 15, 23, 27	3 inches.....	339		
Elk river (near Morrissey), channel off	Elk river.....	Sept. 25.....	2 inches.....	225		
Goat river, from holes	Goat river.....	Oct. 3.....	3 inches.....	50		
Inlet creek to Cherry lake, channel creek	Cherry lake....	Sept. 19.....	1½ inches to 2 inches	350		
Little Sheep creek, from holes and channels	Little Sheep creek	July 15, Aug. 14	2 inches to 5 inches			585
Meadow creek, channels off	Meadow creek..	Sept. 17.....	2½ inches to 7 inches			104
Michel creek, channel off	Michel creek..	Sept. 24.....	2½ inches.....	325		
Snake (Boulder) creek	Slocan river at Winlaw and Appledale	Sept. 9.....	2 inches to 4 inches		464	
Third Six Mile lake, outlet	Third Six Mile lake	Sept. 4.....	2 inches.....		125	
				1,289	589	689

ALBERTA

BANFF HATCHERY

J. E. Martin, Superintendent

During the past season fish cultural operations carried out at this establishment were eminently satisfactory. Many bodies of water were successfully stocked with sport fish eggs, fry and fingerlings of the different varieties propagated at the plant. Several loans of old fish were made during the year for display purposes.

With exception of 150,400 speckled trout eggs secured from Vermilion lake, the stock distributed were resultant from eyed eggs obtained by purchase from commercial firms, and exchange.

Shipments of eyed eggs received consisted of 491,610 brown trout, 1,038,015 cutthroat trout and 152,250 speckled trout from the Rainbow Ranch, Troy, Montana; 481,840 cutthroat trout and 558,112 rainbow trout from the Crystal Lakes Fish Hatcheries, Fortine, Montana, and 99,000 salmon trout from the Department of Game and Fisheries (via Port Arthur hatchery), Ontario. Kamloops trout eyed eggs were given in exchange for the latter.

The total distribution of all varieties, including fry resultant from eggs received in the fall of 1934, was: cutthroat trout 1,280,360, rainbow trout 447,520, salmon trout 89,445, and speckled trout 847,990, a total of 2,665,315.

It is generally acknowledged that angling in the widespread district served by this hatchery has greatly improved, due to fish cultural operations conducted at this station. Practically all accessible lakes that drain to the Bow river have been stocked with cutthroat trout and there is an annual escape-ment from these lakes to the small tributaries, eventually to the Bow river; consequently sport fishing on that river is reported to have greatly improved.

Due to fish cultural efforts at the Banff hatchery, many other bodies of water have received beneficial attention. For instance the watershed north of the Bow Pass is now well stocked with cutthroat trout and many have been captured weighing up to two pounds. Angling at lake Minnewanka shows great improvement over previous years and practically every tributary to the Elbow and Highwood rivers shows evidence of the successful fish cultural attention given them from this station.

The following waters stocked from this establishment also are reported to have greatly benefited. Baker and Luellen lakes to which distributions were made in 1934 with cutthroat trout fingerlings, contained many four-inch fingerlings in 1935. Upper Kananaskis lake in which 75,000 rainbow trout fry were distributed, from all reports indicate that splendid results have been obtained. Lake Louise, which was stocked with 401 cutthroat trout from Herbert lake, now yields fish from 12 to 20 inches in length. The distribution of cutthroat trout in Egypt and Marvel lakes is also reported to have been successful. In the last two named bodies of water natural reproduction from the original plantings of cutthroat trout fry has increased to such an extent that they are now considerably overstocked and it would seem that there is not sufficient natural food therein to support the present population. Although the smaller fish do not as yet seem to have been affected, the larger fish show a somewhat emaciated appearance.

JASPER PARK HATCHERY

A shipment of rainbow trout eyed eggs were received in May from the Crystal Lakes Fish Hatcheries, Fortine, Montana, amounting to 207,320. Out of this lot 157,272 fry were produced and distributed in various lakes and streams in the district.

WATERTON LAKES HATCHERY

G. E. Bailey, Superintendent

As in the past years, splendid fish cultural service was maintained in 1935 by this establishment. Many lakes and streams have been stocked with game fish with gratifying results and a general improvement in angling over the whole district is reported.

This hatchery depends almost entirely on eggs secured from other sources. This year was no exception to the rule, the following supplies of eyed eggs being received: 200,200 cutthroat trout from the Rainbow Ranch, Troy, Montana, and 395,360 cutthroat trout and 910,100 rainbow trout from the Crystal Lakes Fish Hatcheries, Fortine, Montana. A small collection of 3,300 rainbow trout eggs was made from fish retained in the hatchery ponds.

Distributions for the season were: cutthroat trout advanced fry, fingerlings and yearlings 407,436, and rainbow trout eyed eggs, advanced fry and fingerlings 687,444; a total of 1,094,880.

This hatchery, as well as the Banff hatchery, Alberta, was some years ago transferred to the National Parks branch, Department of the Interior, but continues to be directed by the Department of Fisheries on behalf and at the expense of the National Parks branch.

FRASER RIVER WATERSHED

CULTUS LAKE HATCHERY

A. Robertson, Superintendent

Following the program arranged by the Biological Board's investigation of the comparative efficacy of artificial and natural propagation, the sockeye eggs retained at the Cultus lake hatchery from the 1934 collection were planted in the eyed stage in tributaries to Cultus lake, Smiths Falls, Spring, Windfall and Watt creeks. The number of eyed eggs distributed was 5,663,880.

As in the preceding year those planted in Spring and Smiths Falls creeks left the gravel satisfactorily, but an unusually dry spell in March and April proved disastrous to the eggs planted in Watt and Windfall creeks and very few, if any, succeeded in reaching the lake. No collection of sockeye eggs, except an experimental group of 53,284 eggs that were water hardened and planted in prepared gravel beds in hatchery creek, Cultus lake, was made from the spawners arriving this year, all fish being allowed to pass through to natural spawning after being counted and tabulated. The run was 5,437 males and 9,917 females, which was poor compared with previous cycles.

To continue a similar experiment conducted in 1934 when severe freshets almost entirely scoured out the plantings, 53,284 sockeye salmon green eggs were collected in November and planted in prepared gravel beds in the small by-pass stream near the hatchery.

In order that certain experiments could be carried out by Dr. Foerster, 50,247 sockeye fry were retained and fed in the hatchery. In July, 47,936 No. 1 fingerlings were released from the lot in Sweltzer creek; 27,000 of them being marked.

The run of steelhead salmon to Sweltzer creek was not as good as the preceding year, a considerable number being spawned out before they reached the traps. A fence was installed at Liumchin creek which operated efficiently. A total collection of 137,400 eggs was made, of which 75,100 were from Sweltzer creek and 62,300 from Liumchin creek. The fry hatch was 69,799 and 57,998, respectively. In addition to the above 21,500 steelhead salmon eggs were taken from the ornamental pool in the centre of the hatchery grounds.

Resultant steelhead fry were fed during the summer and in August 77,000 in fingerling stage were transferred to Smiths Falls hatchery, 500 sold to Messrs. A. E. Wells and Son, Sardis, and the remainder, 63,068, distributed in Sweltzer and Liumchin creeks.

In March, 55,000 sockeye salmon eyed eggs were received from Smiths Falls hatchery. From the cutthroat trout held from 1934, 949 fingerlings eleven months old were transferred to Smiths Falls hatchery in April. On June 27 a shipment of 210,960 cutthroat trout eyed eggs were received from the Crystal Lakes Fish Hatcheries, Fortine, Montana, 100,960 of which were transferred to Smiths Falls hatchery for incubation and retention in ponds; the remainder, after normal losses, were distributed in Atchelitz creek, Little Sumas river, Davis, Echo, Hatzic, Long Island and Popkum lakes. The number of cutthroat trout eyed eggs and fry distributed was 104,401.

The total distribution for all species was 5,932,569. Coho salmon collection during the season amounted to some 420,000 eggs. During the collection of sockeye salmon eggs at Cultus lake in 1934, 50 sockeye caught below the hatchery fence in Sweltzer creek, immediately above its junction with the Vedder river, were marked on October 11 and the same number on October 15, by removing the outer half of the dorsal fin. At the same time a gill net was set in Vedder pool where sockeye had been seen and kept there from October 11 to 16. In this time it caught 4 unmarked and one marked male

sockeye, the latter on October 13. A similar net was set a mile and a half farther up stream on October 13 and 15. No sockeye were taken in it. In addition to the marked sockeye actually captured in the Vedder above its confluence with the creek, at least one additional male and one female were observed there on October 16 and 18. On October 18, also 10 marked males were observed in the Vedder below the confluence.

These experiments definitely established that many of the sockeye which had gone up to the traps had returned down Sweltzer creek, a distance of 1,050 yards, and that some of them had ascended the alternative stream for 450 yards. All sockeye of the Cultus lake run were retained in 1934 for use in artificial propagation. All of the 100 sockeye that were marked and liberated below the fence were recovered again in Sweltzer creek, except the one which had been caught in the river. After leaving the stream for the river, sooner or later all had again entered the parent stream, that is Sweltzer creek, and none had ascended the Vedder permanently.

These observations indicate that migrating adult sockeye salmon meeting an obstruction in the parent stream returned down stream to a larger river and some of them ascended it for a considerable distance, but that all of the 100 marked fish in this instance eventually returned to the parent stream after various absences up to three weeks.

Work of special nature undertaken and completed in connection with this establishment consisted of the construction of a cement dam at the settling pond, eight new hatching troughs, and the enlarging of the retaining pond at Sweltzer creek. Improvements to the hatchery grounds were also made.

SMITHS FALLS HATCHERY

This establishment was taken over from the Biological Board on March 31, previous to which, on March 6 and 13, 4,255,862 sockeye salmon eyed eggs were transferred to Pitt lake hatchery, and on March 18, 55,000 to Cultus lake hatchery, these being eggs from the Cultus lake 1934 collection.

Shortly after the transfer of this station to the fish cultural branch of the Department, 949 cutthroat trout eleven months old fish that had been retained and fed at Cultus lake hatchery were placed in the Smiths Falls ponds with some 4,932 cutthroat that were in the ponds. Of these fish some 5,816 cutthroat ranging from five to nine and a half inches in length were on hand at the end of the year.

In June, 100,960 cutthroat trout eyed eggs, a part of a shipment received at Cultus lake hatchery from the Crystal Lakes Fish Hatcheries, Fortine, Montana, were transferred to this station, hatched, retained and fed in troughs, and later transferred to one of the large ponds. A fairly heavy loss occurred during and immediately following hatching, but after the food sac was absorbed the fry commenced to make satisfactory progress. At the end of the year there were some 73,308 cutthroat strong healthy fingerlings, ranging from two and one-eighth to nine and one-eighth inches in length.

From Lloyd's creek hatchery 50,000 Kamloops trout eyed eggs were received, the resultant fry from which, 43,706, were liberated in Devil, Grace and Wolf lakes.

Seventy-seven thousand individually counted and selected steelhead salmon fingerlings were transferred from Cultus lake hatchery and placed in the ponds in August. Soon after the transfer of these fish they contracted a disease diagnosed as "popeye" and 4,000 died before it ceased.

Distributions were: Kamloops trout fry 43,706 and sockeye salmon eyed eggs and fingerlings 103,551, which totals 147,257.

Owing to the necessity for economy a straight diet of salmon meat instead of liver was used for fry food, and as far as can be seen at present it has proved quite satisfactory.

PEMBERTON HATCHERY

T. W. Graham, Superintendent

The distribution of sockeye fry resultant from the 1934 collection commenced on March 16, 1935, and continued until June 1, by which time 19,309,300 fry had been liberated in the usual way by allowing them to leave the troughs when so inclined and pass through a series of small natural ponds to the Birkenhead river, the parent stream.

In June, 155,000 Kamloops trout eyed eggs were received from Lloyd's creek station, from which 90,000 eyed eggs were distributed in Lac La Hache, McLeese, Horse, Millburn and Ten Mile lakes, and 64,700 fry in Alta and Lost lakes. The total distribution for the season was 19,464,000.

Kamloops trout are reported to be thriving in Tenquille, Ogre and Owl creek lakes. These lakes were barren previous to plantings from Pemberton hatchery.

The run of parent sockeye to the Birkenhead river in the fall of 1935 is stated to be the best since 1932, so that besides 24,410,000 eggs secured for fish cultural purposes, there was a good natural spawning covering well the area below the fence and for several miles above it.

All the artificial spawning was done by the incision method and the eggs secured are considered by the superintendent to be the best ever handled.

In January a long cold spell followed by a sudden change to heavy warm rains caused a quick rise in the water of the Birkenhead river, broke up the ice and caused a jam against the piers of the spawning fence, exerting enough force to tear away the trestles and upper structure. The work of repairs was mainly done by the hatchery staff at small cost.

HARRISON LAKE HATCHERY

C. R. T. Hearn, Superintendent

At the commencement of the calendar year 1935 there were 29,278,693 sockeye salmon eggs in the hatchery, being eggs received from the 1934 collection at Cultus lake, from which 11,618,840 eyed eggs and 13,794,612 fry were distributed in the tributaries of Harrison river and lake.

An abnormal loss of fry in the hatchery was experienced during May 3 to 10, which came on suddenly and caused sufficient anxiety that a special investigation of conditions was made by Dr. W. E. Rieker of the Biological Board, Mr. H. J. Horn of the Department of Bacteriology of the University of British Columbia and Mr. C. W. Harrison, District Supervisor of Fish Culture for British Columbia. The fry appeared ill at ease, swam erratically about and acted in an unusual manner, most of the mortality occurring during night time. The report of the pathologist showed that the alevins had no bacterial disease, and though no definite cause of loss was established it is generally considered that it was due to some chemical contamination in the water causing lack of oxygen. The water tasted earthy and had a faint fungaceous odour. There was also a covering of a grayish white substance about one-sixteenth of an inch in thickness on the sides of the troughs. Immediate steps were taken to aerate the water supply by installing riffles wherever possible and a pronounced decrease in mortality was evident the following day, May 5, and a continuous improvement was noted from then on. It is expected that the deleterious condition of the water may have been due to an abnormal lowering of the level of Trout lake from which the supply of water for the hatchery is obtained. A long period of severe frosty weather was experienced and during that time the Harrison Hot Springs Hotel and the Harrison lake hatchery were steadily lowering Trout lake, whilst owing to ice-bound conditions no fresh water was entering. This

evidently led to a drawing off of a lower level which is practically stagnant and which with the effect of higher temperatures caused excessive organic decomposition.

An inspection was made of a number of the egg plantings made from this hatchery this year and in every instance there was evidence of excellent production of strong healthy fry.

The buildings at this establishment are in poor state of repair, as only emergency repairs sufficient for actual operation were carried out to make this hatchery available for care of the surplus sockeye eggs collected at Sweltzer creek, Cultus lake, which eggs had to be transferred to conform with the requirements of the Biological investigation in progress at Cultus lake.

PITT LAKE HATCHERY

R. H. Eaton, Superintendent

In March, a shipment of 4,255,862 sockeye salmon eyed eggs were received from Smiths Falls hatchery. Of these 1,350,000 eyed eggs were distributed in Four and Seven Mile creeks, soon after arrival, and the balance were incubated and held to the fry stage; 2,897,235 fry being liberated. Of the 719,804 fry held from the 1934 collection at Pitt lake, 659,705 were distributed as fry and 59,944 after retention in ponds as No. 2 fingerlings.

An unexpectedly large run of sockeye salmon arrived at the Pitt lake spawning grounds in 1935. This has been stated to be the greatest in the memory of the oldest employee, who has been at the hatchery since 1924.

The river was high, making the capture of fish difficult and it is estimated that fifty fish to every one spawned by the operators were left to spawn naturally. The collection of sockeye eggs this season, amounted to 3,880,000 of which of 830,000 eggs were planted in gravel to allow sufficient room in the hatchery for fry and the remainder of the eggs.

Some 826 Kamloops trout which were retained in the ponds from the 1934 shipment received from Penask lake hatchery were released in the No. 5 fingerling stage in Four Mile creek. The total distribution for the season was 5,797,710. Angling for sport fish is reported to have greatly improved, owing to the introduction of Kamloops trout in recent years by the fish cultural branch of this Department.

