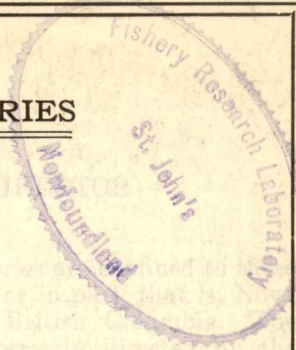


DEPARTMENT OF FISHERIES



ANNUAL REPORT

ON

FISH CULTURE

1937



OTTAWA  
J. O. PATENAUDE, I.S.O.  
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY  
1938



# 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, formerly directed by the Department of Fisheries but at the expense of the National Parks Bureau, Lands, Parks and Forests branch, Department of Mines and Resources, were taken over completely on March 31, 1937 by the National Parks bureau, consequently distributions therefrom in 1937 do not appear in this report.

The discontinuance of the British Columbia sockeye salmon hatcheries and the taking over of the hatcheries in the National Parks by the National Parks Bureau is reflected in the distribution statements embodied in this report, showing a considerable decrease as compared with the distributions for 1936.

The total output from the hatcheries operated by this department in 1937 was 61,831,780. 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, 1937

Species	Green eggs	Eyed eggs	Fry	Advanced fry	Fingerlings	Yearlings and Older	Total distribution
<i>Salmo salar</i> -Atlantic salmon.....		3,000	235,000	6,071,199	15,192,116	122,997	21,624,312
<i>Salmo salar</i> ouananiche-Ouananiche salmon.....						737	737
<i>Salmo salar</i> sebago-Sebago salmon.....	4,130					11,920	16,050
<i>Salmo irideus</i> -Rainbow trout.....					192,210	47,910	240,120
<i>Salmo clarkii</i> -Cutthroat trout.....		886,365	77,167			32	963,564
<i>Salmo rivularis</i> -Steelhead salmon.....			144,795	1,000	57,530	12,107	215,432
<i>Salmo rivularis</i> Kamloops-Kamloops trout.....		4,602,600	3,138,390			20	7,741,010
<i>Oncorhynchus nerka</i> -Sockeye salmon.....		3,364,094	12,420,194				15,784,288
<i>Oncorhynchus kennerlyi</i> -Kennerly's salmon.....			1,060,560				1,060,560
<i>Oncorhynchus kisutch</i> -Coho salmon.....		1,063,053					1,063,053
<i>Salvelinus fontinalis</i> -Speckled trout.....	700	10,000	1,831,632	1,793,416	9,210,608	49,248	12,895,654
<i>Cristivomer namaycush</i> -Salmon trout.....			30,000	100,000	97,000		227,000
	4,830	9,929,112	18,937,788	7,965,615	24,749,464	244,971	61,831,780

In addition to the above 500,200 cutthroat trout eyed eggs and fry were purchased from the Cranbrook Rod and Gun Club and planted directly as follows:—

Arrow creek.....	65,000	eyed eggs
Bott lake.....	10,000	“ “
Dunbar lake.....	20,000	“ “
Elk river.....	100,000	“ “
Fording river.....	100,200	“ “
Goat river.....	100,000	“ “
Paddy Ryan lakes.....	35,000	“ “
Twin lake.....	20,000	“ “
Summit lake.....	50,000	fry

The following classification of green eggs, eyed eggs, fry, advanced fry, No. 1 fingerlings, etc., applies to all statements and references in this report:—

Green eggs; eggs until they are “eyed.”

Eyed eggs; eggs showing the eyes of the developing fish.