VANCOUVER ISLAND

ANDERSON LAKE HATCHERY

D. Bothwell, Superintendent

Distributions of sockeye eyed eggs and fry and spring salmon fry and fingerlings resultant from the 1934 collection were successfully made. The sockeye distribution consisted of 1,472,440 eyed eggs which were planted in gravel in Clemens creek and 4,897,121 fry planted in tributaries of Anderson lake. The spring salmon distribution consisted of 92,903 fry and 23,915 No. 3 fingerlings all of which were liberated in Anderson river; a total distribution of 6,486,379.

During the period of January 15 to 20, 316,435 spring salmon eyed eggs from the 1934 collection at Sproat river were distributed in the Stamp river.

The spring salmon fingerlings held in tanks at this hatchery and fed from April 21 to August 1 were liberated unmarked after the supply of fish food available had been exhausted; a liberation of 23,916 being made from 25,000 originally retained.

Owing to shortage of funds for fish culture, the collection of eggs this year was confined at this establishment to the sockeye species and to the quantity which the hatchery could handle when hatched. A total of 5,292,000 sockeye

eggs were obtained all by the incision method; 1,445 females and 1,441 males being used in the operation.

The estimated number of sockeye parent fish to reach the spawning area was 45,000, which, after deducting the number used in artificial propagation, would leave 42,114 to spawn naturally; a heavy seeding which coincided with very favourable conditions as there were no bad freshets in the creeks.

The estimated run was three times as large as the estimated run of 1934 and compares very favourably with the brood year of 1931.

Out of the 1,445 females used in the full incision method, only 26 were killed from which all the eggs could not be taken. A liberal estimate of loss of 600 eggs to each of these 26 fish gives a total loss of 15,600 eggs, which is relatively small from a collection of 5,292,000 ova.

The following special work was done at this establishment during the year: Rearing tanks were caulked and disinfected. Decayed wall of superintendent's residence was repaired, new sills were placed under the building and it was given a coat of paint. An office was installed in the messhouse. A new foot bridge was built over Ternan creek and considerable improvements were made to the hatchery grounds and seining beaches.

KENNEDY LAKE HATCHERY

W. P. Forsythe, Superintendent

From the collection of 8,897,300 sockeye salmon eggs in 1934, a distribution of 8,562,599 eyed eggs, fry and fingerlings was made, consisting of 1,947,455 eyed eggs, 1,880,000 advanced fry, 3,591,388 No. 1 fingerlings, 1,024,790 No. 2 fingerlings, 99,130 No. 3 fingerlings and 19,836 No. 4 fingerlings, which were liberated in different places of Kennedy river and lake and Muriel lake.

The collection in 1934 was taken from the late run in October and November, 3,479,250 by expression, 1,638,500 by incision after expression and 3,779,550 by full incision.

The total losses during the egg period, including a loss of 8,965 eggs in 30,000 green eggs planted in a prepared gravel hatching bed, was 329,822 or 3.7 per cent. The heaviest loss occurred in the eggs taken by incision-after-expression method which was 9.5 per cent. Loss in eggs taken by expression was approximately 2 per cent and by full incision 2.4 per cent.

All fry were retained a period in the ponds before release from about a week to ten days. The losses of weak fry in the hatching troughs was 4,040. In all 6,615,823 fry were transferred to the ponds as they reached the free swimming stage, for feeding and development before liberation. The loss while in the ponds was 679, leaving 6,615,144 for distribution.

The food used in the early stages was herring and salmon egg meal and in the fingerling stages cooked fresh crab meat. Fifteen ponds were operated during the season.

The taking of spawn for 1935 commenced on October 29 and finished on November 22, by which time 9,053,000 sockeye salmon eggs had been taken. There was no early run of sockeye this year, as this variety follows the four year cycle very closely and on two years of the cycle none may be expected. On the third year there is a small run of a few hundreds and every fourth year a large run. The next big year is expected in 1937.

The 1935 collection was taken from 2,520 females and 2,843 males or less than two-thirds of those available; all eggs obtained being by the full incision method. The average number per female stripped was 3,592, being the highest average to date at this hatchery. The losses to December 31 with the eggs well eyed was slightly over 1 per cent.

At the end of the 1935 collection a group of selected extra large sockeye, male and female, were taken and stripped separately, the experiment being

to compare the progeny with those of an ordinary run. Eight females were stripped yielding 31,600 eggs averaging 6,320 to the quart as against the ordinary run of 7,675.

The run to Muriel lake was estimated at over one thousand fish, approximately one-third females, and it was considered that these fish were the returns from half a million Kennedy lake eggs of the 1931 collection planted in the spring of 1932 as there was no natural spawning in Muriel lake in the fall of 1931. This return is a great advance on the returns in 1933 from the 1929 seeding when only 500 fish were estimated from a seeding of three million eggs. From this experience and a study of the spawning beaches, it is considered that by judicious fish cultural operations, a run of considerable importance to the district can be developed in this body of water.

An experiment in planting and incubation of green sockeye eggs was carried out. Two lots of 30,000 eggs were used, the first lot being planted after two and a half hours water hardening and the second was cared for in the hatchery troughs. The first lot gave 21,035 free swimming fry or 70.1 per cent and the second, after deducting a loss of 54 fry before the free swimming stage, yielded 28,544 free swimming fry or 95 per cent.

The superintendent places the high loss in the planted eggs to the silting of the gravel during freshets and to insufficient circulation in the upper end of the planting ground. These conditions will be guarded against in the continuation of the experiment.

A quantity of crabs were secured from Tofino Inlet and after cooking for twenty minutes were used for fry feed. The fry appeared very keen for this food, but not having any other food on hand, no comparative tests could be made.

The run of parent sockeye to this system was estimated at from thirty-five to forty thousand fish which shows a steady increase in this variety in the last five years. Coho and spring salmon runs were on an average with the past four years.

A small lake tributary to Clayoquot Arm of Kennedy lake was discovered and named Elbow lake. This lake has an area of $8\frac{1}{2}$ acres, an abundant supply of natural food for fry and it is proposed to plant 50,000 sockeye eggs therein during the coming distribution season.

COWICHAN LAKE HATCHERY

J. H. Castley and F. A. Tingley, Superintendents

On March 31, 1935, this hatchery was placed entirely under the management of the officers of the Biological Board to become a part of the sport fish research work being carried on by the Board and an officer of the Department's fish cultural branch was transferred to this station to superintend the hatchery and collections under the direction of the Biological officers.

The following is a synopsis of the Superintendent's report: Distributions during the year amounted to 1,479,257—Atlantic salmon yearlings 4,803; brown trout fingerlings 26,689 and yearlings 28,720; coho salmon eyed eggs 200,000 and fry 490,673; spring salmon eyed eggs 75,000, fry 255,736 and fingerlings 263,977; steelhead salmon fingerlings 66,382. In June 67,277 brown trout fingerlings, resultant from the shipment of eggs received from the Rainbow Ranch, Troy, Montana, were transferred to the Qualicum Beach ponds.

The pond rearing operations were conducted by Mr. S. E. Deno who has had considerable experience in rearing of fish with the Biological Board. In May 105,900 spring salmon free swimming fry were placed in the earth ponds, of which 76,817 were later released directly into the Cowichan river and the balance 26,499 were transferred to the wooden ponds on June 4. None of the above were actually counted but were calculated by weight. On July 26, 12,500 were released owing to shortage of water averaging $2\frac{3}{4}$ inches in length

and on July 30 a remaining 15,400 were liberated averaging $3\frac{1}{8}$ inches in length. These latter fish were hand counted and showed a surplus of 2,223 fingerlings above the number arrived at by weight.

Oliver creek ponds were stocked with 159,890 spring salmon free swimming fry but were released after less than a month, owing to the shortage of water. The loss for this group was 630.

In these two series of ponds 162 pounds of canned salmon, $44\frac{1}{2}$ pounds of dried buttermilk and $7\frac{1}{2}$ pounds of fish meal were used as food.

Brown trout numbering 190,707 were taken over for feeding on April 21. Heavy losses resulted from fungus disease and 12,642 were lost from a water supply tap failing during the night; a shipment of 67,277 to the Qualicum Beach ponds, left a remainder that were transferred to wooden ponds near the hatchery. These were hand counted and released in Cowichan river in September. The count was 26,689, which shows a discrepancy of 8,676 between the total recorded on April 21 and subsequent losses and distributions.

Of the steelhead salmon fry, 66,838 were taken over for pond rearing in June. From these 34,721 fingerlings were released in Cowichan river and the remainder 31,661 were transferred to the Provincial Game Board's ponds at Veitch creek for rearing and later distribution.

An experiment was carried out in an attempt to hold spring salmon females to ripen in pens larger than the usual small enclosures but no satisfactory results were obtained, as only two fish out of twenty-seven became completely ripe. The majority died without any apparent development of the eggs.

Experiments were made in transporting eggs and milt in sealed containers but the results failed to indicate any improvement on the customary method of transporting green salmon eggs.

A fish weir was constructed in July across the Cowichan river and two traps installed, one with an upstream intake and the other with a down stream intake, in order to make observations on the movement of spring salmon. Freshet conditions on October 23 necessitated removal of panels. A number of spring and six sockeye salmon were observed, besides trout of all varieties passing up and down stream. A large run of coho passed up stream just before the fence was abandoned.

The collection of eggs from the Cowichan river during the season consisted of: spring salmon 277,152 and steelhead salmon 78,000.

The superintendent's residence was completely renovated during the year and the living quarters of the assistant were enlarged. A new boat house was also built to replace the one that collapsed owing to the heavy snowfall the previous year.

SKEENA RIVER WATERSHED BABINE LAKE HATCHERY

A. P. Hills and W. R. Reid, Officers in Charge

The distribution of sockeye salmon fry and fingerlings resultant from the 1934 collection was successfully accomplished, and consisted of 3,748,873 fry and 879,945 No. 1 fingerlings.

The run of parent sockeye last season to Morrison creek on which this hatchery is located, was similar to those of the last four years, consequently it was necessary to make collections at Babine river, in order that a full complement of eggs might be secured.

A collection of 3,960,000 sockeye eggs was made at Morrison creek and 3,840,000 at Babine river, making a total collection of 7,800,000. An unusual feature of the Babine lake run of sockeye in 1935, to the two mentioned spawning areas, was the great predominance in the number of males over females. It is estimated that there were fifteen to twenty males to every female.

All eggs secured in 1935 were taken by the incision method and it would seem that the results secured amply justify this system of stripping as at the end of the year the loss sustained was only 1.47 per cent as against approximately 3.5 per cent in other years when the full expression and expression followed by incision were the methods practised.

In addition to the distribution from the 1934 collection, 1,546,030 sockeye eyed eggs from the 1935 collection were planted in a specially made channel in Morrison creek in November. Subsequently the plantings were examined and the fry were found in good condition and there were no indications of any loss as no bad eggs were noted.

Special work undertaken during the year consisted of: Interior of mess house repainted. A new sixty foot wharf built on Morrison lake. A new storehouse 10 feet by 12 feet and a new meat house 8 feet by 10 feet built. Engine bed and Easthope engine installed in the hatchery boat. New channel excavated in Morrison creek to relieve high water conditions and prevent the flooding of the hatchery grounds.

LAKELSE LAKE HATCHERY

C. R. T. Hearn, Superintendent

The distribution of sockeye resultant from the 1934 collection was carried out under most favourable climatic and water conditions. The number of fry produced and distributed in the main spawning tributaries and suitable bays of Lakelse lake was 7,625,460, also 168 No. 5 fingerlings were liberated from the small retaining tank in the hatchery on March 25. It is reasonable to anticipate that the migration of yearlings from Lakelse lake should be all that is desired.

Spawning operations commenced on August 6 continuing until August 25, when a total collection of 8,259,400 sockeye salmon eggs had been obtained as follows, from Granite creek 317,200, Salmon creek 134,200, Scullabuchan creek 1,390,800 and Williams creek 6,417,200. Both runs to Scullabuchan and Williams creeks were larger than had been seen for years and thousands of fish ascended these streams after spawning operations ceased. A very heavy migration of fry would have been expected had it not been for an abnormal freshet that occurred.

From October 24 to 29 the heaviest rainfall in the memory of the oldest residents in the district took place. This caused such severe freshets that the water supply to the hatchery was disrupted by a stoppage in the pipe-line on the night of October 26. Two minor stoppages were cleared but a third could not be located or cleared. This seriously endangered the contents of the hatchery and it was decided, in order to save the eggs, to plant in gravel the full complement held. This was accomplished by taking on extra help and working at high pressure for the eggs had been without the usual supply of water for seven days before operations could be commenced. It was sixteen days before all were planted in Eliza, Granite, Salmon, Scullabuchan and Williams creeks, numbering 7,943,905 eyed eggs.

Whilst carrying out these planting operations it was observed that the loss of the natural spawn, due to the terrific freshets, was practically 100 per cent. It was estimated from actual count that during the whole of the planting operations not more than twenty live eggs were encountered, whereas smothered eggs by the thousands were displaced. Whatever return there is to this lake in the cycle year may be concluded to have come from the seeding carried out by this hatchery.

Following the completion of planting operations the staff of the hatchery was transferred to other points, the hatchery closed down and a caretaker left in charge.

MAINLAND WEST COAST RIVERS INLET HATCHERY

F. A. Tingley and C. R. T. Hearn, Superintendents

The season's distribution resultant from sockeye and spring salmon ova from the 1934 collections consisted of: sockeye eyed eggs 3,111,000 and fry 7,945,183, spring salmon fry 318,140 and No. 1 fingerlings 59,861. A further distribution of 302,778 sockeye eyed eggs was made from the fall collection of 1935, the whole being liberated or planted under very favourable conditions in selected suitable areas of Owikeno lake and its tributaries. The total distribution was 11,736,962.

An unusually heavy return of sockeye salmon to Owikeno lake area occurred this season and no difficulty was encountered in securing a total of 18,680,090 eggs, which were taken between October 1 and 26. Out of this number it is proposed to plant approximately ten million eyed eggs and thus permit the hatchery contents to be reduced to its recognized fry carrying capacity.

SPORT FISH OPERATIONS-SOUTHERN INTERIOR NELSON HATCHERY

H. C. Crawford, P. B. Stratton and A. P. Hills, Officers in Charge

The total number of eyed eggs, fry and fingerlings distributed from this station during the year was 1,373,965, consisting of Kamloops trout, 287,923 eyed eggs, 230,548 fry and 85 No. 5 fingerlings; Kennerly's salmon, 375,000 eyed eggs and 336,870 fry; speckled trout 95,000 eyed eggs and 240,539 fry.

A small retaining tank was operated inside the hatchery and 85 Kamloops trout fingerlings, two inches in length, were distributed in West Arm of Kootenay lake on April 4.

Local collections consisted of 303,400 Kamloops trout eggs, 143,500 from Cottonwood lake and 159,900 from Six Mile lake; 1,000,000 Kennerly's salmon eggs from Kokanee creek, and 281,280 speckled trout eggs from Violin lake. The collection at Violin lake was hampered by exceptionally cold weather, making it necessary to abandon operations finally when the lake completely froze over. The Trail Rod and Gun Club, interested in the speckled trout taken for fish cultural purposes at Violin lake, British Columbia, transferred at the expense of the club some 1,546 females and 1,149 males to Beaver creek.

The hatchery received a shipment of 260,000 Kamloops trout from Penask lake hatchery and 100,000 eyed eggs additional which were later transferred to Argenta hatchery.

Excellent fishing is reported in the following lakes and streams stocked from the Nelson hatchery: Inonoaklin river (above falls), Wilson creek (above falls), Beatrice, Boundary, Kimball, Leviathan, Lime, Loon, McGregor, Ross, Tanal, Wheeler and Wilson lakes. These were barren of fish previous to stocking by the Department. Angling is reported to have improved in Kootenay river and lake, and generally throughout the district.

During the year ten new hatching troughs were constructed. A small cabin was also built at Six Mile lake for storing fences and equipment.

ARGENTA HATCHERY

A. P. Hills, Superintendent

This sub-station was operated on the same site as in 1934, and consists of a small outdoor hatching station of a temporary nature for the propagation of eggs and fry for distribution to the upper portions of Kootenay lake.