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 1937

Established	Hatchery	Location	Species	Green eggs	Eyed eggs	Fry	Advanced fry	Fingerlings					Yearlings and older	Total distribution by species	Total distribution by hatcheries
								No. 1	No. 2	No. 3	No. 4	No. 5			
1929	Antigonish.....	St. Andrews, N.S.	Atlantic salmon..				485,000	410,000			30,462			925,462	
			Rainbow trout.....					20,000		17,512		185		37,697	
			Speckled trout.....				588,707	396,293			11,000	14,023		1,010,023	1,973,182
1876	Bedford.....	Bedford, N.S.....	Atlantic salmon..		3,000		332,000	595,000	19,480					949,480	
			Speckled trout.....				410,000	912,480	42,855					1,365,335	2,314,815
1937	Cobequid.....	Jackson, N.S.....	Atlantic salmon..				595,000	824,200						1,419,200	
			Speckled trout.....					351,845	402,058	59,122				813,025	2,232,225
1936	Grand Lake (f).....	Wellington Station N.S.	Atlantic salmon..					280,000	25,500		37,660	8,000	27,997	379,157	
			Ouananiche salmon.....										737	737	
			Sebago salmon.....										9,710	9,710	389,604
1912	Lindloff (a).....	St. Peters, N.S.....	Atlantic salmon..					435,000	425,834					860,834	
			Rainbow trout.....						77,698					77,698	938,532
1937	Kejimikujik (f).....	New Grafton, N.S.	Atlantic salmon..					21,500	4,335					25,835	
			Speckled trout.....					3,000	347,275	19,857				370,132	395,967
1902	Margaree.....	N. E. Margaree, N.S.	Atlantic salmon..				1,180,000	481,000	665,000	219,000	219,412			2,764,412	
			Speckled trout.....					825,000	30,000	234,666	207,500	99,979	312	1,397,457	4,161,869
1913	Middleton.....	Middleton, Annapolis Co., N.S.	Atlantic salmon..			35,000	45,000	305,000	1,096,675	180,000	97,300			1,758,975	
			Salmon trout.....			30,000	100,000	97,000						227,000	
			Speckled trout.....				48,000	578,000	523,000	96,200				1,245,200	3,231,175
1933	Nictaux Falls (d).....	Nictaux Falls N.S.	Atlantic salmon..						100,000	25,000	210,100			335,100	335,100
1929	Yarmouth.....	South Ohio, N.S.	Atlantic salmon..			200,000			70,000	200	151,300	16,000	95,000	532,500	
			Kamloops trout.....										20	20	
			Speckled trout.....			910,000	50,000	195,000			57,000	20,000	47,717	124,717	
1925	Chamcook lakes (b).....	Charlotte Co., N.B.	Sebago salmon..	(e) 4,130							135,000	21,800	14,000	32,398	1,358,198
														4,130	2,015,435
1928	Florenceville.....	Florenceville, N.B.	Atlantic salmon..					1,115,000	620,500	202,096				1,937,596	
			Speckled trout.....	(e) 700				1,251,407		250	3,000		1,123	1,256,480	3,194,076
1880	Grand Falls.....	Grand Falls, N.B.	Atlantic salmon..					315,000	1,430,072	430,277				2,175,349	
			Speckled trout.....			567,296		775,966						1,343,262	3,518,611
1874	Miramichi.....	South Esk, N.B.	Atlantic salmon..				1,749,500	1,048,000	481,516					3,279,016	
			Speckled trout.....				212,000	152,000	22,300			50		386,350	3,665,366
1874	Restigouche.....	Flatlands, N.B.	Atlantic salmon..				653,299	1,732,361	38,082					2,423,742	
			Speckled trout.....			209,386	198,709							408,095	2,831,837
1914	Saint John.....	Saint John, N.B.	Atlantic salmon..				680,000	215,000	4,694	390				900,084	
			Rainbow trout.....										8	8	
			Sebago salmon.....										2,210	2,210	
			Speckled trout.....		10,000	145,000	285,000	886,000	94,000	42,000	38,000			1,500,000	2,402,302
1906	Kelly's Pond.....	Southport, P.E.I.	Atlantic salmon..				351,400	545,800	60,370					957,570	
			Speckled trout.....				1,000	325,300	83,515	30,940				440,755	1,398,325
1916	Cultus lake.....	Cultus lake, Vedder Crossing, B.C.	Coho salmon.....		1,063,053									1,063,053	
			Cutthroat trout.....		36,325	29,567								65,892	
			Kamloops trout.....		170,000	28,140								198,140	
			Sockeye salmon.....		74,400	3,551,050								3,625,450	
			Steelhead salmon.....			144,795	1,000	23,840	33,690					208,325	5,155,860

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 1937—*Concluded*

Established	Hatchery	Location	Species	Green eggs	Eyed eggs	Fry	Advanced fry	Fingerlings					Yearlings and older	Total distribution by species	Total distribution by hatcheries
								No. 1	No. 2	No. 3	No. 4	No. 5			
1927	Smiths Falls (a)..	Cultus lake, Vedder Crossing, B.C.	Cutthroat trout.....		850,040	47,600							32	897,672	
			Sockeye salmon.....	3,289,694		8,869,144							12,107	12,158,838	
1934	Argenta (a).....	Argenta, B.C.	Kamloops trout.....			363,495								363,495	363,495
1933	Beaver lake (a)...	Kelowna, B.C.	Kamloops trout.....		302,000	391,280								693,280	693,280
1922	Lloyd's creek (a)	Kamloops, B.C.	Kamloops trout.....		2,717,000	968,566								3,685,566	3,685,566
1923	Nelson.....	Nelson, B.C.	Kamloops trout.....		235,000	750,829								985,829	
			Kemmerly's salmon.....			1,060,560								1,060,560	
			Speckled trout.....										1,342	1,342	2,047,731
1928	Penask lake (a)...	Penask lake, via Quilchena, B.C.	Kamloops trout.....		795,500	91,860								887,360	887,360
1928	Summerland (a)...	Summerland, B.C.	Kamloops trout.....		383,100	544,220								927,320	927,320
				4,830	9,929,112	18,937,788	7,965,615	15,115,992	6,698,449	1,692,510	1,084,534	157,979	244,971	61,831,780	61,831,780

(a) Subsidiary hatchery.  
(b) Collecting camp.

(d) Pond and rearing station combined.  
(e) Autumn collection 1937. (f) Rearing station.

The eggs, fry and fingerlings included in this distribution, with the exceptions indicated, were from collections in the autumn of 1936 and the spring of 1937. In addition to the above 500,200 cutthroat trout eyed eggs and fry were planted in British Columbia waters as detailed in previous statement.

## HATCHERY OUTPUT, BY PROVINCES, OF EGGS, FRY, FINGERLINGS, YEARLINGS AND OLDER FISH DURING 1937

	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.....		3,000	235,000	2,637,000	3,351,700	2,406,824	424,200	746,234	24,000	122,997	9,950,955	
Kamloops trout.....										20	20	
Ouananiche salmon.....										737	737	
Sebago salmon.....										9,710	9,710	
Rainbow trout.....					20,000	77,698	17,512	57,000	20,000	47,902	240,112	
Salmon trout.....			30,000	100,000	97,000						227,000	
Speckled trout.....			910,000	1,096,707	3,261,618	1,345,188	544,845	240,300	113,979	46,733	7,559,370	
		3,000	1,175,000	3,833,707	6,730,318	3,829,710	986,557	1,043,534	157,979	228,099	17,987,904	17,987,904
<i>New Brunswick—</i>												
Atlantic salmon.....				3,082,799	4,425,361	2,574,864	632,763				10,715,787	
Sebago salmon.....	4,130									2,210	6,340	
Rainbow trout.....										8	8	
Speckled trout.....	700	10,000	921,682	695,709	3,065,373	116,300	42,250	41,000		1,172	4,894,187	
	4,830	10,000	921,682	3,778,508	7,490,734	2,691,164	675,013	41,000		3,391	15,616,322	15,616,322
<i>Prince Edward Island—</i>												
Atlantic salmon.....				351,400	545,800	60,370					957,570	
Speckled trout.....				1,000	325,300	83,515	30,940				440,755	
				352,400	871,100	143,885	30,940				1,398,325	1,398,325
<i>British Columbia—</i>												
Coho salmon.....		1,063,053									1,063,053	
Cutthroat trout.....		886,365	77,167							32	963,564	
Kamloops trout.....		4,602,600	3,138,390								7,740,990	
Kennerly's salmon.....			1,060,560								1,060,560	
Sockeye salmon.....		3,364,094	12,420,194								15,784,288	
Speckled trout.....										1,342	1,342	
Steelhead salmon.....			144,795	1,000	23,840	33,690				12,107	215,432	
		9,916,112	16,841,106	1,000	23,840	33,690				13,481	26,829,229	26,829,229
												61,831,780

In addition to the above 500,200 cutthroat trout eyed eggs and fry were planted directly in British Columbia waters as detailed in a previous statement.

The Canadian National, The Canadian Pacific, Dominion Atlantic, Pacific Great Eastern and the Esquimalt and Nanaimo 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:—

Railway	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.	2,863	13	5,952	5,630	11,582	136	115	251	56
C.P.R.	6,175	40	5,722	5,940	11,662	302	288	590	84
D.A.R.	302	4	151	48	199	14	8	22	3
P.G.E.R.	556	3	209	347	556	4	4	8	3
E. & N.R.	106	3	164	164	328	7	7	14	4
	10,002	63	12,198	12,129	24,327	463	422	885	150

NOTE.—Number of passages refers to transportation one way—a return trip counting as two passages. Number of permits refers to one way passage for cases or cans.

The interest displayed by the general public in fish cultural operations has continued to increase and considerable assistance was tendered in disposing of the season's output by private individuals and local organizations such as Fish and Game clubs, Angling and Protective associations, Boards of Trade, Service Clubs, etc. The Fredericton Branch of the New Brunswick Fish and Game Association purchased a truck for the purpose of assisting in the distribution of hatchery product in the waters in which the club is interested. The New Glasgow, Nova Scotia, Fish and Game Club was also among the most active in assisting the hatchery officers in their work in that district.

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

In continuation of the experiment in regard to the influence of environment versus heredity on Atlantic salmon referred to in previous reports some 227,500 fingerlings, the progeny of "early" fish taken at New Mills, Chaleur bay, were distributed in the Saint John river and its tributaries; 28,200 from the Florenceville hatchery and 199,300 from the Grand Falls hatchery.

Over 468,000 Atlantic salmon fingerlings including some 59,000 yearlings and some two-year fish distributed in waters of the Maritime Provinces have two fins missing, viz., the adipose and one pectoral or one ventral fin. A fair proportion of the New Mills stock distributed in the Saint John river are included in this number.

The recapture of these marked salmon will add to present data in regard to the "homing" theory, sea movements or migrations and the influence of heredity versus environment in relation to the Atlantic salmon of Canadian streams. One dollar will be paid for scales and scars left by the removal of the fins from each recaptured marked salmon together with particulars as to its length, weight and place of recapture.

Selective breeding of speckled trout practised in the maritime hatcheries continues to give satisfactory returns resulting in the establishing of earlier spawning fish and an increased yield of eggs per female stripped. Increased production of trout eggs in 1937 over 1936 and 1935 per female stripped occurred at the following hatcheries: Antigonish in yearlings; Margaree in yearlings, two and four year olds; Florenceville in yearlings and Saint John in two and four year trout.

Some 6,350 Atlantic parent salmon were obtained for fish cultural purposes and retained at the various ponds operated by this department in the maritime provinces. Of these 3,877 were purchased from commercial fishermen and 2,473 were taken in the departmental traps. The following is the average weight in pounds of salmon secured from various sources; in Nova Scotia: Margaree harbour, Inverness county, 12; Nictaux river, Annapolis county, 5.7; River Philip, Cumberland county, 15; Sackville river, Halifax county, 5. In New Brunswick: Miramichi river, Northumberland county, 8.5; Benjamin river, Restigouche county, 6.5; New Mills, Restigouche county, 13.5; Saint John harbour, Saint John county, 11. And in Prince Edward Island, Morell river, Kings county, 9.

All officers and fish culture representatives reported a heavy run of fall Atlantic salmon to the rivers, in fact one of the heaviest runs on record.

To ascertain the time of day or night that Atlantic salmon ascend the rivers of Nova Scotia to spawn, record was kept at the following ponds and with results as shown:—

Time	Sackville river	Nictaux river	River Philip
One hour before sunrise.....	4	0	35
Sunrise to 9 a.m.....	13	35	83
9 a.m. to 11 a.m.....	24	40	80
11 a.m. to 12.30 p.m.....	18	3	35
12.30 p.m. to hour before sunset.....	84	53	96
Hour before sunset to sunset.....	30	10	10
Sunset to hour after.....	16	0	17
Hour after sunset to hour before daylight.....	68	27	729
	257	168	1,085

The periods of capture were: Sackville, September 26 to October 29, Nictaux, May 21 to October 30 and River Philip October 7 to November 10.