Two shipments, totalling 500,000 Kamloops trout eyed eggs were received from Penask lake hatchery. The resultant fry, amounting to 468,800, were distributed in Argenta slough, Big slough, Schroeder bay, and west shore of Kootenay lake.

Improved angling is reported in the upper end of Kootenay lake.

The staff at the hatchery established a water gauge on the supply creek in order to ascertain the minimum flow of water during the dry season. Satisfactory measurements were recorded and there appears to be no doubt but that this creek has sufficient flow throughout the year to maintain an adequate supply for a fair sized hatchery.

PENASK LAKE HATCHERY

R. H. Eaton, Superintendent

Unfavourable climatic conditions hampered the work of taking eggs at this station in 1935. A very heavy snowfall and late spring made a high run off in Penask creek, which caused considerable trouble at the fences, so that in an endeavour to get as large a collection as possible collecting operations were also carried out at Spahomin creek at the outlet of Penask lake.

The total collection amounted to 2,630,000 Kamloops trout eggs, of which 1,730,000 were taken from Penask creek and 900,000 from Spahomin creek.

Eyed eggs were shipped to the following hatcheries: Argenta, 500,000; Cranbrook, 141,000; Nelson, 260,000; and Summerland, 1,348,193.

The stocking of barren lakes in this district has been showing very satisfactory results. Fish up to 6¼ pounds are being taken in Neveu, Jackson, Cowan and Peterson lakes, and in Peter Hope lake, which was stocked in 1932, 10-pound fish are common, whilst one reported weighed 17½ pounds.

Owing to the difficulty in holding the fish at the fences in Penask creek in the past, the upper and lower fences were replaced with new fences of wider construction, with more adequate protection against scour, which will no doubt enable this station to make a bigger collection than was done this season, owing to the escapement of fish around the fences during the high water that was experienced. Distribution of Kamloops trout for the season was 151,000 eyed eggs and 257,902 fry; a total of 408,902. The staff and members of the Penask lake club gave every possible assistance to the operations at this hatchery.

SUMMERLAND HATCHERY

G. N. Gartrell and R. H. Eaton, Officers in Charge

This station of the Okanagan and Nicola district was again used this year for distributing Kamloops trout. A shipment of 1,348,193 Kamloops trout eyed eggs was received from Penask lake hatchery, resultant from which 698,193 eyed eggs and 629,379 fry were distributed in twenty-eight different lakes and streams in the district.

Good reports have been received from the Kelowna and Princeton Rod and Gun Clubs concerning the fry in their ponds. The clubs were well pleased with the fry allotted to them.

The water supply for the hatchery was this year changed to connect with the municipal water service of the village of Summerland. No trouble was experienced with the quality of the supply.

LLOYD'S CREEK HATCHERY

A. P. Hills, Superintendent

The collection of Kamloops trout eggs amounted to 3,072,250 or nearly 600,000 more than in 1934. The following is the yield of eggs from the different waters: Fish lake, 1,524,250; Knouff lake, 513,000; Paul creek, 388,000; and Pinantan creek, 647,000.

The run of parent fish to the spawning grounds compared favourably with previous years. At Knouff lake, through improvements made in the trap, a

larger collection was made than in 1934. At Pinantan lake the collection was approximately the same as the previous year. At Fish lake, owing to favourable water conditions, the amount collected was fifty per cent greater than in 1934. At Paul creek the number taken was less than half of the previous year, although it is believed that as many parent fish as usual were passed over the counting fence, operated by the Biological Board.

Distributions consisted of 1,375,500 eyed eggs and 910,675 fry, making a total of 2,286,175. The above includes allotments of 100,000 eyed eggs to the Revelstoke Rod and Gun Club, Biological Station, Taft, and 500 eyed eggs to Mr. Oliver Wells, Sardis. Through an exchange agreement with the Provincial Department of Game and Fisheries, Ontario, 100,000 Kamloops eyed eggs were sent their hatchery at Sault Ste. Marie. Pemberton hatchery received 155,000; Smiths Falls hatchery 50,000 and the Provincial Game Board, Stanley Park, 325,000.

Very favourable reports have been received by the Department that angling throughout the district has been the best this season that has been experienced, which speaks well for the fish cultural operations conducted here in the past.

BEAVER LAKE EYEING STATION

W. L. Goodlet, Officer in Charge

Kamloops trout eggs were again collected this season, but owing to no satisfactory arrangement having been arrived at for the establishment of a permanent hatchery, the development of eggs to the eyed stage and hatching of fry was carried out as in previous years in temporary troughs at Echo creek and below the storage dam at Beaver lake. Extreme high water in this creek endangered the season's operations and some eggs were lost from the lower troughs in Echo creek by wash out. The water supply at this point is neither safe nor dependable, but is the best obtainable in the locality under the present conditions.

A collection of 960,000 Kamloops trout eggs was made at this point, from which 550,000 eyed eggs and 330,185 fry were distributed. The distributions were all made in the district, 150,000 eyed eggs to the Kelowna Rod and Gun Club, 30,000 fry to the Vernon Angling Club, and the balance to Beaver lake and other bodies of water tributary thereto.

In order to get the best results from fish cultural operations a fully equipped hatchery with adequate water supply is necessary. The Angling association of Kelowna have been enthusiastic in regard to the benefit derived in the district from the operations carried out in the past, as not only has Beaver lake been made a prominent fishing centre which was barren of fish life prior to 1926, but numerous waters have been stocked enhancing the sport fishing opportunities of the locality generally.

QUEEN CHARLOTTE ISLANDS

TL'ELL RIVER—McCLINTON CREEK

E. V. Epps, Officer in Charge

Similar operations as in the fall of 1933 were conducted this season at Tl'ell river flowing into Hecate straits. A good run of pink salmon reached the fence in Tl'ell river and a collection of 620,000 eggs was made between September 3 and 11. These eggs were laid down in McClinton creek hatchery.

STATEMENT, BY SPECIES, OF LOCAL COLLECTIONS AND DISPOSAL OF EGGS DURING 1935

Species	Collection area	Number collected	Disposal	Number	Totals	
Atlantic salmon	Margaree pond, N.S.	5,450,000	Margaree hatchery	5,450,000		
	Nictaux pond, N.S.	679,200	Middleton hatchery	679,200		
	River Philip, N.S.	4,573,100	Bedford hatchery	2,868,000		
			Middleton hatchery	1,705,100		
	Sackville river, N.S.	806,400	Bedford hatchery	806,400		
	Bartibog pond, N.B.	901,080	Miramichi hatchery	901,080		
	Miramichi pond, N.B.	12,028,107	Miramichi hatchery	10,528,107		
			Restigouche hatchery	500,000		
			Yarmouth hatchery	1,000,000		
	New Mills pond, N.B.	1,771,450	Restigouche hatchery	1,771,450		
	Saint John pond, N.B.	3,783,500	Florenceville hatchery	1,054,550		
			Grand Falls hatchery	2,036,650		
			Saint John hatchery	692,300		
	Morell river, P.E.I.	3,516,000	Kelly's Pond hatchery	3,516,000	33,508,837	
Atlantic salmon (hybrid)	Saint John hatchery ponds, N.B.	9,135	Saint John hatchery	9,135	9,135	
Brown trout (hybrid)	Saint John hatchery ponds, N.B.	5,516	Saint John hatchery	5,516	5,516	
Coho salmon	Cowichan river, B.C.	420,000	Cowichan lake hatchery	420,000	420,000	
Cutthroat trout	Cultus lake hatchery, fountain pond, B.C.	21,500	Cultus lake hatchery	21,500	21,500	
Kamloops trout	Beaver creek, B.C.	465,000	Beaver lake eyeing station	465,000		
	Crooked creek, Beaver lake, B.C.	200,000	Beaver lake eyeing station	200,000		
	Echo creek, Beaver lake, B.C.	295,000	Beaver lake eyeing station	295,000		
	Fish lake, Kamloops, B.C.	1,524,250	Lloyd's creek hatchery	1,524,250		
	Knouff lake, Kamloops, B.C.	513,000	Lloyd's creek hatchery	513,000		
	Paul creek, Kamloops, B.C.	388,000	Lloyd's creek hatchery	388,000		
	Pinantan creek, Kamloops, B.C.	647,000	Lloyd's creek hatchery	647,000		
	Cottonwood lake, Nelson, B.C.	143,500	Nelson hatchery	143,500		
	Six Mile lake, Nelson, B.C.	159,900	Nelson hatchery	159,900		
	Penask creek, Nicola Valley, B.C.	1,730,000	Penask lake hatchery	1,730,000		
	Spahomin creek, Nicola Valley, B.C.	900,000	Penask lake hatchery	900,000	6,965,650	
	Kennerly's salmon	Kokanee creek, B.C.	1,000,000	Nelson hatchery	1,000,000	1,000,000
	Landlocked salmon	Grand lake, N.S.	27,000	Bedford hatchery	27,000	27,000
	Landlocked salmon (hybrid)	Saint John hatchery ponds, N.B.	7,105	Saint John hatchery	7,105	7,105
	Loch Leven trout	Saint John hatchery ponds, N.B.	1,580	Saint John hatchery	1,580	1,580
	Pink salmon	T'll river, Queen Charlotte Islands, B.C.	620,000	McClinton creek hatchery (Biological board)	620,000	620,000
	Rainbow trout	Antigonish hatchery ponds, N.S.	109,000	Antigonish hatchery	109,000	
Yarmouth hatchery ponds, N.S.		127,000	Yarmouth hatchery	127,000		
Waterton lakes hatchery pond, Alta.		3,300	Waterton lakes hatchery	3,300	239,300	
Sockeye salmon	Anderson lake, B.C.	5,292,000	Anderson lake hatchery	5,292,000		
	Babine river, B.C.	3,840,000	Babine lake hatchery	3,840,000		
	Morrison creek, Babine lake, B.C.	3,960,000	Babine lake hatchery	3,960,000		
	Sweltzer creek, Cultus lake, B.C.	53,284	Cultus lake hatchery	53,284		

Species	Collection area	Number collected	Disposal	Number	Totals
	Clayoquot Arm, Kennedy lake, B.C.	9,053,000	Kennedy lake hatchery	9,053,000	
	Granite creek, Lakelse lake, B.C.	317,200	Lakelse lake hatchery	317,200	
	Salmon creek, Lakelse lake, B.C.	134,200	Lakelse lake hatchery	134,200	
	Scullabuchan creek, Lakelse lake, B.C.	1,390,800	Lakelse lake hatchery	1,390,800	
	Williams creek, Lakelse lake, B.C.	6,417,200	Lakelse lake hatchery	6,417,200	
	Birkenhead river, B.C.	24,410,000	Pemberton hatchery	24,410,000	
	Boise creek, Pitt river, B.C.	710,000	Pitt lake hatchery	710,000	
	Coxe's slough, Pitt river, B.C.	345,000	Pitt lake hatchery	345,000	
	Four Mile creek, Pitt river, B.C.	1,060,000	Pitt lake hatchery	1,060,000	
	Mountain slough, Pitt river, B.C.	760,000	Pitt lake hatchery	760,000	
	Peter's slough, Pitt river, B.C.	555,000	Pitt lake hatchery	555,000	
	Seven Mile creek, Pitt river, B.C.	450,000	Pitt lake hatchery	450,000	
	Genesi creek, Owikeno lake, B.C.	6,820,264	Rivers Inlet hatchery	6,820,264	
Speckled trout	Quap creek, Owikeno lake, B.C.	11,859,826	Rivers Inlet hatchery	11,859,826	77,427,774
	Antigonish hatchery ponds, N.S.	5,647,161	Antigonish hatchery	5,647,161	
	Margaree hatchery ponds, N.S.	873,574	Margaree hatchery	873,574	
	Yarmouth hatchery ponds, N.S.	633,000	Yarmouth hatchery	633,000	
	Florenceville hatchery ponds, N.B.	2,248,377	Florenceville hatchery	2,248,377	
	Saint John hatchery ponds, N.B.	1,543,078	Saint John hatchery	1,543,078	
	Cole's pond, P.E.I.	2,000	Kelly's Pond hatchery	2,000	
	Kelly's Pond hatchery pond, P.E.I.	24,872	Kelly's Pond hatchery	24,872	
	Vermilion lake, Alta.	150,400	Banff hatchery	150,400	
	Violin lake, B.C.	281,280	Nelson hatchery	281,280	11,403,742
Spring salmon	Cowichan river, B.C.	277,152	Cowichan lake hatchery	277,152	277,152
Steelhead salmon	Cowichan river, B.C.	78,000	Cowichan lake hatchery	78,000	
	Liumchin creek, Cultus lake, B.C.	62,300	Cultus lake hatchery	62,300	
	Sweltzer creek, Cultus lake, B.C.	75,100	Cultus lake hatchery	75,100	215,400
					132,149,691

EYED EGGS PURCHASED IN 1935

Species	Month laid down	Purchased from	Laid down in hatchery	Number received	Total by species
Brown trout	December	(a) Rainbow Ranch, Troy, Montana	Banff	491,610	491,610
Cutthroat trout	June	(a) Crystal Lakes Fish Hatcheries, Fortine, Montana	Banff	481,840	
	July	Rainbow Ranch, Troy, Montana	Banff	1,038,015	2,305,853
	June	Crystal Lakes Fish Hatcheries, Fortine, Montana	Cultus Lake	190,438	
	June	(a) Crystal Lakes Fish Hatcheries, Fortine, Montana	Waterton lakes	395,360	2,305,853
	July	Rainbow Ranch, Troy, Montana	Waterton lakes	200,200	
Rainbow trout	May, June	(a) Crystal Lakes Fish Hatcheries, Fortine, Montana	Banff	558,112	1,675,532
	May	(a) Crystal Lakes Fish Hatcheries, Fortine, Montana	Jasper Park	207,320	
	May, June	(a) Crystal Lakes Fish Hatcheries, Fortine, Montana	Waterton lakes	910,100	1,675,532
Speckled trout	October, November	Donald Fraser, Esq., Plaster Rock, N.B.	Grand Falls	821,726	
	November, December	Earl Ings, Esq., Mount Herbert, P.E.I.	Kelly's Pond	174,211	1,898,187
	January	Cape Cod Trout Company, Wareham, Mass.	Middleton	750,000	
	December	Rainbow Ranch, Troy, Montana	Banff	152,250	6,371,182

Summary of eggs received:

Total eggs collected	132,149,691
Total eggs purchased	6,371,182
	<u>138,520,873</u>
Eyed eggs received 1935 from Department of Game and Fisheries, Toronto, Ontario, in exchange for Kamloops trout:	
Salmon trout from Glenora hatchery, Picton, laid down as follows,—	
Middleton hatchery	100,000
Salmon trout from Port Arthur hatchery, laid down as follows,—	
Banff hatchery	99,000
Eyed eggs received 1935 from Department of Labour, Game and Fisheries, Quebec, in exchange for speckled trout:	
Ouananiche salmon from hatchery at Saint Felicien, laid down as follows,—	
Middleton hatchery	30,000
(a) Purchased by the Department of Lands and Mines, Edmonton, Alberta.	

IN THE INTEREST OF ECONOMY AND CONVENIENCE IN THE DISTRIBUTION OF FRY
THE FOLLOWING TRANSFERS OF EYED EGGS WERE MADE IN 1935

Species	From	To	Number	Date received
Atlantic salmon	(a) Kelly's Pond	Bedford	1,250,000	February 14
	(a) Miramichi	Antigonish	1,000,000	March 29
	(a) Miramichi	Florenceville	143,653	February 13-April 24
	(a) Miramichi	Lindloff	612,196	April 11
	(a) Miramichi	Middleton	600,000	March 21
	(a) Miramichi	Restigouche	500,000	March 9
Cutthroat trout	(a) Restigouche	Grand Falls	300,000	April 3
	(a) Restigouche	Nipisiguit	479,275	April 10
Kamloops trout	(b) Cultus lake	Smiths Falls	100,960	June 28
	(b) Lloyd's creek	Pemberton	155,000	Week June 22
Landlocked salmon	(b) Lloyd's creek	Smiths Falls	50,000	July 4
	(b) Penask lake	Argenta	500,000	June 24, July 4
	(b) Penask lake	Nelson	260,000	June 15, July 3
	(b) Penask lake	Summerland	1,348,193	June 27, July 8, 13
Rainbow trout	(a) Saint John	Middleton	30,000	March 15
	(b) Antigonish	Lindloff	64,000	June 1, 6
Speckled trout	(b) Yarmouth	Kelly's Pond	35,000	May 9
	(a) Antigonish	Bedford	250,000	March 22
	(a) Antigonish	Lindloff	250,000	April 11
	(a) Antigonish	Margaree	100,000	March 2
	(a) Antigonish	Middleton	1,000,000	March 20
	(a) Antigonish	Miramichi	100,000	March 22
Sockeye salmon	(a) Antigonish	Restigouche	250,000	April 11
	(a) Antigonish	Yarmouth	1,000,000	March 30
	(a) Smiths Falls	Cultus lake	55,000	March 18
	(a) Smiths Falls	Pitt lake	4,255,862	March 8, 14

(a) 1934 fall collection.

(b) 1935 collection.

MARKING OF SALMON

A total of 8 salmon bearing tags Nos. F5666, F5708, F5728, F5724, F5635, F5674, F5643 and F5628 were observed as they were passing through the fishway and trap into the Nictaux Salmon retaining pond. One of these bearing tag No. F5728 died in the pond. The other tags were detached during the summer as none of them were found on fish that were stripped, although the scars on the dorsal fins, where the tags had been, were quite apparent.

During the spawning season of 1930 while Atlantic salmon were being stripped for fish cultural purposes a percentage were tagged before they were liberated, 109 were weighed before and after they were stripped at Allens lake pond, Yarmouth county, Nova Scotia, 15 at Matapedia river, Quebec, and 204 at the Saint John retaining pond, New Brunswick. Three hundred and twenty-eight fish were handled at these three points, ranging in weight from 3½ pounds to 36 pounds before they were stripped. The eggs weighed, or the fish lost in weight due to stripping 901⅓ pounds or in the aggregate 24·04 per cent of the original weight of the fish before they were stripped. Although the fish were of all sizes from 3½ to 36 pounds, those weighing between 10 and 20 pounds made up the largest group.

At Allens lake the average loss in weight due to stripping was 24·96 per cent. At Saint John the eggs from the 204 fish which were handled weighed 535⅓ pounds, which meant that their removal brought a weight loss of 23·71 per cent. On the Matapedia the 15 salmon weighed 282½ pounds before they were stripped and in the stripping they lost 64 pounds or 22·65 per cent of their weight.

There was some variation in the percentage loss in salmon of different weights. At Allens lake in 11 salmon ranging from 3½ to 5 pounds and 58, (including the 11), ranging from 3½ to 9 pounds, the average loss in weight was 25·95 per cent. At Saint John there was a loss of 22·18 per cent in 50 salmon ranging from 6½ to 9 pounds before they were stripped. At Allens lake there was a loss of 25·06 per cent in 47 fish ranging from 6 to 9 pounds. The loss in weight in fish ranging from 10 to 17 pounds each was as follows:—

Allens lake.. . .	35 salmon, loss in weight 24·36 per cent
Matapedia.. . .	4 salmon, loss in weight 24·78 per cent
Saint John.. . .	154 salmon, loss in weight 24·09 per cent

The average loss in this group at all ponds was 24.16 per cent.

All of these fish were weighed, marked with numbered tags and liberated between October 28 and November 20, 1930. Seven recaptures have since been reported, two from the Allens lake group and five from the Saint John group. Those of the former group were recaptured on April 2, 1931, at Salmon river, Digby county, and on June 27, 1931, at Rapid Falls, Mersey river, Nova Scotia. They had only regained the weight they had lost due to stripping, that is 3 pounds in the first instance (tag No. F2297) and one-half pound (tag No. F2213) in the second instance. Their respective weights when recaptured were 11 and 3½ pounds.

Of the Saint John fish, one was recaptured in September, 1931, (tag No. F.4415) and weighed 15½ pounds or 3 pounds and 5½ pounds respectively in excess of its weight before and after it was stripped on November 12, 1930. The other 4 salmon were caught in 1932 in the second year after they were liberated (tags Nos. F.4412, F.4418, F.4443 and F.4708). The first three weighed respectively in excess of their weights before and after they were stripped in 1930, 10 and 12½ pounds; 6 and 8½ pounds; and 8¾ and 12 pounds. The fourth fish (tag No. F.4708) was picked up dead at the mouth of the Nashwaaksis river on May 20, 1932.

MARKING OF FISH

The marking of Atlantic salmon handled for fish cultural purposes at the several salmon retaining pools, which commenced in 1913, was continued in 1935 at Margaree pond, Nova Scotia. Atlantic, ouananiche and sebago salmon, speckled and salmon trout and brown trout hybrids in the east and in the west sockeye and spring salmon fingerlings, yearlings and older fish were marked by clipping of fins. The extent of marking is shown in the following statement:—

35 salmon, loss in weight 24.30 per cent	Allen's lake
4 salmon, loss in weight 24.78 per cent	Matapedia
154 salmon, loss in weight 24.00 per cent	Saint John

Marked and liberated at	Species	Number marked	Dates of marking	Nature of mark	Object— To throw some light on
Margaree pond, N.S.....	Atlantic salmon, adults.....	641	Nov. 18, 20, 21, 22, 26, 27, 28, Dec. 3, 5, 6, 7.	Silver tag attached to dorsal fin.	The movements of Atlantic salmon in the sea, frequency in spawning and the extent to which early fish of any season return as early fish, or vice versa.
Antigonish hatchery, N.S...	Speckled trout, two years.....	2,262	.....	Removal of adipose and right pectoral fins.	Movements, growth and survival of hatchery product.
	Speckled trout, three and four years.....	1,034	.....	" "	" "
Margaree hatchery, N.S....	Atlantic salmon, fingerlings....	5,000	.....	" "	" "
Middleton hatchery, N.S....	Speckled trout fingerlings.....	4,000	.....	Removal of adipose and left ventral fins.....	" "
	Salmon trout fingerlings.....	900	.....	" "	" "
	Ouananiche salmon fingerlings....	875	.....	" "	" "
	Sebago salmon fingerlings.....	400	.....	" "	" "
Nictaux Falls rearing station, N.S.....	Atlantic salmon fingerlings....	18,000	.....	" "	" "
Yarmouth hatchery, N.S....	Speckled trout fingerlings.....	10,000	.....	Removal of adipose and right ventral fins.....	" "
	Speckled trout yearlings.....	35,500	.....	" "	" "
	Speckled trout two years.....	1,000	.....	" "	" "
	Speckled trout three years.....	882	.....	" "	" "
	Speckled trout four years.....	28	.....	" "	" "
	Speckled trout six years.....	5	.....	" "	" "
Florenceville hatchery, N.B.	Atlantic salmon fingerlings....	10,325	.....	Removal of adipose and left pectoral fins.....	" "
	Atlantic salmon yearlings.....	9,480	.....	" "	" "
	Speckled trout fingerlings.....	11,550	.....	" "	" "
Grand Falls hatchery, N.B.	Atlantic salmon fingerlings (Restigouche stock).....	25,620	.....	Removal of adipose and right pectoral fins.....	" "
	Speckled trout yearlings.....	1,728	.....	" "	" "
	Speckled trout five years.....	11	.....	" "	" "
	Sebago salmon yearlings.....	5,241	.....	" "	" "
	Brown trout hybrids yearlings	6,006	.....	" "	" "
Cowichan lake hatchery, B.C.	Spring salmon fingerlings.....	12,500	June 4.....	Removal of both adipose and right and left ventral fins.	The percentage of artificially fed fry that return as adults.

RECAPTURES, 1935—ATLANTIC SALMON

MARGAREE RIVER, N.S.

Number	Weight (lbs.)	Length (ins.)	Condition	Sex	Date	1. Where liberated 2. Where caught
F5903	9	31	Kelt.....	M	Dec. 11, 1933	Margaree Pond, N.S. McLean Cove, Margaree Harbour, N.S.
	25	38.2	Clean.....	M	Aug. 8, 1935	
F5926	14	34	Kelt.....	F	Nov. 14, 1933	Margaree Pond, N.S. Two miles northeast of Margaree Harbour, N.S. (down coast).
	22	38.6	Clean.....	F	July 4, 1935	
F5948	9	32	Kelt.....	M	Dec. 11, 1933	Margaree Pond, N.S. Three miles northeast of Cheticamp, N.S. (down coast)
	22½	37	Clean.....	M	June 24, 1935	
F6000	8	30	Kelt.....	F	Dec. 7, 1933	Margaree Pond, N.S. Aucoin point, three miles northeast of Margaree Harbour, N.S.
	18	36.2	Clean.....	F	July 18, 1935	
F6010	9	30	Kelt.....	M	Dec. 11, 1933	Margaree Pond, N.S. Aucoin point, three miles northeast of Margaree Harbour, N.S.
	17	36	Clean.....	M	July 29, 1935	
F6038	11	35	Kelt.....	M	Dec. 11, 1933	Margaree Pond, N.S. Friar Head, Inverness county, N.S.
	22	40	Clean.....	M	Aug. 1, 1935	
F6105	9	30	Kelt.....	F	Nov. 21, 1934	Margaree Pond, N.S. Petit Etang, Inverness county, N.S.
	13½	34	Clean.....	F	Aug. 14, 1935	
F6618	9	29	Kelt.....	F	Dec. 3, 1934	Margaree Pond, N.S. Doyle's pool, Northeast Margaree river, N.S.
	(v) 18 or 20	.....	Clean.....	F	June 20, 1935	
F6639	20	39	Kelt.....	F	Nov. 26, 1934	Margaree Pond, N.S. Point Cross, Inverness county, N.S.
	.....	.....	Clean.....	F	June 20, 1935	
F6705	26	40	Kelt.....	F	Nov. 28, 1934	Margaree Pond, N.S. Ethridge pool, Northeast Margaree river, N.S.
	.....	.....	Kelt.....	F	June 1935	
F6866	18	35	Kelt.....	F	Dec. 3, 1934	Margaree Pond, N.S. Hut pool, Margaree river, N.S.
	.....	37.4	Clean.....	F	July 12, 1935	
F6891	20	39	Kelt.....	F	Nov. 28, 1934	Margaree Pond, N.S. Mouth of Margaree river, N.S.
	.....	40	Kelt.....	F	1935	
F6941	15	35	Kelt.....	F	Nov. 26, 1934	Margaree Pond, N.S. Mouth of Margaree river, N.S.
	(u) 20	40	Kelt.....	F	1935	

NICTAUX RIVER, N.S.

F5628	8	32½	Kelt.....	F	Nov. 3, 1933	Nictaux Pond, N.S. Nictaux river, N.S.
	.....	.....	Clean.....	F	June 1935	
F5635	8½	33½	Kelt.....	F	Nov. 8, 1933	Nictaux Pond, N.S. Nictaux river, N.S.
	.....	.....	Clean.....	F	June 1935	
F5643	8½	32	Kelt.....	F	Nov. 8, 1933	Nictaux Pond, N.S. Nictaux river, N.S.
	.....	.....	Clean.....	F	June 1935	
F5646	5	30	Kelt.....	F	Nov. 8, 1933	Nictaux Pond, N.S. Annapolis river, below Paradise, N.S.
	13½	33	Clean.....	F	May 13, 1935	
F5666	4½	28½	Kelt.....	F	Nov. 8, 1933	Nictaux Pond, N.S. Nictaux river, N.S.
	.....	.....	Clean.....	F	June 1935	

RECAPTURES—ATLANTIC SALMON—*Concluded*NICTAUX RIVER, N.S.—*Concluded*

Number	Weight (lbs.)	Length (ins.)	Condition	Sex	Date	1. Where liberated 2. Where caught
F5674	5	29½	Kelt..... Clean.....	F F	Nov. 8, 1933 June 1935	Nictaux Pond, N.S. Nictaux river, N.S.
F5708	8	33	Kelt..... Clean.....	F F	Nov. 13, 1933 June 1935	Nictaux Pond, N.S. Nictaux river, N.S.
F5724	5	27½	Kelt..... Clean.....	F F	Nov. 13, 1933 June 1935	Nictaux Pond, N.S. Nictaux river, N.S.
F5728	5	29	Kelt..... Clean.....	F F	Nov. 13, 1933 June 1935	Nictaux Pond, N.S. Nictaux river, N.S.
F6231	10 14	33	Kelt..... Clean.....	F F	Oct. 30, 1934 July 8, 1935	Nictaux Pond, N.S. Sandford trap at Yarmouth, N.S.
F6259	5½ 14	28 33	Kelt..... Clean.....	F F	Nov. 3, 1934 Nov. 20, 1935	Nictaux Pond, N.S. Lower Amherst Cove, Bona- vista bay, Newfoundland.

SACKVILLE RIVER, N.S.

F5752	8¼ 15	31¼ 37	Kelt..... Kelt.....	F F	Nov. 10, 1933 Nov. 4, 1935	Sackville river, N.S. Sackville river, N.S.
F5759	2 (u) 9	24 30½	Kelt..... Kelt.....	F F	Nov. 10, 1933 Nov. 5, 1935	Sackville river, N.S. Sackville river, N.S.
F5763	14¼ (u) 18	38 39½	Kelt..... Kelt.....	F F	Nov. 10, 1933 Nov. 5, 1935	Sackville river, N.S. Sackville river, N.S.
F5789	5 11	26	Kelt..... Clean.....	M M	Nov. 10, 1933 June 25, 1935	Sackville river, N.S. Northwest of Drumhead breakwater, Drumhead, N.S.
F5798	10¾ 25	35 42	Kelt..... Clean.....	F F	Nov. 13, 1933 June 25, 1935	Sackville river, N.S. Five miles west of Margaree harbour, N.S. (down coast)
F5861	2½ (u) 13	22 33	Kelt..... Kelt.....	M M	Nov. 14, 1933 Nov. 4, 1935	Sackville river, N.S. Sackville river, N.S.
F5877	3 12¾	24 32	Kelt..... Clean.....	M M	Nov. 15, 1933 July 6, 1935	Sackville river, N.S. Upper Bedford Basin, N.S.
F6394	7¼ 15	31¼	Kelt..... Clean.....	F F	Nov. 12, 1934 July 3, 1935	Sackville river, Bedford, N.S. Bedford Basin, N.S.

(u) Liberated with same tag attached.

(v) Estimated "18 or 20 pounds".