The effect of hatchery operations is reflected in the sebago salmon that have been taken for fish culture purposes in the Chamcook lakes, New Brunswick, during the past two years. In 1935, five thousand two hundred and forty-one yearlings of this species were marked before they were distributed by the removal of the adipose and the right pectoral fins. During egg collecting operations in 1936, one hundred and two sebagos were caught in the hatchery trap. Of the total number of fish that were handled that year, 40 or 39 per cent were marked fish. During 1937, one hundred and seven sebago salmon were caught during hatchery operations and of this number, 26 or 24 per cent were marked fish. Their average length was 18 inches and their average weight about 2 pounds after they were stripped. The creek between the two lakes where the trap is operated is about 200 yards long and 10 feet wide. The salmon drop down into this creek from the upper lake and ascend thereto from the lower lake during their spawning migration. Although all the marked fish were distributed in the lower lake a considerable proportion of the recaptures were taken on their descent from the upper lake. The marked fish, 39 per cent and 24 per cent of the totals taken during these two years, suggests that the limited distributions of hatchery fish that are being made are going a long way towards maintaining sebago salmon angling in these lakes.

Although the total production of speckled trout eggs at the Maritime Province hatcheries was slightly less than it was in 1936, satisfactory increases were made at the Margaree hatchery, to 3,205,000 as against 1,932,000 in 1936; and at Florenceville to 2,392,000 as against 1,710,000 in the previous

year. An increased collection was also made at Hart lake for the Cobequid hatchery and initial collections were made at Folly Brook, Cobequid hatchery and McRae lake, Lindloff hatchery.

The most important precautionary measure that was undertaken by the Fish Cultural division during the past year was the treatment of Second river with all its tributaries from their sources to the Cobequid water supply dam, which is referred to in the report of that establishment.

A closed circulatory system was installed at Restigouche hatchery in 1937 for the purpose of gaining further information as to the value of such an arrangement in advancing incubation in hatcheries where the water supply is abnormally low or in other hatcheries where the fry carrying capacity is limited and it would be to advantage to have a portion of the annual hatch ready for distribution some time earlier than the remainder. In this experiment water passed from the head trough to a cluster of five hatching troughs, thence to a small trough from which horizontal gutters extended so as to distribute the water over the surface of a sand filter and prevent disturbance of the sand surface. After passing down through the filter the water was conducted by a pipe to the foot tank, from there it was pumped to the head trough, thus completing the circulation. The system was started on February 1 with 250,000 Atlantic salmon semi-eyed eggs, in five troughs of 50,000 each. Minimum-maximum temperature readings were taken at 8.00 a.m., 1.00 p.m. and 7.00 p.m. daily of the water in the head trough of closed system, of water near head of hatching troughs in regular system and of air in hatchery. The water in the closed system was from 5 to 22° warmer than in the ordinary hatching system and averaged 14.1° warmer over the entire period of the experiment, that is, February 1 to May 8.

Hatching began in the closed system on March 8 and was completed on the 13th, whereas the ordinary system did not begin to hatch until May 12 and did not finish until May 24. The loss of eggs in the closed system until all were hatched was smaller than in the regular system up to the same stage.

The closed system worked well until hatching began, when so much trouble was experienced in keeping the filter (later supplemented by a settling tank) clean that the experiment had to be brought to a close on May 8, although the number of fry being carried was reduced to 100,000 towards the end of April and further reduced to less than 20,000 during the early part of May.

In co-operation with the Dominion Forest Service stream improvement on a small scale was initiated by the building of V dams in Burpee brook in the Acadian Forest Experimental station area near Fredericton, N.B. Prior to the building of the dams the stream was inspected from biological, fish cultural and engineering points of view and further inspections will be made from time to time to determine the effect and if the cost of the dams is justified by the improvement in the stream as a habitat for trout.

Similar work was also undertaken on a small scale in Lenihan brook in the Upper Golden Grove district twenty miles from Saint John by the Saint John Branch of the Provincial Fish and Game Protective Association. The location of the structure in this instance was determined on the advice of departmental officers.

In August, 1934, lake Jesse, Yarmouth county, N.S., was treated with copper sulphate for the purpose of killing undesirable fish and Tedford and Boar's Back lakes in Yarmouth and Digby counties respectively were treated similarly in August, 1936. The three lakes mentioned were originally speckled trout waters but the natural balance had become so upset that the speckled trout, the only species sought after by anglers, had practically disappeared.

The species composition of the fish killed by the copper sulphate treatment, the numbers, and the number and pounds of fish per acre for each lake is shown in the following statement (Smith, M.W. Prog. Rept. Atl. No. 20, 1937):—

Species	Boar's Back (55.8 acres)			Tedford (52.0 acres)			Jesse (45 acres)		
	No. in lake	No. per acre	Lbs. per acre	No. in lake	No. per acre	Lbs. per acre	No. in lake	No. per acre	Lbs. per acre
Speckled trout.....	23		0.1				29	1	0.4
Golden shiner.....	1,071	19	0.4	7,922	152	2.7	2,611	58	2.0
Creek chub.....							22		
Common sucker.....	364	7	8.1				22		
Catfish or bullhead.....	2,114	38	4.1	1,691	33	5.5	1,179	26	5.1
Eel.....	293	5	0.2	2,822	54	2.3	1,095	24	0.7
Killifish.....	1,275	23	0.2	42,621	820	5.8	10,098	224	4.6
Yellow Perch.....	22,630	406	3.9	7,383	142	2.0	14,177	315	4.6
White Perch.....				23,726	456	17.7	5,781	128	5.5
Nine-spined stickleback.....				52	1		11		
Totals.....	27,770	498	17.0	86,217	1,658	36.0	35,025	776	19.9

Food organisms, which had been largely destroyed by the copper sulphate, had returned in sufficient quantities to lake Jesse by the spring of 1936 to warrant the introduction of speckled trout and the lake was stocked with that species in 1936 and 1937. Trout that were planted as fry in 1936 (Smith) had reached a length of from six to eight inches by May 1937, and the Superintendent of the Yarmouth hatchery reported that there was evidence of trout in all parts of the lake when he visited it at that time.

Chemical and biological conditions were so promising (Smith) in Tedford and Boar's Back lakes in September, 1937, that it is confidently expected that both lakes will be suitable for stocking with speckled trout fry in the spring of 1938.

This year property was secured on the south branch of the Charlo river, Restigouche county, New Brunswick, for the construction of a modern salmon and trout hatchery with rearing and brood pond facilities. When this "Charlo" hatchery is built it will replace the old hatchery now at Flatlands in the same county.

Two new rearing establishments were constructed in 1937, one at Cardigan, Kings county, Prince Edward Island, and the other at Coldbrook station, Kings county, Nova Scotia. Each consists of a bungalow 21 feet by 28 feet 2 inches for the officer-in-charge, a combined garage and icehouse 21 feet by 39 feet with built-in cold storage room, and dam and pipeline to the ponds, which are circular with 25 foot diameter. All ponds were lined with heavy clay to prevent leakage and then with gravel and sand. The pipeline is made of 12-inch wood stave pipe with 2½-inch branch pipes to each pond separately. The bungalow provides a living room, kitchen and two bedrooms. The second building provides a garage with workroom space, icehouse, feed room and cold storage room with storage space for equipment on the second floor. The cold storage room measures 7 feet 6 inches by 8 feet and is insulated with 6 inches of corkboard. Galvanized iron retorts are fitted overhead to provide for ice and salt refrigeration. A small galvanized iron box inserted in one wall of the storage room provides space for holding prepared fish food. Cardigan has 24 ponds and Coldbrook 16. These will be in operation in 1938.

## MARITIME PROVINCES EASTERN DIVISION

*District Supervisor of Fish Culture, James Catt*

Gratifying progress in fish culture was made this year in the Eastern Division. Two new plants, the Cobequid hatchery and the Kejimkujik rearing ponds, permitted an increased and more effective distribution of speckled trout and Atlantic salmon in the districts.

Fall fingerlings distributed from Yarmouth hatchery in Lake Kejimkujik in October 1936, were well grown and in excellent condition when recaptured in April and May 1937. Some of these fish had travelled many miles, crossing the lake, descending the Liverpool river and ascending its tributaries.

Rairdon brook, Kings county, New Brunswick, carries a stunted race of speckled trout that average about 0.8 ounce in weight and 5 inches in length. Some spawn when only  $3\frac{1}{4}$  inches in length and rarely is one taken over 7 inches. In October, 1935, a number of these were captured and transferred to the Saint John hatchery where they were given all the food, principally liver, that they would eat. By October, 1936, they had increased in weight to 3.7 ounces and in length to  $9\frac{1}{4}$  inches. This stock was marked by the removal of the right pectoral fin and distributed November 26 and 28, 1936—300 in Ping Pong lake and 364 in Beaver lake.

In 1937 thirty-six marked fish were caught in Beaver lake. They showed a good growth, ranging up to 11 inches in length. Two of the fish had descended the Beaver lake stream to Mispic river and were taken  $2\frac{1}{2}$  miles from point of distribution. Others were taken in the lake  $1\frac{1}{4}$  miles from place of liberation so that the maximum range of spread was  $3\frac{3}{4}$  miles. It is claimed that these marked fish were better fighters than the native stock. In Ping Pong lake some 21 marked fish were taken, ranging up to 12 inches in length. The largest weighed  $\frac{3}{4}$  pound; 7 taken in late May averaged  $11\frac{1}{4}$  inches in length and  $10\frac{1}{2}$  ounces in weight. This lake has no outlet and the fish are evenly distributed through it. The marked fish were very active, rising readily to a surface lure.

The introduced marked fish are taking on the appearance of the fish native to each lake. The results of this experiment goes to show that stunted and small speckled trout attain normal size and growth if transferred to suitable environment with ample food.

Interesting information was obtained from the liberation and recapture of marked speckled trout fingerlings and older fish, although it is regretted that reports in this connection are difficult to obtain from anglers.

The best record of recaptures, listed hereunder, was obtained from the Antigonish area and shows over 10 per cent of marked fish recaptured. Those fish taken in the salt water in Antigonish harbour had descended the West river—they could not be distinguished from the sea trout inhabitants of the district except by the marking.

Water	Number marked-fish liberated	Number recaptured
Copper lake.....	500	87
South river lake.....	1,000	32
Stewart dam on tributary to Little Harbour.....	1,125	113
Long lake—East River St. Mary.....	3,100	31
Donahue lake.....	1,000	178
James River lake or McLean lake.....	500	228
Cooee Coffre lake.....	1,000	458
Sherbrook lake.....	1,200	231
Simon lake.....	690	23
Campbell lake—River John.....	900	24
West river.....	2,465	16
Antigonish harbour.....		6

From the fish liberated in Cooeo Coffre lake, 76 were caught in Sand lake, 87 in Pan Handle lake, 16 in Cole Harbour river and the balance in Cooeo Coffre lake.