NOVA SCOTIA
ANTIGONISH HATCHERY

	Atlantic salmon advanced fry	Atlantic salmon No. 1 fingerlings	Atlantic salmon No. 2 fingerlings	Rainbow trout yearlings	Rainbow trout 4 years old	Speckled trout eyed eggs	Speckled trout advanced fry	Speckled trout No. 1 fingerlings	Speckled trout No. 2 fingerlings	Speckled trout No. 4 fingerlings	Speckled trout No. 5 fingerlings	Speckled trout yearlings	Speckled trout 2 years old	Speckled trout 3 years old	Speckled trout 4 years old	Speckled trout 5 years old
Seignior Club, Montebello, Quebec						3,000										
Antigonish Co.—																
Afton river		5,000						75,000								
Beaver Meadow river								10,000								
Black river		20,000														
Brierly brook													300			
Cameron lake								15,000					1,721			5
Copper lake							40,000				3,000		1,200			
Glenroy river													300			
Gaspereau lake									5,000							
Grant lake																
James river	50,000							15,000								
James river lake								75,000	26,000			1,769			631	
Lochaber lake							155,281									
Maryvale brook							10,000									
Meadow Green river							40,000				3,000	483		833		
North lake								10,000								
Pinevale lake								10,000				1,981	1,278			
Polson brook—South river							4,823	15,177								
Right river		30,000														
South lake								40,000								
South river		40,000	20,279									5,691	3,577			
South river lake								80,000							1,100	
Tracadie river	70,000	10,000														
West river									100,000			2,600	775	1,055		
Colchester Co.—																
Whirley Wha lake											6,000					
Cumberland Co.—																
Leak lake											5,500					
Pugwash river									35,000							
River Philip		60,000														
Wallace river		65,000														
Guysboro Co.—																
Campbell lake								10,000								
Chisholm lake								5,000								
Chain of lakes-Cole Harbour								35,000								
Copper lake								25,000								
Country Harbour river	35,000															
Donahue lake								75,000								
Euem Secum river								40,000								
Eight Island lake								20,000								
Forbes Wall lake									4,000							
Giant lake				650	145											
Goldboro lake									15,000							
Goshen lake								20,000								
Hazel Hill lake								35,000								

Indian Harbour lake.....						25,000													
Jellow lake.....							30,000												
Long lake-Salmon river.....								15,000									100		
McPherson lake.....						40,000		5,000											
Morrison lake.....																			
East River St. Mary.....		210,000																	
West River St. Mary.....		150,000																	
Quirk lake.....																			
Salmon river.....	50,000																		
Sherbrook lake.....							20,000												
Square lake.....								20,000											
Three Mile lake.....							35,000												
Pictou Co.—																			
Archie lake.....						15,000													
Barney river.....		50,000																	
Barrow lake.....							15,000						4,000						
Big brook-East river.....							15,000						5,000						
Brora lake.....																			
Calder lake.....																			
Cameron lake.....							15,000												
Big Caribou river.....													4,000						
Little Caribou river.....													2,500						
Chisholm lake.....													15,000						
Concord brook.....													15,000						
Cross brook.....																			
Cummings dam-Brown brook.....							15,000												
Drug brook.....																			
Dryden lake.....								10,000											
East river.....			60,000																
French river.....	25,000																		
French river, branch.....							15,000												
Gairloch lake.....																			400
Grant brook.....							10,000												
Grant lake.....							15,000												300
Hunter lake.....								10,000											
Jock lake.....																			
Long lake-East River St. Mary.....																			
Maple lake.....													15,000						
McDougal dam on tributary to Sutherland river.....								10,000											
MacPherson lake.....							10,000												
McCara brook.....													3,000						
McLellan brook.....							10,000												4,000
Middle river.....		30,000																	
Ponds lake.....																			1,800
River John.....								95,000											
Robertson lake.....								10,000											
Six Mile brook.....							15,000												
Stewart dam on tributary to Little Harbour.....																			
Sunnybrae lake.....								5,000											2,000
Sutherland lake.....								15,000											750
Taylor lake.....								15,000											
Wentworth lagoon.....																			3,000
West Branch lake.....							5,000												300
West river.....							90,000						15,000						1,000
																			900
																			1,100
	260,000	700,000	20,279	650	145	3,000	560,104	900,177	295,000	17,500	45,300	14,524	11,001	2,988	631				5

Total distribution.....

2,831,304

2,831,304

BEDFORD HATCHERY

	Atlantic salmon green eggs	Atlantic salmon eyed eggs	Atlantic salmon No. 1 fingerlings	Atlantic salmon No. 2 fingerlings	Land-locked salmon No. 2 fingerlings	Speckled trout eyed eggs	Speckled trout advanced fry	Speckled trout No. 1 fingerlings	Speckled trout No. 2 fingerlings
Dalhousie University, Halifax.....	4,050	12,200				50			
St. Patrick's Girls' School, Halifax.....	4,000								
University of Dakota.....		2,000							
Colchester Co.—									
Debert river.....				30,000					
Economy river.....								40,000	
Economy lake.....								40,000	
Great Village river.....				30,000					
Newton lake.....				30,000					
Portapique river.....				30,000					
Tunnel brook—Folly river.....				45,000					
Cumberland Co.—									
Maccan river.....				45,000					
Parrsboro Aboiteau.....								30,000	
River Philip.....				120,000					
Shinimikas river.....				45,000					
Halifax Co.—									
Big Salmon river.....				30,000					
Little Salmon river.....				45,000					
Beaverbank river.....				45,000					
Black Point lake.....								20,000	
Brown lake.....								40,000	
Chezzetcook river.....				45,000					
Conrod lake.....							45,000		
Cook lake.....								40,000	
Fraser lake.....								40,000	
Grand lake rearing ponds (Provincial).....					3,710				
Hatchet lake.....								40,000	
Higgins lake.....								40,000	
Higgins brook.....				30,000					
Kearney lake.....									30,000
Kinsac river.....				20,000					
Maxwell lake.....								20,000	
Moosehorn lake.....								20,000	
Nameless lake—Musquodoboit river.....								5,000	
Nine Mile river.....				45,000					
Northwest brook—Salmon river.....				45,000					
Oisier river.....				45,000					
Paper Mill lake.....								4,641	

Pentz lake.....									5,450
Porter lake.....			20,000						
Sackville river.....			118,975	9,700					
Little Sackville river.....			15,000						
Sandy lake.....									30,000
Ship Harbour lake.....			45,000						
Taylor brook.....			45,000						
Tucker lake.....									15,000
Waverley lake.....			45,000						
Hants Co.—									
McDonald lake.....									6,000
Lunenburg Co.—									
East River.....			30,000						
Gold river.....			105,000						
Middle river.....			75,000						
Mill lake.....									30,000
Spectacle lake.....								35,000	
	8,050	14,200	1,193,975	39,700	3,710	50	45,000	414,641	116,450

Total distribution..... 1,835,776

LINDLOFF SUB-HATCHERY

	Atlantic salmon advanced fry	Atlantic salmon No. 1 fingerlings	Atlantic salmon No. 2 fingerlings	Rainbow trout No. 2 fingerlings	Speckled trout No. 3 fingerlings
Cape Breton Co.—					
Black brook-Mira river.....					7,500
Gaspereau river.....	131,000				
Gillis lake.....					5,000
McMillan lake.....				15,000	
Meadow brook-Sydney river.....					5,000
Salmon river.....		184,788	30,000		
Trout river.....					7,500
Inverness Co.—					
Glen brook-Inhabitants river.....					5,000
McIntyre lake.....					5,000
Richmond Co.—					
Grand river.....	175,000				
Lindloff lake.....				21,418	
McIsaac lake.....					5,000
McKay brook-Grand river.....	40,000				
Murchison brook-Grand river.....	40,000				
Shaw lake.....					5,000
	386,000	184,788	30,000	36,418	45,000

Total distribution..... 682,206

MARGAREE HATCHERY

	Atlantic salmon advanced fry	Atlantic salmon No. 1 fingerlings	Atlantic salmon No. 2 fingerlings	Atlantic salmon No. 3 fingerlings	Atlantic salmon No. 4 fingerlings	Speckled trout No. 2 fingerlings	Speckled trout No. 3 fingerlings	Speckled trout No. 4 fingerlings	Speckled trout No. 5 fingerlings	Speckled trout yearlings	Speckled trout old stock
Cape Breton Co.—											
Bell lake.....								12,000			
Brown lake.....								10,000		1,500	
English lake.....								10,000			
Giovannetti lake.....								6,000			
Grand lake.....								11,000			
Jackson lake.....								5,000			
Keefe lake.....								7,000			
McIntyre lake.....								12,000			
Pottles lake.....								10,000			
Dalem lake (Boulardarie island).....							5,000				
Inverness Co.—											
Captain John's brook.....							3,000				
Chéticamp river.....		465,000									
Graham brook.....							2,000				
Grande Anse river.....							5,000				
Lazard brook.....							2,000				
Little Judique river.....							2,000				
Northeast Margaree river—											
Between Big Intervale, Black Rock and Old Bridge.....					15,000						
Between Big Intervale, Stewart and McLeod brooks.....					15,000						
Between Big Intervale bridge and Black Rock.....				20,000							
Between Big Intervale bridge and Stewart brook.....				20,000	15,000						
Between Cranton bridge and Ethridge pool.....				20,000							
Between Cranton bridge and McDermid pool.....					15,000						
Between Crowdis bridge and Hart pool.....				40,000							
Between Crowdis bridge and Philips brook.....				40,000							
Between Ingraham bridge and Ingraham pool.....					15,000						
Between Ingraham bridge and Whitely pool.....					15,000						
Big brook.....		50,000									

MARGAREE HATCHERY—Concluded

	Atlantic salmon advanced fry	Atlantic salmon No. 1 fingerlings	Atlantic salmon No. 2 fingerlings	Atlantic salmon No. 3 fingerlings	Atlantic salmon No. 4 fingerlings	Speckled trout No. 2 fingerlings	Speckled trout No. 3 fingerlings	Speckled trout No. 4 fingerlings	Speckled trout No. 5 fingerlings	Speckled trout yearlings	Speckled trout old stock
Big Intervale above McLeod brook.....					15,000						
Big Intervale bridge.....				40,000	15,000						
Black Rock pool.....					16,006						
Cranton bridge.....		100,000	40,000								
Doyle's bridge.....		50,000	40,000								
Dunn brook.....		40,000									
Egypt brook.....						10,982					
First Forks.....					30,000						
Gallant brook.....		50,000									
Garden pool.....		50,000									
Greig crossing.....				20,000	8,032				3,801		
Hatchery brook.....											
Ingraham bridge.....			80,000								
Island brooks.....		50,000	30,000	20,000							
Lake O'Law brook.....		40,000							19,387		5
Lake O'Law.....											
Fortune brook.....						2,000					
McKinnon brook.....						2,000					
Murphy brook.....						4,000					
Levis brook.....					15,000						
McDaniel pool.....		50,000									
McDonald brook.....						7,500					
McKenzie brook.....						7,500					
McKenzie pool.....						15,000					
McLean pool.....			35,000								
Mill brook.....			20,000								
Rock pool.....			70,000								
Ross pool.....				60,000							
Stewart brook.....					15,000						
Tingley crossing.....					10,000						
Ward's pool.....			35,000								
Watson brook.....						10,000					
Plateau brook.....								2,000			
Rosseau lake.....							4,000				
Southwest Margaree river.....	300,000	300,000									
McDonnell brook.....					15,000						
McKay's pool.....	50,000										
McLennan's pool.....	50,000										

Victoria Co.—											
Baddeck river.....		150,000						5,000			
East branch.....		80,000									
Forks.....		80,000									
Gillis brook.....							5,000				
McDonald brook.....							5,000				
North branch.....		80,000									
Barasois river.....							8,000				
Clyburn brook.....								6,000			
Hume river.....							5,000				
Indian brook.....							5,000				
Middle river.....	50,000	150,000									
Beaver brook.....	50,000	25,000									
Black brook.....							5,000				
Foot bridge.....		40,000									
Gold brook.....							3,000				
Between Hector, Morrison and Mc- Charles brooks.....		80,000									
Indian brook.....		80,000									
McKenzie brook.....							5,000				
McLennan's bridge.....		80,000									
North river.....		80,000	90,000								
Church brook.....							8,000				
North Aspy river.....							11,339	3,661			
South Gut brook.....							5,000				
Warren lake.....								6,000			
Washabuck river.....							8,000				
	500,000	2,170,000	440,000	280,000	259,038	28,982	96,339	105,661	23,188	1,500	5

Total distribution..... 3,904,713

MIDDLETON HATCHERY

	Atlantic salmon No. 1 fingerlings	Atlantic salmon No. 2 fingerlings	Atlantic salmon No. 3 fingerlings	Land-locked salmon No. 1 fingerlings	Land-locked salmon No. 2 fingerlings	Land-locked salmon No. 3 fingerlings	Salmon trout No. 1 fingerlings	Salmon trout No. 3 fingerlings	Speckled trout No. 1 fingerlings	Speckled trout No. 2 fingerlings	Speckled trout No. 3 fingerlings	Speckled trout No. 4 fingerlings	Speckled trout yearlings
Annapolis Co.—													
Annapolis river.....	50,000												
Beeler lake.....											8,000		
Blanchard lake.....									10,000				
Chute lake.....									10,000				
Cranberry lake.....									10,000				
Crisp brook.....									10,000				
Durling lake.....									20,000				
East lake.....											305	5,695	
Elliott lake.....									10,000		2,000		
Foster lake.....									10,000				
Lily lake.....									10,000		1,000		21
Little river.....								20,000					
Long lake.....									10,000				
McCune brook.....												5,000	
McGill lake.....											9,000		
Milford lake.....										20,000	8,000		
Morton brook.....										5,000			
Munroe lake.....								15,000					
Nictaux river.....	70,000	100,000	314,105										
Oakes brook.....								20,000					
Paradise lake.....									20,000				
Parker brook.....								20,000					
Quilty lake.....								10,000					
Rumsey lake.....									10,000				
Sand lake.....									10,000				
Shannon lake.....												6,500	
Shannon river.....								20,000					
Slocomb brook.....								5,000					
Stronach lake.....									10,000				
Thirty lake.....									30,000				
Trout lake.....								20,000					
Tyler lake.....									10,000				
Zwicker lake.....											10,000		
Digby Co.—													
Sissiboo river (headwaters).....												10,000	
Halifax Co.—													
Grand lake rearing ponds (Provincial).....				17,700	13,065	1,282							

Hants Co.—													
Avon river (south branch)			24,000										
Cameron lake										4,000			
Canoe lake										6,000			
Cards lake								30,000					
Coxcomb lake										8,000			
Island lake										6,000			
Kennetcook lake			24,000										
LeBreau brook										4,000			
Meander river			24,000										
Nixes lake										5,000			
Pleasant Valley lake										8,000			
River Herbert			26,000										
Kings Co.—													
Aylesford lake										30,000			
Canning reservoir											200		
Gaspereau river		40,000											
Habitant river								15,000					
Hardwood lake										8,000			
Lake Torment										8,000			
Murphy lake									20,000				
Sutton's pond								2,000					
Trout river								20,000					
Bishop's brook rearing ponds (Kings County, Fish, Forest and Game Protective Association)											2,500		
Lunenburg Co.—													
Gold river		40,000											
LaHave river	50,000												
Lake William									30,000				
Sherbrooke lake						60,000	863						
Queens Co.—													
Medway river		50,000											
	170,000	230,000	412,105	17,700	13,065	1,282	60,000	863	227,000	265,000	107,805	17,395	21

Total distribution..... 1,522,236

NICTAUX FALLS REARING STATION

	Atlantic salmon No. 3 fingerlings	Atlantic salmon No. 4 fingerlings
Annapolis Co.— Nictaux river.....	20,000	22,800

Total distribution..... 42,800

HATCHERY

Rain- bow trout No. 5 finger- lings	Rain- bow trout year- lings	Rain- bow trout 2 years old	Speck- led trout No. 1 finger- lings	Speck- led trout No. 2 finger- lings	Speck- led trout No. 3 finger- lings	Speck- led trout No. 4 finger- lings	Speck- led trout No. 5 finger- lings	Speck- led trout year- lings	Speck- led trout 2 years old	Speck- led trout 3 years old	Speck- led trout 4 years old	Speck- led trout 6 years old	No.
													1
								3,000					2
				20,000									3
							6,400						4
				20,000									5
								700					6
			20,000										7
								1,500					8
13,000													9
			20,000										10
							4,400						11
			20,000										12
				20,000									13
								1,500					14
								2,300					15
			30,000										16
				15,000									17
			75,000										18
								2,000					19
							7,000						20
				15,000									21
3,000		1,000											22
								4,000					23
				40,000									24
				40,000									25
							45			17			26
													27
				200				24	8	1			28
	8,000												29
					12,000	2,000		1,500					30
					12,000	5,000		1,500					31
								2,500					32
								2,500					33
						45		12					34
	2,800												35
3,000	3,000												36
								1,500					37
								1,000					38

No.		Atlantic salmon advanced fry	Atlantic salmon No. 1 fingerlings	Atlantic salmon No. 2 fingerlings	Atlantic salmon No. 3 fingerlings	Atlantic salmon No. 4 fingerlings	Atlantic salmon No. 5 fingerlings	Atlantic salmon yearlings	Kamloops trout 3 years old	Rainbow trout No. 3 fingerlings	Rainbow trout No. 4 fingerlings
39	Lower Great brook.....										
40	Medway river.....			60,000							
41	Mersey river.....		30,000	10,000				1,000			
42	Mersey river rearing pool.....		60,000	25,000							
43	Minard lake.....										
44	Shupes lake.....										
45	Upper Great brook.....										
46	Shelburne Co.— Barclay brook—Jordan river.....										
47	Barrington river.....										
48	Bloody creek.....										
49	Clam lake.....										
50	Clyde river.....	60,000				13,000					
51	East river.....										
52	Hamilton branch—Clyde river.....										
53	Jordan river.....										
54	Ogden brook.....										
55	Roseway river.....			30,000		8,000					
56	Yarmouth Co.— Bird lake.....										4,955
57	Brazil lake.....										
58	Burrell brook.....										
59	Carleton river.....										
60	Coldstream river.....										
61	Duck lake.....										
62	East branch brook—Tusket river.....										
63	French lake.....										
64	Gardener brook.....										
65	Hooper lake.....										
66	Killam brook.....						6,000				
67	Lake Ellenwood.....										
68	Lake Skinner.....										
69	Lake Utley.....								87		
70	Little Meadow brook.....										
71	Meadow brook.....										
72	Pleasant lake.....										
73	Reynard bridge—Carleton river.....										
74	Roberts Island lake.....										
75	Salmon river.....			20,000							
76	Salmon lake.....										
77	Travis brook.....										
78	Trefry lake.....										
79	Tusket river.....										
80	Whistler lake.....										
		110,000	90,000	225,000	95	25,955	6,000	1,000	87	7,045	27,955

Total distribution.....