From the fish liberated in Sherbrook lake, 25 were caught in the stream running from the lake to the river, one in St. Mary's river, and a number in Thud lake about three miles above Sherbrook lake.

The co-operation of the administrative branch of the department, the Fisheries Research Board of Canada, the Provincial governments of Nova Scotia and New Brunswick and the several branches of the fish and game protective associations has, as in the past, assisted the fish cultural staffs in many ways.

The local branches of the fish and game protective associations rendered valuable assistance in the distribution of hatchery stock. The representatives of the various branches were also able to supply definite information in regard to the lakes and streams in their districts as discussed at the meetings called by the Supervisors of Fisheries.

The copper sulphating of Boar's Back lake last year was continued in 1937 in the stillwater below the lake. This work was carried out successfully by the Yarmouth hatchery staff together with the assistance of Yarmouth Fish and Game Protective Association. The experiment at Lake Jesse, Tedford and Boar's Back lakes is being watched with great interest by local residents and sportsmen.

Representative series of the fish produced at the Maritime Province hatcheries were exhibited at various exhibitions or contributed to exhibitions made by fish and game protective associations. Similar contributions were made towards the Nova Scotia and New Brunswick provincial exhibits at the Sportsmen's Shows at Boston, Hartford and New York. These are referred to more fully in the reports of the hatcheries from which the fish were drawn.

#### ANTIGONISH HATCHERY

*K. G. Shillington, Superintendent*

In spite of heavy losses due to high temperature a fair distribution of speckled and rainbow trout and Atlantic salmon was made. The storage dam constructed at the outlet of Loch Katrine in 1935 proved a valuable asset to this hatchery during 1937. Although the weather during the summer months was hot and dry the presence of this dam made available an ample supply of water at all times.

The walls of six long concrete ponds were repaired and two steel rails were placed across twelve ponds for support to take the place of the iron brace rods. The removal of these rods was an improvement to the ponds as it facilitated cleaning as well as the capture of fish. Additional improvements were made to the verandah of the residence and to the grounds.

The total collection of speckled trout eggs made from the brood stock developed at this hatchery was 7,795,176. Due to the selection of progeny from early spawning trout, the brood stock spawned early at this establishment—only a small number being spawned as late as December. Yearlings from selected stock yielded an average production of 685 eggs per fish in 1937 as compared with 471 in 1936. Some 146 yearling trout from one group which were spawned on November 25 yielded 150,436; a remarkable yield of over 1,000 eggs per fish. From April 13 to 17 the hatchery ponds produced 254,150 rainbow trout eggs.

An attempt was also made this season to collect rainbow trout eggs at Giant's lake. The trap was installed at the outlet of the lake but the number of rainbows captured was only 10, from which 12,650 eggs were secured.

In February, 10,200 speckled trout eyed eggs were received from the Florenceville hatchery, and in April, 1,000,000 Atlantic salmon eyed eggs from the Cobequid hatchery; on October 27 some 75,428 speckled trout green eggs were received from Lindloff hatchery. Outgoing shipments of eyed eggs to other hatcheries were: Speckled trout, 500,000 to each of Bedford, Lindloff, Yarmouth, Florenceville, Grand Falls, Miramichi, Restigouche and Saint John hatcheries, and 50,000 to Kelly's Pond; rainbow trout, 100,000 to Lindloff. An exchange of 320,000 speckled trout eyed eggs for salmon trout was made with the Department of Game and Fisheries, Toronto; the salmon trout eggs being allotted to the Middleton hatchery. Distributions for the season were: Atlantic salmon 925,462, rainbow trout 37,697 and speckled trout 1,010,023; total 1,973,182. A total of 12,403 speckled trout yearlings, two years and older fish were marked by the removal of the adipose and right pectoral fins and distributed in various waters in the district.

### BEDFORD HATCHERY AND SACKVILLE RIVER SALMON POND

*George Heatley, Superintendent*

All salmon and trout were distributed in the advanced fry and fingerling stages and completed early in July as experience has shown that conditions at this plant are not favourable for retention of fingerlings for a longer period. A donation of some 3,000 Atlantic salmon eyed eggs was made to Dr. Hayes, Dalhousie University, Halifax, for experimental work and investigation. Adult Atlantic salmon retained at the hatchery from fall 1936, speckled trout old fish from Antigonish hatchery and adult salmon and speckled trout from Yarmouth hatchery together with the services of Assistant J. M. Butler were loaned the provincial Department of Highways, Nova Scotia, in connection with their exhibit at the Sportsmen's Shows at Boston, Hartford and New York.

In March 500,000 Atlantic salmon eyed eggs were received from the Miramichi hatchery, and 500,000 speckled trout eyed eggs from the Antigonish hatchery. During the months of May and June, 400,000 Atlantic salmon advanced fry were transferred to Grand lake rearing ponds to be later distributed from that establishment. On June 15 some 12,860 sebago salmon No. 1 fingerlings were also transferred to the above ponds. The following supplies of eggs were received in the fall of the year: Atlantic salmon 728,400 from Sackville pond and 2,690,400 from River Philip; sebago salmon 7,000 from Grand lake ponds and 34,000 collected from wild fish taken at Fletcher's run and Rawdon river, Grand lake.

The distributions made during the year were: Atlantic salmon 949,480 and speckled trout 1,365,335; total 2,314,815.