HATCHERY

Rain-bow trout No. 5 finger-lings	Rain-bow trout year-lings	Rain-bow trout 2 years old	Speckled trout No. 1 finger-lings	Speckled trout No. 2 finger-lings	Speckled trout No. 3 finger-lings	Speckled trout No. 4 finger-lings	Speckled trout No. 5 finger-lings	Speckled trout year-lings	Speckled trout 2 years old	Speckled trout 3 years old	Speckled trout 4 years old	Speckled trout 6 years old	No.
								1,000					39
													40
													41
													42
								1,500					43
								1,000					44
								1,500					45
				20,000									46
			60,000					1,500					47
			35,000										48
	5,500												49
				20,000									50
								2,000					51
								1,500					52
								1,500					53
				20,000									54
													55
4,000													56
		500											57
			20,000										58
			60,000				4,000						59
							8,000	2,000					60
								1,500					61
			25,000										62
				40,000									63
			50,000				10,000						64
			30,000										65
													66
								2,000					67
								500	1,000	882	28	5	68
			25,000										69
			40,000				4,000						70
													71
													72
								2,000					73
								1,500					74
								1,500					75
								1,500					76
			20,000										77
								800					78
			60,000				4,000						79
								2,500					80
23,000	19,300	1,500	590,000	270,200	24,000	7,000	52,800	46,336	1,025	883	28	5	

NEW BRUNSWICK
FLORENCEVILLE HATCHERY

	Atlantic salmon advanced fry	Atlantic salmon No. 1 finger-lings	Atlantic salmon No. 2 finger-lings	Atlantic salmon No. 3 finger-lings	Atlantic salmon year-lings	Speckled trout No. 1 finger-lings	Speckled trout No. 2 finger-lings	Speckled trout No. 4 finger-lings	Speckled trout 2 years old	Speckled trout 4 years old	Speckled trout 5 years old	Speckled trout 6 years old
Boston Sportsmen's Show.....											20	5
Fredericton Exhibition.....			500		100				2	4	2	
Carleton Co.—												
Becaguimec river.....	100,000	100,000										
Big Guisguait river.....						85,000		4,000				
Big Presquile river.....	100,000			1,200								
Bogan brook—South West Miramichi river.....		15,000										
Bubby brook—Saint John river.....						7,000						
Bull creek—Saint John river.....						70,000						
Burpee brook—Big Presquile river.....						10,000						
Buttermilk creek—Saint John river.....						1,000						
Centreville pond.....											106	
Clearwater brook—South West Miramichi river.....		15,000										
Colton brook—Shiktahawk river.....						10,000						
Dingee brook—Saint John river.....						2,000						
Elliot brook—South West Miramichi river.....		25,000										
Gallivan brook—Saint John river.....						10,000		2,000				
Gibson mill brook—Saint John river.....						30,000						
Glassville pond—Shiktahawk river.....							5,000					
Hagerman brook—Saint John river.....						25,000						
Hardwood brook—Saint John river.....						15,000		2,500				
Lanes creek—Saint John river.....						10,000						
Little Guisguait river.....						75,000		4,000				
Little Shiktahawk river.....		70,000										
Mallory brook—Saint John river.....						15,000		2,500				
Marven brook—Meduxnekeag river.....	10,000											
Maynes brook—Presquile river.....						60,000		4,000				
McLeary brook—Lakeville pond.....						55,000						
McQuade pond—Saint John river.....						70,000						
Meduxnekeag river.....	90,000											
South West Miramichi river, North Branch.....		200,000										
South West Miramichi river, South branch.....	100,000	60,000										
Monquart river.....	100,000	100,000			1,400							
Payson lake.....						20,000						
Priest brook—Shiktahawk river.....						10,000						
River de Chute.....						75,000		4,000		102		
Saint John river.....					7,943							
Shiktahawk river.....	100,000	100,000		1,381								
Simpson brook—South West Miramichi river.....		15,000										
Smith brook—Becaguimec river.....						10,000						

Stickney brook—Saint John river.....						6,000							
Teague brook—South West Miramichi river.....	15,000												
Tweedie brook—Saint John river.....						7,000							
Charlotte Co.—													
Perley brook—South Oromocto lake.....								10,000					
York Co.—													
Anderson brook—Saint John river.....						5,000							
Brown lake.....						10,000			6,000				
Burpee brook—Grand lake.....									8,000				
Charlie lake.....						10,000			6,000				
Clincher brook—Magaguadavic river.....						10,000							
Conn brook—Shogomoc river.....						10,000							
Cross creek—Nashwaak river.....						20,000							
Davidson lake.....						50,000							
Davis brook—Magaguadavic river.....						15,000							
Dead creek—Eel river.....						15,000							
Second Eel river lake.....						35,000							
Harvey lake.....								4,000					
Indian lake.....						35,000							
Keswick river.....	70,000						8,000						
Kingsley brook—Nashwaaksis river.....						10,000							
Lily lake and brook—Magundy river.....						10,000							
Limekiln brook—Nashwaak river.....						20,000							
Long creek—Saint John river.....						10,000							
Mactaquac river.....				10,767									
McBean brook—Nashwaak river.....						15,000							
McCullum creek—Nashwaak river.....						10,000							
Manzer Mill stream—Nashwaak river.....						15,000							
Middle brook—Nashwaak river.....						10,000							
Mill brook—Mactaquac river.....						10,000							
Nackawic river.....	50,000					10,000							
Nackawic river—North East branch.....							10,000						
Nashwaak river.....	100,000												
Nashwaaksis river.....						90,000							
Nigger brook—Nackawic river.....						30,000							
Pidgeon brook—Nashwaak river.....						10,000							
Pokiok river.....						70,000							
Risteen lake.....						35,000							
Russiagornis stream—Oromocto river.....						40,000							
Shogomoc river.....						85,000							
Skiff lake.....	50,000				2,000								
Sucker brook—Skiff lake.....						25,000							
Taffa lake.....						25,000							
Tay river.....						10,000							
Tinkettle brook—Nashwaak river.....						10,000							
Zealand lake.....						5,000							
Yoho lake.....						10,000							
	600,000	985,000	500	14,748	10,043	1,458,000	23,000	57,000	2	106	128	5	

Total distribution..... 3,148,532

GRAND FALLS HATCHERY

	Atlantic salmon No. 1 finger- lings	Atlantic salmon No. 2 finger- lings	Atlantic salmon No. 3 finger- lings	Speckled trout advanced fry	Speckled trout No. 1 finger- lings	Speckled trout No. 2 finger- lings	Speckled trout No. 3 finger- lings
Salmon river—Victoria Co.—							
Salmon river, at Estey camp.....		50,000	12,000				
Salmon river, at Guimont lodge.....	15,000	10,000					
Salmon river, at Mignault lodge.....	25,000	10,000					
Salmon river, at Theriault Mill.....		12,500					
Salmon river, headwaters.....		84,265	85,000				
Salmon river, mouth of.....	75,000		8,000				
Salmon river flats.....	10,000						
Aubin crossing.....	25,000	10,000					
Big bogan.....		10,000					
Boat landing.....	65,000	10,000	27,000				
Cote mill.....	65,000	10,000					
Covered bridge.....	20,000	10,000					
Cyr flats.....		12,500					
Danish mill.....	65,000	12,500					
Foley brook.....	25,000	25,000					
Iron bridge.....		10,000					
Little Salmon river.....	65,000	12,500					
Sutherland brook.....					40,000		
Saint John river—Victoria Co.—							
At hatchery.....	27,000						
Andover.....	25,000	10,000	8,000				
Andover, upper.....	40,000		8,000				
Argosy.....	65,000	10,000					
Aroostock.....	65,000		15,000				
Aroostock bar.....	65,000						
Boutout brook.....					15,000		
Cliffordvale.....	25,000	10,000					
Coronation.....		10,000					
Costigan point.....	35,000						
Dee point.....	35,000	10,000					
Four Falls brook.....					20,000		2,000
Fraser's dead water, Three brooks.....				25,000			
Gallagher flats.....		10,000					
Hatchery brook, above falls.....					34,000		1,000
Hatchery brook, below falls.....	12,000		299				
Inman flats.....	80,000	10,000	15,000				
Kilburn ferry.....			12,000				
Limestone.....	65,000						
Little river.....					75,000		
Morrillsiding.....	65,000		9,000				
Mulherin brook.....							4,000
Muniac river.....	40,000						
Muniac river, mouth of.....	90,000		15,000				
Muniac river, upper.....	15,000						
Ortonville.....	65,000						
Ouellette brook.....					20,000		
Perth.....		15,000					
Perth Junction.....	25,000						
Perth, lower.....	25,000	10,000					
Perth, upper.....			4,000				
Pokiok brook.....					50,000		
Price brook.....						8,558	
Tobique river—							
Arthurette bridge.....			7,500				
Haley brook.....	30,000						
Millers bogan.....	40,000		7,500				
Red rapids.....			7,500				
Two brooks.....	30,000						
Waters bogan.....			7,500				
Watson flats.....							
Madawaska Co.—							
Baker lake.....					45,000		
Baker brook.....					15,000		
Grand river.....					90,000		
Green river.....				45,000	50,000	70,000	25,000
Private pond, Green river, Mr. H. T. Lajoie.....				5,000			
Iroquois river.....				34,704	250,296		
Ledges pond.....					10,000		
Little river.....					165,000		
Dead brook.....					75,000		
Headwaters.....				35,000			
Ryan brook.....							12,500
Six Mile brook.....					75,000		
Ten Mile brook.....					75,000		
Quisibis river.....					35,000		
Siegas river.....						20,000	
Trout brook.....						35,000	8,454
Unique lake.....					30,000		
York Co.—							
Nashwaak river.....			25,000				
	1,419,000	394,265	273,299	144,704	1,169,296	133,558	52,954

Total distribution..... 3,587,076

MIRAMICHI HATCHERY

	Atlantic salmon advanced fry	Atlantic salmon No. 1 fingerlings	Atlantic salmon No. 2 fingerlings	Speckled trout No. 1 fingerlings	Speckled trout No. 2 fingerlings	Speckled trout No. 3 fingerlings	Speckled trout yearlings
Bartibog river.....		42,000	54,400				
Bass river.....		36,000					
Bay du Vin river.....	54,400		53,650				
Black river—Northumberland Co.....	54,400		77,850				
Black river—Westmorland Co.....						900	
Buctouche river.....			43,400				
Burnt Church river.....		76,400					
Caraquet river.....				16,000			
Cocagne river.....			28,050				
Estey lake.....				5,000			
Elmtree river.....					500	5,600	
Grand Aldouane river.....						1,222	
Kouchibouguac river.....			53,650				
Little river—Nipisiguit bay.....				4,000			
Little South West Miramichi river.....		676,000	51,200				
Middle river.....			48,000				
Nappan river.....	54,400						
Nigadu river.....					500		
North West Miramichi river.....	864,000	26,000	99,200				
Millstream brook.....	54,400		112,950				
Sevogle river.....			198,400				
Stewart brook.....			10,600				
Trout brook.....		40,800					
Richibucto river.....			43,400				
Shaddock lake.....				4,000			
South West Miramichi river—							
Barnaby river.....	54,400	54,400					96
East branch.....							
Bartholomew river.....		42,000					
Cain river.....		156,000	79,250				
Renous river.....		120,400	53,650				
Dungarvon river.....		118,400					
Taxis river.....		54,400	44,800				
Tabusintac river.....	54,400	42,000	28,050				
Eskedelloe river.....				10,000			
Tetagouche river.....			51,200				
Little Tracadie river.....				16,000			
Votoure lake.....				10,000			
Wrigley lake.....				7,500			
	1,190,400	1,484,800	1,131,700	72,500	1,000	7,722	96
Total distribution.....						3,888,218	

NIPISIGUIT SUB-HATCHERY

Atlantic salmon fry		Atlantic salmon fry	
Nipisiguit river—		Nipisiguit river—	
Bear island, foot of.....	40,000	Gilmore brook.....	35,000
Bear i land, head of.....	50,000	Knight brook.....	40,000
Boudreau beach.....	45,000	Long Meadow, head of.....	30,000
Church point.....	47,084	Middle beach.....	45,000
Club House pool.....	50,000		
Comeau landing.....	40,000		
Total distribution.....			422,084

RESTIGOUCHE HATCHERY

	Atlantic salmon fry	Atlantic salmon advanced fry	Atlantic salmon No. 1 fingerlings	Speckled trout fry	Speckled trout advanced fry	Speckled trout No. 1 fingerlings
Atlantic Biological Station, Saint Andrews.....	40	10	5			
Black lake.....				10,000		
Charlo river.....				20,387		
Charlo river pond.....				45,200		
Lily lake.....				5,000		
Shipyard lake.....				11,100		
Christopher brook.....				23,000		837
Grog brook.....				39,650		
Jacquet river.....	50,000					
Island lake.....				23,000		
Jack Burns lake.....				23,000		
Loch Lomond.....				4,000		
Middle river.....	50,000					
Restigouche river.....	495,000	250	51,000			
Hatchery brook.....					159	1,383
Kedgwick river.....	38,290					
Little Main river.....	50,000					
Matapedia river.....	360,000		20,000			
Upsalquitch river.....	370,000		18,585			
Walker brook.....				18,560		
	1,413,330	260	89,590	222,897	159	2,220
Total distribution.....					1,728,456	

HATCHERY

Brown trout hybrids, 4 years old	Land-locked salmon No. 1 fingerlings	Land-locked salmon yearlings	Loch Leven trout yearlings	Speckled trout eyed eggs	Speckled trout fry	Speckled trout advanced fry	Speckled trout No. 1 fingerlings	Speckled trout No. 2 fingerlings	Speckled trout yearlings	Speckled trout 3 years old	Speckled trout 5 years old	No.
				1,100	300		1,275	75				1
												2
4										25		3
					20,000							4
							10,000					5
							10,000					6
							10,000					7
							10,000					8
							10,000					9
							5,000					10
							5,000					11
							10,000					12
	29,072	5,241					10,000					13
												14
							20,000					15
							15,000					16
					10,000							17
							10,000					18
							15,000					19
							20,000					20
							10,000					21
						30,000						22
							15,000					23
							30,000					24
							15,000					25
							30,000					26
							15,000					27
							5,000					28
							30,000					29
					20,000		5,000					30
							5,000					31
							10,000					32
							5,000					33
							10,000					34
							3,000					35
							10,000					36
							10,000					37
							10,000					38
							10,000					39
							10,000					40
							10,000					41
							10,000					42
								4,000				43
								4,000				44
							1,000					45
							5,000					46
							20,000					47
							10,000					48
					15,000							49
						15,000						50
							10,000					51
							10,000					52
							5,000					53
					5,000							54
												55
							10,000					56
												57
					10,000							58
												59
									1,000			60
											11	61
									728			62
					10,000							63
							10,000					64
												65
						20,000						66
						10,000						67
						20,000						68
							10,000					69
						20,000						70
							20,000					71
							10,000			18,031		72
		7,254	871				5,000					73
							10,000					74

No.		Atlantic salmon green eggs	Atlantic salmon eyed eggs	Atlantic salmon fry	Atlantic salmon advanced fry	Atlantic salmon No. 1 fingerlings	Atlantic salmon No. 2 fingerlings	Atlantic salmon No. 4 fingerlings	Atlantic salmon yearlings	Brown trout hybrid yearlings
75	Loch Alva-Saint John and Kings Cos.....									
76	Loch Lomond.....									
77	*Stephenson's brook pond, Loch Lomond.....									
78	McDonald lake.....									
79	Milligan lake.....									
80	Mispek river.....				75,000			6,277	1,500	
81	Otter lake.....									
82	Shadow lake.....									5,489
83	Southern lake.....									
84	Taylor lake.....									
85	Tyne Mouth creek.....					50,000				
	Sunbury Co.—									
86	Brizley river.....									
87	Hardwood creek.....									
88	Oromocto river, south branch.....					50,000				
89	Otter brook.....									
90	Peltoma lake.....									
91	Rockwell stream.....									
92	Shin creek.....									
93	Three Tree creek.....									
	Westmorland Co.—									
94	Anagance river.....									
95	Bennett brook-Petitcodiac river.....									
	York Co.—									
96	Baker brook pond.....									
97	Big Cranberry lake.....									
98	Little Cranberry lake.....									
99	Digity stream.....									
100	Grand lake.....					25,000	3,000			
101	Harvey lake.....									
102	Lake George.....									
103	Long creek-Saint John river.....									
104	Magaguadavic lake.....									
105	Mink lake.....									
106	Pirate brook.....									
107	Skiff lake.....									
108	Tom Davis lake.....									
109	West Yoho lake.....									
		2,800	4,250	200	550,075	175,055	3,060	6,277	13,695	6,006

Total distribution.....