The appearance of the hatchery and grounds was greatly improved by painting and minor repairs.

As in the previous year a great many grilse were caught in the trap at Sackville pond. The number of salmon impounded for fish cultural purposes was 248, nine being liberated at the head of the tide when taken as they showed signs of net injuries. The first fish was captured on September 26 and the last on October 29. Of the fish retained, there was a normal loss of 7 or 2·8 per cent. The total collection of eggs 728,400 were laid down in the Bedford hatchery. The number of salmon tagged, by attaching tags to the dorsal fin, was 239.

## COBEQUID HATCHERY AND RIVER PHILIP SALMON POND

*J. W. Heatley, Superintendent*

The young fish produced at Cobequid hatchery in 1937 were wholly the progeny of ova collected from wild fish.

In addition to ova laid down in the fall of 1936 some 1,000,000 speckled trout eyed eggs were received from the Grand Falls hatchery on March 10. This stock was from collections made in the fall of 1936 at Fraser's pond, Three brooks, and it was the intention to retain some 65,000 of this variety as a nucleus for brood stock. They kept healthy during the first part of the summer but due to a gill infection which they contracted while being held in crates in River Philip during the treating of the Cobequid hatchery water supply, it was decided to liberate them as soon as the infection was remedied.

On April 5, one million Atlantic salmon eyed eggs were shipped to the Antigonish hatchery.

Although the circular ponds lined with "fibreen" and clay appeared quite firm when first put in use it was found that later they become soft and gave considerable trouble when fish were being handled. During the year additional improvements were made to the hatchery grounds, a riprap of concrete and rock was placed at the end of the main drain from the circular ponds, and a Fairbanks-Morse automatic home water system was installed in the basement of the dwelling.

After careful consideration, it was decided to destroy by the use of drugs the fish in Second river and its tributaries in order to assure a water supply uncontaminated by any disease from wild fish. The work of cutting trails, placing screens in the tributaries and building crates for the retention of fish commenced about the middle of July. The destruction of fish was carried out successfully under the direction of Doctors R. H. M'Gonigle and M. W. Smith of the Atlantic Biological Station, Saint Andrews. All pipe lines, ponds, troughs and equipment were also thoroughly disinfected.

While the collection of wild trout eggs at Hart lake in 1936 was disappointing, reports from anglers who fished the lake during the summer of 1937 were encouraging and indicated that a fairly large number of speckled trout were in evidence in the lake. It was, therefore, decided to attempt a further collection in the fall of 1937. Accordingly a trap was installed in the inlet stream at the head of the lake on October 16 and pontoons were moored in the brook. The first fish was taken on October 16 and the last on November 9. The number captured was 816, consisting of 388 females and 428 males. The average size of these trout was considerably greater than last season, averaging three-quarters of a pound in weight, and the average yield of eggs per female was 1,036 as against 665 in 1936. The number of eggs collected was 380,550. With a view to ascertaining if the same fish will spawn again next season, 811 were marked by the removal of the adipose fin and returned to the lake. A small collection of 4,500 speckled trout eggs was also made from 96 trout captured by dip-net on November 30 at the outlet of Folly lake. This small collection may be attributed to some extent to the proportion of only 16 females to 80 males. The average weight of these fish was one-half pound.

In November, 2,536,900 Atlantic salmon eggs were received from the River Philip pond.

Evidence of the public's interest in the work carried on at this establishment is shown by the great number of visitors during the year.

Distributions for the season were: Atlantic salmon 1,419,200 and speckled trout 813,025; total, 2,232,225. Of the above 23,000 speckled trout No. 3 fingerlings were marked by the removal of the adipose and right ventral fins.

Preparations for the run of Atlantic salmon commenced at River Philip on September 15, consisting of repairs to the old power dam and canal and the installation of the trap. On October 5 Assistant C. E. Harding from the Yarmouth hatchery arrived and took charge of the operations. The first fish was taken on October 7 some twelve days later than in 1936, which was due probably to low water conditions that existed. However, by November 10 a total of 1,085 salmon were captured which was more than sufficient for the number of eggs required. The fence was then opened and the balance of the run allowed to ascend through the dam. There appeared to be a large number of salmon still ascending the river, and there is no doubt but that a considerably greater number of eggs could have been secured, if desired. The loss of fish during retention was 4. Of the fish impounded, 613 females and 324 males were stripped and the remainder liberated above the dam. The collection was 5,227,300 salmon eggs, of which 2,690,400 were laid down at the Bedford hatchery and the balance at the Cobequid hatchery. The number of salmon tagged in 1937, by attaching tags to the dorsal fin, was 44.

#### GRAND LAKE REARING PONDS

*E. Barrett, Officer in Charge*

The rearing ponds at Grand lake were successfully operated during 1937.

At the commencement of the calendar year there were some 800 ouananiche yearlings, 65 two year and 14,420 fingerling sebago and 36,000 Atlantic salmon fingerlings in these ponds. To determine whether sebago salmon, captured from Grand lake, could be held in ponds for spawning purposes thirty-five were retained in the fall of 1936 and were carried through the winter without loss. Up to the latter part of June there was a loss of 10 probably due to injuries received when jumping against the supply trough. By the middle of August however only 3 remained—2 females and 1 male—but these did not reproduce. Twelve additional fish captured in the fall of 1937 are being held in the pond as a further experiment.