Operated by Saint John branch of the New Brunswick Fish and Game Protective Association in conjunction with

PRINCE EDWARD ISLAND
KELLY'S POND HATCHERY

	Atlantic salmon advanced fry	Atlantic salmon No. 1 fingerlings	Rainbow trout No. 1 fingerlings	Speckled trout advanced fry	Speckled trout No. 1 fingerlings
Kings Co.—					
Big pond.....					6,000
Coogan stream-Morell river.....	38,400	12,800			
Dunphy brook-Morell river.....		9,008			
Fisher brook-Morell river.....					5,000
Fortune river.....		28,800			
Leard's—Morell river.....		30,000			
McAulay brook-Morell river.....					8,000
McKinnon brook-Morell river.....	38,400	39,300			
McRae's pond-Montague river.....					3,000
Midgell river.....		28,800			
Montague pond.....					4,000
Montague river.....		21,200			
South branch.....		28,800			
Morell river—					
South branch, at Peakes station.....	38,400				
Naufrage river.....		57,600			
North lake.....					6,000
Quigley stream, below mill.....		28,800			
Red bridge-Morell river.....		38,100			
Schooner pond.....		28,800			
Sturgeon river.....		28,800			
Warren's pond.....	38,400				
Whelan brook-Souris river.....		22,800			
Prince Co.—					
Beaton stream-Percival river.....					5,000
Big Pierre Jacques river.....					5,000
Black pond.....		20,000			
Brae river.....					5,000
Doyle stream.....					5,000
Dunk river.....					12,000
Gordon's pond—Kildare river.....					5,000
Green stream-Miminegash river.....		14,400			
Marchbank's pond-Kildare river.....					5,000
Nall pond.....		20,000			
Pridam's pond-Kildare river.....					5,000
Reid's stream (Miminegash).....		19,200			
Rix stream-Kildare river.....					5,000
Smallman stream-Percival river.....					5,000
Queens Co.—					
Bagnall's pond.....				5,000	
Beer's pond-Clyde river.....				5,000	
Callaghan's pond.....					5,000
Clark's stream-East river.....					5,000
Glenfinnan lake.....			11,659		
Gurney's stream.....		18,400			
Hardy's pond.....				5,000	
North river.....		30,000			
McPherson's pond-Flat river.....					5,689
McPherson's pond-Pinette river.....					5,689
Rackham's pond-Wheatley river.....				5,000	
Scott's pond-Clyde river.....				5,000	
Vessey brook-Winter river.....				5,000	4,500
Winter river.....	38,400	12,000			
	192,000	537,608	11,659	30,000	114,878

Total distribution..... 886,145

ALBERTA
BANFF HATCHERY

	Cut-throat trout eyed eggs	Cut-throat trout No. 1 fingerlings	Rainbow trout fry	Rainbow trout advanced fry	Rainbow trout No. 1 fingerlings	Salmon trout No. 1 fingerlings	Salmon trout No. 4 fingerlings	Speckled trout advanced fry	Speckled trout No. 1 fingerlings	Speckled trout No. 2 fingerlings	Speckled trout No. 3 fingerlings	Speckled trout No. 4 fingerlings
Altrude lake.....		10,000										
Baker lake.....		20,000										
Baptiste river—												
Chambers creek.....										40,000		
Lawrence creek.....										10,000		
Ruth creek.....										20,000		
Betty lake, T. 28 R. 16.....		10,000										
Boom lake.....		20,000										
Bow lake.....		50,000										
Bow river—												
Anthracite creek.....		10,000										
Baker creek.....		25,000										
Beaufort creek.....		10,000										
Beaver dam creek.....		10,160										
Big Hill creek.....		30,000										
Cascade creek.....		20,000										
Cold creek.....		20,000										
Eight Mile spring.....		25,000										
Forty Mile creek.....		30,000										
Gap creek.....		5,000										
Goat creek.....		20,000										
Healey creek.....		30,000										
Johnson creek.....		10,000										
Jumping Pound creek.....		10,000										
Backwater creek.....		5,000										
Bear creek.....		10,000										
Coxcomb creek.....		10,000										
Moose creek.....		10,000										
Muskeg creek.....		10,000										
Sibbald creek.....		20,000										
Spring (hatchery) creek.....		5,000							5,000			
Massive creek.....		20,000										
Pipestone creek.....		20,000										
Policeman creek.....		20,000										
Red Earth creek.....		10,000										
Seven Mile creek.....		5,000										
Spencer creek.....		10,000										
Sundance Lagoon.....		40,000										
Twenty-three Mile creek.....		5,000										
Twenty-nine Mile creek.....		5,000										
Twenty-seven Mile creek.....		5,000										
Cerulean lake.....	10,000											
Chiniki lake.....		35,000										
Clearwater river—												
Clear creek.....										5,000		
North Prairie creek.....										30,000		
Cold creek.....										10,000		
South Prairie creek.....										30,000		
Moose creek.....										10,000		

BANFF HATCHERY—Concluded

	Cut-throat trout eyed eggs	Cut-throat trout No. 1 fingerlings	Rainbow trout fry	Rainbow trout advanced fry	Rainbow trout No. 1 fingerlings	Salmon trout No. 1 fingerlings	Salmon trout No. 4 fingerlings	Speckled trout advanced fry	Speckled trout No. 1 fingerlings	Speckled trout No. 2 fingerlings	Speckled trout No. 3 fingerlings	Speckled trout No. 4 fingerlings
Cold lake (border Alberta and Saskatchewan)								85,000				
Consolation lake		15,000										
Elbow river—												
Bragg creek					40,000							
Crawford creek					5,000							
Hidden creek					5,250							
Lotts creek					5,000							
May's creek					15,000							
McLean creek		10,000										
Mickle creek					5,000							
Pirmez creek					15,000							
Ranger creek					10,500							
Rennick creek					10,000							
Robinson creek					5,000							
Stringer creek					10,000							
Sylvester creek					10,500							
Thomas creek					5,270							
Young creek No. 1					5,000							
Young creek No. 2					5,000							
Eva lake		8,335										
Exshaw lakes		40,000										
Ghost lake		110,200										
Ghost river—												
Eau Clair creek		30,000										
Hay Meadow creek		35,000										
Lake creek		20,000										
Muskeg creek		5,000										
Hector lake		50,000										
Herbert lake		20,000										
Highwood river—												
Cataract creek					20,000							
Etherington creek					20,000							
Flatt creek					20,000							
Ings creek					1,000							
North Sheep creek				10,000								
Fisher creek				15,000								
King creek				5,000								
Ware creek				10,000								
Pekisko creek					10,000							
Greenfeed creek					10,000							
Salt creek					10,000							
South Sheep creek					20,000							
Blue Rock creek					5,000							
Canyon creek					5,000							
Gorge creek					10,000							
Junction creek					20,000							
Spring creek					10,000							

Sullivan creek.....					20,000							
James river—												
Purcell spring.....									5,000			
Sanford spring.....									7,500			
Spring creek No. 1.....									10,000			
Spring creek No. 2.....									5,000			
Spring creek No. 3.....									10,000			
Spring creek No. 4.....									7,500			
East Stoney creek.....									5,000	20,000		
West Stoney creek.....									20,000			
Kananaskis lake.....			75,000									
Lake Minnewanka.....						88,745		700	180,105	25,860	10,000	3,470
Luellen lake.....		30,000										
Magog lake.....	20,000											
Miller lake T. 24 R. 1 W. 6.....		16,665										
Moraine lake.....		25,000										
Mud lake.....		10,000										
Peyto lake.....		50,000										
Ptarmigan lake.....		20,000										
Raven river—												
South Raven creek.....									35,000			
Beaver creek.....										15,000		
Crooked creek.....										20,000		
Little Beaver creek.....									5,000			
Stauffer creek.....										15,000		
Red Deer river—												
Castle creek.....									5,000			
Dennison creek.....									15,000			
Fallen Timber creek.....										12,500		
Gibson creek.....									7,500			
Grant creek.....									20,000			
Griswold creek.....									5,000			
Little Red Deer river.....										12,500		
Spring creek.....									15,000			
Stever creek.....									10,000			
Twin Spring creek.....									5,000			
Waltermeyer creek.....									2,500			
Williams creek.....										40,000		
Shadow lake.....		30,000										
Sunburst lake.....	10,000											
Two Jacks lake.....		15,000										
Vermillion lake, Lower.....		40,000										
Vermillion lake, Upper.....								50,000			3,555	
Vermillion river.....		30,000										
Vista lake.....		10,000										
Wedgewood lake.....	10,000											
	50,000	1,230,360	75,000	40,000	332,520	88,745	700	315,105	225,860	290,000	13,555	3,470

Total distribution..... 2,665,315

JASPER PARK SUB-HATCHERY

	Rainbow trout fry
Beaver dams-McLeod river, T. 47 R. 23 W. 5.....	4,000
Berry creek-McLeod river.....	4,272
Bryon creek-Embaras river.....	5,000
Center creek-Erith river.....	10,000
Chance creek-Embaras river.....	5,000
Crooked creek-Erith river.....	5,000
Deacon lake.....	10,000
Dummy creek-Embaras river.....	5,000
Embaras river, middle forks.....	5,000
Erith river.....	10,000
Horse creek-Sundance river.....	10,000
Little Pembina river.....	5,000
MacKenzie creek-McLeod river.....	5,000
Mary Gregg lake.....	10,000
Mercoal creek-McLeod river.....	5,000
Prospect creek-White Horse creek.....	5,000
Reflection lake.....	10,000
Sanzel lake.....	10,000
Sundance river.....	10,000
Tye creek-McLeod river.....	5,000
Unnamed creek, T. 47 R. 22 W. 5.....	5,000
Watson creek-McLeod river.....	4,000
White Horse creek-McLeod river.....	10,000

157,272

Total distribution..... 157,272

WATERTON LAKES HATCHERY

	Cutthroat trout advanced fry	Cutthroat trout No. 1 fingerlings	Cutthroat trout yearlings	Rainbow trout eyed eggs	Rainbow trout advanced fry	Rainbow trout No. 1 fingerlings	Rainbow trout No. 2 fingerlings	Rainbow trout No. 3 fingerlings
Belly river—								
Beaver dams (29-1-28, W. 4).....	15,000							
Indian creek.....	10,000							
Castle river—								
Beaver dams (10-5-3, W. 5).....							3,000	
Beaver dams (27-4-3, W. 5).....						14,500		
Beaver lake.....						20,000		
Beaver Mines creek.....						35,000		
Carbondale river.....						20,000	12,000	
Gladstone creek.....						10,000		3,400
Gravenstafle creek.....						5,000		
Lynx creek.....						10,000	4,000	
Mill creek.....						25,000		4,000
Unnamed creek (7-6-3, W. 5).....						5,000		
Unnamed creek (7-5-3, W. 5).....						5,000		
Webb creek.....						5,000		
West branch.....						20,000		
Crandal lake.....						2,750		
Crowsnest lake.....					40,000		3,000	
Crowsnest river—								
Blairmore creek.....						20,000		
Byron creek.....						15,000		
Gold creek.....						15,000		
Rock creek.....						15,000		
Star creek.....						5,000		
Livingstone river—								
Coat creek.....		10,000						
Rifle creek.....		10,000						
Twin creek.....		10,000						
Unnamed creek (36-12-4, W. 5).....		5,000						
Old Man river—								
Adair creek.....		10,000						
Beaver creek.....		20,000						
Callum creek.....		25,000						
Damon creek.....		5,000						
Ernst creek.....		5,000						
Five Mile creek.....		10,000						
Gap Beaver dam (32-10-3, W. 5).....		20,000						
Heath creek.....		15,000						
Mead creek.....		5,230						
North Creek.....		5,000						
Olin creek.....		10,000						

WATERTON LAKES HATCHERY

	Cutthroat trout advanced fry	Cutthroat trout No. 1 fingerlings	Cutthroat trout yearlings	Rainbow trout eyed eggs	Rainbow trout advanced fry	Rainbow trout No. 1 fingerlings	Rainbow trout No. 2 fingerlings	Rainbow trout No. 3 fingerlings
Pincher creek.....						30,000		
Racehorse creek.....		25,000						
Sharples creek.....		15,000						
Station creek.....		5,000						
Unnamed creek (30-10-3, W. 5).....		6,000						
Unnamed creek (29-10-3, W. 5).....		5,000						
Willow creek—								
Burke creek.....						10,000		
Burton creek.....						10,000		
Chaffen creek.....					10,000			
Johnston creek.....					15,000			
Langford creek.....					10,000			
Lyndon creek.....						15,000		
Nelson creek.....					7,500			
North Fork.....					20,000			
One Day coulee.....						5,000		
Patterson creek.....						5,000		
Riley creek.....					5,000			
Trout creek.....						15,000		
Westrup creek.....					7,500			
St. Mary's river—								
Lee creek.....		25,000						
Tough creek.....		25,000						
Waterton lake.....		25,000						
Waterton river—								
Alderson lake.....		6,000						
Beaver dam (32-1-29, W. 4).....			206					
Cameron lake.....		30,000						
Carpenter creek.....						25,000		
Cottonwood creek—								
Beaver dams (1-3-30, W. 4).....						15,000		
Crooked creek.....		9,000						
Drywood creek.....				63,820		20,000		
Beaver dams (14-4-1, W. 5).....							3,000	
Elroy creek.....						5,000		
Lone brook.....		4,500						
Lost lake.....	6,000							
Pass creek.....	5,000							
Beaver dams (22-2-2, W. 5).....		4,500						

BRITISH COLUMBIA
ANDERSON LAKE HATCHERY

	Sockeye salmon eyed eggs	Sockeye salmon fry	Spring salmon fry	Spring salmon No. 3 fingerlings
Anderson river.....			92,903	23,915
Anderson lake—				
Adlem creek.....		594,000		
Boulder creek.....		594,000		
Cabin creek.....		594,000		
Cedar creek.....		594,000		
Clemens creek.....	1,472,440	687,000		
Eight Mile beach.....		594,000		
Fall creek.....		594,000		
Four Mile beach.....		594,000		
Ternan creek.....		52,121		
	1,472,440	4,897,121	92,903	23,915

Total distribution..... 6,486,379

ARGENTA SUB-HATCHERY

	Kamloops trout fry
Kootenay lake—	
Argenta slough.....	250,000
Big slough.....	100,000
Schroeder bay.....	65,000
West shore.....	53,800
	468,800

Total distribution..... 468,800

BABINE LAKE HATCHERY

	Sockeye salmon eyed eggs	Sockeye salmon fry	Sockeye salmon No. 1 fingerlings
Morrison creek.....	1,546,030		879,945
Morrison lake.....		1,998,873	
Beaver lagoon.....		750,000	
Salmon river.....		1,000,000	
	1,546,030	3,748,873	879,945

Total distribution..... 6,174,848

BEAVER LAKE EYEING STATION

	Kamloops trout eyed eggs	Kamloops trout fry
Beaver lake.....		80,185
Crooked lake.....		60,000
Crooked creek.....	150,000	
Echo creek.....	155,000	
Dee lake.....	100,000	
Deer lake.....		80,000
Island lake.....		80,000
Kelowna rearing ponds, Kelowna Rod and Gun Club.....	150,000	
Vernon rearing pond, Vernon Angling Club.....		30,000
	555,000	330,185

Total distribution..... 885,185

COWICHAN LAKE HATCHERY

	Atlantic salmon year-lings	Brown trout No. 1 finger-lings	Brown trout No. 3 finger-lings	Brown trout No. 4 finger-lings	Brown trout year-lings	Coho salmon eyed eggs	Coho salmon fry
Campbell river—							
Quinsam river.....					17,902		
Cowichan lake.....					11,718		490,673
Cowichan river.....	4,803		11,100	15,589		25,000	
Beadnall creek.....						25,000	
Oliver creek.....						150,000	
Goldstream river.....							
Qualicum ponds (Provincial).....		67,277					
Veitch creek, retaining ponds (Provincial).....							
	4,803	67,277	11,100	15,589	28,720	200,000	490,673

	Spring salmon eyed eggs	Spring salmon fry	Spring salmon No. 1 finger-lings	Spring salmon No. 2 finger-lings	Steelhead salmon No. 1 finger-lings	Steelhead salmon No. 4 finger-lings
Campbell river—						
Quinsam river.....	75,000	35,000				
Cowichan lake.....		108,736				
Cowichan river.....		112,000	76,817	27,900	34,721	
Beadnall creek.....						
Oliver creek.....			159,260			
Goldstream river.....						
Qualicum ponds (Provincial).....						31,661
Veitch creek, retaining ponds (Provincial).....						
	75,000	255,736	236,077	27,900	34,721	31,661

Total distribution..... 1,479,257

CULTUS LAKE HATCHERY

	Cut-throat trout eyed eggs	Cut-throat trout fry	Sockeye salmon green eggs	Sockeye salmon eyed eggs	Sockeye salmon No. 1 finger-lings	Steelhead salmon No. 1 finger-lings	Steelhead salmon No. 2 finger-lings
Atchelitz creek.....		5,000					
Cultus lake—							
Smiths Falls creek.....				407,327			
Spring creek.....				2,715,553			
Watt creek.....				1,456,000			
Windfall creek.....				1,085,000			
Davis lake.....	35,000						
Echo lake.....		8,000					
Hatchery creek—Sweltzer creek.....			53,284				
Hatzic lake.....	20,000						
Little Sumas river.....		15,000					
Liumchin creek.....						6,000	
Long Island lakes.....		8,401					
Popkum lake.....		13,000					
Sweltzer creek.....					47,936	30,000	26,568
Wells ponds, Sardis (A. E. Wells & Son).....						500	
	55,000	49,401	53,284	5,663,880	47,936	38,500	26,568

Total distribution..... 5,932,569

HARRISON LAKE SUB-HATCHERY

	Sockeye salmon eyed eggs	Sockeye salmon fry
Harrison lake—		
Cascade bay.....		2,750,000
Cascade bay to Fifteen Mile creek.....		350,000
Cottonwood bay.....		1,750,000
Cottonwood bay to Eagle creek.....		450,000
Crowhurst bay.....		1,900,000
Eagle creek.....	250,000	
Eagle creek to Twenty Mile bay.....		500,000
Echo island.....		700,000
Fifteen Mile creek.....	1,517,440	300,000
Fifteen Mile creek bay.....		500,000
Hatchery creek.....	390,000	368,000
Hatchery creek bay.....		826,612
Ten Mile creek.....	315,310	
Ten Mile creek bay.....		700,000
Silver creek.....	3,633,505	1,250,000
Harrison river—		
Morris creek.....		1,450,000
Weaver creek.....	5,512,585	
	11,618,840	13,794,612
Total distribution.....	25,413,452	

KENNEDY LAKE HATCHERY

	Sockeye salmon green eggs	Sockeye salmon eyed eggs	Sockeye salmon advanced fry	Sockeye salmon No. 1 fingerlings	Sockeye salmon No. 2 fingerlings	Sockeye salmon No. 3 fingerlings	Sockeye salmon No. 4 fingerlings
Kennedy lake.....			240,000			63,255	
Clayoquot Arm—							
At hatchery.....	30,000						
Clayoquot river.....		515,980					
Cosy bay-Narrows.....				120,000			
Deer beach-Grassy bay.....					50,000		
Duck island-Cougar bay.....				240,000	29,988		
Hatchery beach.....					10,000		
Little Pond creek.....				65,000		5,000	
Log bay-Yew creek.....			200,000	150,000			
Martincreek-Petercreek.....				80,000			
Pond beach.....				120,000	250,000	10,000	19,836
Pond creek.....				40,000	20,000		
Rocky bay.....				200,000			
Silent bay and vicinity.....				200,000	59,990		
Silent bay-Narrows.....				240,000			
Albani bay.....				213,810			
Angora creek-High Point.....				100,000			
Charlie creek-Ueluelet bay.....			440,000				
Deer beach-Brewster beach.....				120,000			
Draw creek.....		419,180					
Grant creek and north.....					334,942		
Grant creek and south.....				170,000			
Halfway point-High point.....				246,969			
Long island-Shallow bay.....				240,000			
Long island bays.....				75,609			
Narrows-Halfway point.....				360,000			
Sand river vicinity.....			200,000	150,000			
Shallow bay-Norger bay.....			240,000				
Snag bay-Sandy bay.....			200,000	240,000	109,982		
Ueluelet bay.....			200,000	220,000			
Kennedy river.....			160,000		150,000		
Olsen bay.....						20,857	
Sutton's slough.....					9,888		
Muriel lake—							
David creek.....		390,845					
Donald creek.....		295,575					
Upper Kennedy river.....		325,875					
	30,000	1,947,455	1,880,000	3,591,388	1,024,790	99,112	19,836
Total distribution.....						8,592,581	

LAKELSE LAKE HATCHERY

	Sockeye salmon eyed eggs	Sockeye salmon fry	Sockeye salmon No. 5 fingerlings
Lakelse lake.....		3,542,999	168
Granite creek.....	1,019,200	535,460	
Salmon creek.....	883,010	299,000	
Scullabuchan creek.....	3,460,800	1,499,001	
Williams creek.....	1,770,400	1,749,000	
Eliza creek.....	810,495		
	7,943,905	7,625,460	168
Total distribution.....		15,569,533	

LLOYD'S CREEK SUB-HATCHERY

	Kamloops trout eyed eggs	Kamloops trout fry
Hope district—		
Big Bar lake.....	20,000	
Coquihalla river.....	25,000	
Haig lake.....	10,000	
Kely lake.....	20,000	
Pavilion lake.....	30,000	
Silver lake.....	20,000	
Kamloops district—		
Andy lake.....		2,000
Beaver lake.....		5,000
Eleanor lake, near Blue river.....		5,000
Fish lake.....		250,000
Knouff lake.....		150,000
Latremoville lake, near Mt. Olie.....	15,000	
Little Boggs lake, near Mt. Olie.....	20,000	
McConnell lake.....		4,549
Paul lake.....		200,000
Pillar lake.....		8,000
Pinanta lake.....		150,000
Red lake.....		50,000
Unnamed lake, near Pritchard.....		1,320
Link lake, near Ocean Falls.....	75,000	
Prince George district—		
Cluculz lake.....	20,000	
Laselle lake.....	10,000	
Moose lake.....	30,000	
Small lake.....	10,000	
Yellowhead lake.....	20,000	
Revelstoke Rod and Gun Club, Biological station, Taft.....	100,000	
Salmon Arm district—		
Gardiner lake.....		2,000
Loon lake.....		5,904
McGuire lake.....		4,000
Shuswap district—		
Canoe creek-Shuswap lake.....	45,000	
Granite creek-Shuswap lake.....	60,000	
Palmer creek-Salmon river.....	45,000	
Reineckers creek-Shuswap lake.....	60,000	
Salmon river.....	60,000	3,000
Shuswap lake.....		64,902
White lake.....		5,000
Stanley Park hatchery.....	325,000	
Vancouver district—		
Cannall lake.....	2,000	
Norton lake.....	25,000	
Powell lake.....	30,000	
Wells ponds, Sardis (Oliver Wells, Esq.).....	500	
Vancouver island—		
Cameron lake.....	35,000	
Great Central lake.....	65,000	
Lower Campbell river.....	30,000	
O. K. lake, near Nanaimo.....	15,000	
Quamichan lake.....	10,000	
Shawnigan lake.....	25,000	
Sproat lake.....	65,000	
Telford creek-Shawnigan lake.....	20,000	
Unnamed lake, near Nootka.....	15,000	
	1,375,500	910,675
Total distribution.....		2,286,175

NELSON HATCHERY

	Kamloops trout eyed eggs	Kamloops trout fry	Kamloops trout No. 5 fingerlings	Ken- nerly's salmon eyed eggs	Ken- nerly's salmon fry	Speckled trout eyed eggs	Speckled trout fry
Creston district—							
Meadow creek-Goat river..						30,000	
Private pond, Mr. T. M. Edmondson, Creston.....							1,000
Grand Forks district—							
Christina lake.....	30,000						
Sander creek.....				150,000			
Smelter lake.....	20,000						
Greenwood district—							
Boundary creek-Kettle river.....						35,000	
Collier lake.....	20,000						
Jewel lake.....		20,000					
Loon lake.....		5,000					
Wallace lake.....		5,000					
West Kootenay—							
Arkansaw lake.....	10,000						
Arrow lake, lower (at Sy- ringa creek).....		26,750					
Arrow lake, lower (at Edge- wood).....	20,000						
Arrow lake, upper.....	16,923						
Barret lake.....	5,000						
Bayonne lake.....	10,000						
Bear lake.....	10,000						
Beatrice lake.....	20,000						
Beaver creek.....							25,000
Big Sheep creek.....							40,000
Boundary lake.....							40,000
Box lake.....	10,000						
Cahill lake.....	15,000						
Corn creek.....						30,000	
Cottonwood lake.....		40,000					
Crawford bay retaining pond (Capt. Hincks).....		1,500					
Devil's Hole lake.....	10,000						
Erie lake.....							25,000
Flint lake.....	8,000						
Haiselden lake.....	10,000						
Hidden creek.....	15,000						
Inonoaklin river.....							30,000
Kaslo creek, south fork.....							32,539
Kokanee creek.....				100,000	200,000		
Kootenay lake, west arm.....		47,298	85				
Kootenay river.....		25,000					
Little Slocan lakes.....							30,000
Loon lake.....							25,000
Noakes lake.....	10,000						
Redfish creek.....						55,000	
Six Mile creek.....					81,870		
Six Mile lake.....		30,000					
Slocan lake.....				75,000			
Slocan pool.....		30,000					
Slocan river.....	20,000						
Summit lake.....	8,000						
Whatshan lakes.....	20,000						
Westminster district—							
Jones lake, near Hope.....				50,000			
	287,923	230,548	85	375,000	336,870	95,000	248,539

Total distribution..... 1,573,965

PEMBERTON HATCHERY

	Kamloops trout eyed eggs	Kamloops trout fry	Sockeye salmon fry
Alta lake.....		59,750	
Birkenhead river.....			19,309,300
Horse lake-Quesnel district.....	20,000		
Lac La Hache.....	20,000		
Lost lake-Cheakamus river.....		4,950	
McLeese lake-Quesnel district.....	20,000		
Millburn lake-Quesnel district.....	15,000		
Ten Mile lake-Quesnel district.....	15,000		
	90,000	64,700	19,309,300

Total distribution..... 19,464,000

PENASK LAKE SUB-HATCHERY

	Kamloops trout eyed eggs	Kamloops trout fry
Cranbrook hatchery (Cranbrook Rod and Gun Club).....	141,000	
Jackson lake.....		10,000
Mystery lake.....		5,000
Neveu lake.....		5,000
Nicola river.....	10,000	
Penask lake.....		212,902
Mud lake.....		20,000
Peterson lake.....		5,000
	151,000	257,902

Total distribution..... 408,902

PITT LAKE HATCHERY

	Kamloops trout No. 5 fingerlings	Sockeye salmon eyed eggs	Sockeye salmon fry	Sockeye salmon No. 2 fingerlings
Pitt river—				
Cox's slough.....		690,000	570,000	
Charles Peter's creek.....			420,000	
Four Mile creek.....	826	900,000	601,940	59,944
Four Mile slough.....			720,000	
Mountain slough.....			480,000	
Seven Mile creek.....		590,000	765,000	
	826	2,180,000	3,556,940	59,944

Total distribution..... 5,797,710

QUALICUM BEACH PONDS (PROVINCIAL)

	Brown trout No. 1 fingerlings	Brown trout No. 2 fingerlings	Brown trout No. 3 fingerlings	Brown trout No. 4 fingerlings	Brown trout No. 5 fingerlings	Brown trout yearlings	Kamloops trout No. 1 fingerlings	Kamloops trout No. 2 fingerlings	Kamloops trout No. 3 fingerlings
Biological Research.....	330	150	252	100	200	350	37	25	25
Cowichan river.....						6,500			
Little Qualicum river.....						10,000			
Arrowsmith slough.....						18,635			
Buller creek.....						1,500			
Chatsworth creek.....						14,621			
Lockwood creek.....						8,500			
Spencer creek.....						6,518			
Whiskey creek.....						17,547			
	330	150	252	100	200	84,171	37	25	25

Total distribution..... 85,290

RIVERS INLET HATCHERY

	Sockeye salmon eyed eggs	Sockeye salmon fry	Spring salmon fry	Spring salmon No. 1 fingerlings
Owikeno lake.....				59,861
Asklum creek.....		598,690		
Cheo river.....		821,240		
Dallick river.....		600,000		
Genesi creek.....	1,300,000	799,760		
Indian river.....		795,760		
Markwell river.....		586,600		
Medowse creek.....			119,780	
Nookins river.....	570,000			
Quap creek.....	302,778	2,109,003		
Second Narrows.....			198,360	
Shumahault river.....	1,241,000	812,890		
Wauquash river.....		821,240		
	3,413,778	7,945,183	318,140	59,861

Total distribution..... 11,736,962

SMITHS FALLS SUB-HATCHERY

	Kamloops trout fry	Sockeye salmon eyed eggs	Sockeye salmon No. 5 fingerlings
Biological Board.....		10,000	
Cultus lake.....			93,551
Devil lake.....	8,000		
Grace lake.....	18,000		
Wolf lake.....	17,706		
	43,706	10,000	93,551

Total distribution..... 147,257

SPROAT RIVER EYEING STATION

Somass river:—	Spring salmon eyed eggs
Stamp river—Alberni district.....	316,435
Total distribution.....	316,435

SUMMERLAND SUB-HATCHERY

	Kamloops trout eyed eggs	Kamloops trout fry
Bolean creek-Salmon river, Falkland.....		30,000
Clearwater lake-Salmon river, Keremeos.....	30,000	
Okanagan district—		
Chute lake.....		10,000
Chute creek.....	30,000	
Deep creek.....	30,000	
Eneas lake.....		10,000
Ellis creek dam.....		10,000
Fish lake-Summerland.....		10,000
Garnet Valley lake.....		5,000
Glen lake.....		10,000
Kalamalka lake.....		30,000
Kelowna rearing ponds (Kelowna Rod and Gun Club).....		150,000
McLean creek-Dog (Shaha) lake.....	60,000	
Okanagan lake.....		234,379
Osoyoos lake.....		10,000
Peach Orchard creek.....	218,193	
Silver lake.....		10,000
Woods lake.....		30,000
Shuswap district—		
Hidden lake.....		10,000
Mabel lake.....	120,000	
Sugar lake.....	90,000	
Similkameen river—		
Davis lake.....		15,000
Island lake.....		10,000
Osprey lake.....		10,000
Otter lake.....	60,000	
Princeton rearing ponds (Princeton Rod and Gun Club).....		30,000
Taylor lake.....		5,000
Wolfe lake.....	60,000	
	698,193	629,379

Total distribution..... 1,327,572