Some 17 of the female pond-reared sebago salmon were stripped and produced 8,500 eggs. The average weight of these fish was one and a half pounds. Seven thousand of these eggs were laid down at the Bedford hatchery and 1,500 in a trough set up in the supply trough at the head of the ponds at Grand lake. Parent fish caught in the traps operated at Fletcher's run and Rawdon river were impounded in the Grand Lake ponds and stripped. The number of salmon taken from these traps was 62, sixteen from Fletcher's run and forty-six from Rawdon river. The first fish was taken on September 29 and the last on November 26. The average weight was two and a half pounds. The number of eggs produced was 38,000, of which some 34,000 were laid down in the Bedford hatchery and 4,000 in a trough at Grand lake. The loss of fish during retention was three. After stripping forty-seven of these fish were marked by the removal of the adipose and right ventral fins and liberated in Grand lake. The remaining twelve were retained in the Grand lake rearing ponds.

Six circular ponds, each twenty-five feet in diameter, commenced during the year are practically completed. A concrete bulk head was placed under the supply trough, between ponds number one and number two. Pond number one which was out of commission due to leakage previous to repairs is now available for the retention of parent fish.

In the latter part of May and the first of June, 400,000 Atlantic salmon advanced fry and on June 15 some 12,860 sebago salmon No. 1 fingerlings were received from Bedford hatchery and placed in the ponds, to be later distributed in waters of the district. With the exception of plantings in Grand lake, distributions were carried out with the assistance of the Bedford hatchery staff.

Output for the season was: Atlantic salmon fingerlings and yearlings 379,157, ouananiche two years 737, and sebago yearlings and three years 9,710; total 389,604. Thirteen thousand Atlantic salmon yearlings were transferred to the Bedford hatchery where they were marked by the removal of the adipose and right ventral fins, before being distributed. Some 9,010 seabagos and 737 ouananiche were marked by the removal of the adipose and right ventral fins and distributed in Grand lake.

#### KEJIMKUJIK REARING PONDS

*F. F. Annis, Officer in Charge*

The rearing ponds at Kejimkujik were operated for the first time in 1937. They received from Yarmouth hatchery 470,000 speckled trout advanced fry and fingerlings and 100,000 Atlantic salmon advanced fry which made satisfactory growth until high temperatures and low oxygen content of the water supply made distributions necessary. The output was: Atlantic salmon 25,835 and speckled trout 370,132; total 395,967.

Many improvements were made to the grounds during the year and a mink proof fence was constructed.

A large number of people visited the ponds and displayed a keen interest in this new undertaking.

#### MARGAREE AND LINDLOFF HATCHERIES

*W. D. Turnbull, Superintendent*

A record collection of speckled trout eggs amounting to 3,204,970 was made from the splendid brood stock developed at this hatchery. This collection shows a large increase over any previous year and is over 1,000,000 more than the collection of 1936. In 1937 a greater number of eggs than usual were secured from old fish. This increase in trout egg collection may to some extent be credited to the increased production of eggs per female stripped. The average yield on this basis from the fish of various ages compares, as follows: Yearlings 859 as against 551 in 1936, two years 1,041 as against 890 in 1936, three years 1,290 as against 1,087 in 1936 and four years 1,591 as against 1,216 in 1935.

An experiment to compare the quantity and quality of eggs from trout not fed for a given time with trout that were fed regularly was carried out. Fifty females and 50 males from two year old speckled trout stock were retained in a separate pond and not fed from August 1 until after spawning. The number of females stripped was 43 which yielded 38,915 eggs, an average yield per female of 905 eggs. The loss in these eggs to complete hatch was 11.4 per cent. From 516 fish of the same age and strain which were fed in a regular way 664,765 eggs were obtained; an average yield per female of 1,288 eggs. The loss in this latter group to complete hatch was 15.4 per cent.

Five new circular ponds commenced in 1936 were completed this season and put in use; a twelve-inch wood stave supply pipe was laid from a new intake box at the dam to convey water to the ponds; a box sluice was laid from the river to the head of pond number 23 to increase the flow of water through that series; a box sluice was also laid from pond number 22 to pond 20, and the breakwater at the head of ponds and above the intake boxes was repaired and extended. A new dwelling of the bungalow type 30 feet square with full basement was practically finished in 1937. It provides living room, dining room, kitchen, bathroom and one bedroom on the ground floor and 3 bedrooms on the second floor. A verandah extends across the front and a summer kitchen is provided at the rear.

Excellent reports have been received in regard to stocking done from this hatchery to lakes in the New Boston area. These lakes were closed to fishing for a period of three years and were first opened to the general public in 1937. On one holiday the Inspector of the district and his guardian counted some sixty cars at these lakes and fishermen appeared well satisfied with their catches. The lakes in the Sydney area, which were also closed to fishing, were opened for angling this season and provided satisfactory results. On August 30 at Old Bridge pool in the Margaree a salmon weighing 51½ pounds was reported caught by an angler. Other rivers in Cape Breton also afford excellent salmon and sea trout angling.

In November and December 3,471,000 Atlantic salmon eggs were received from the Margaree salmon pond and laid down in the Margaree hatchery. Distributions for season were: Atlantic salmon 2,764,412 and speckled trout 1,397,457; total 4,161,869. Of the above 312 speckled trout old fish and 20,656 Atlantic salmon fingerlings were marked by the removal of the adipose and the right pectoral fins before being liberated.

Assistant Wm. T. Owens of the Saint John hatchery was in charge of the Lindloff hatchery in 1937. Notwithstanding the heavy loss that occurred in the speckled trout propagated at this establishment, satisfactory distributions of 77,698 rainbow trout and 860,834 Atlantic salmon fingerlings of good growth in the number one and two stages were made this season. Total output was 938,532. Repairs needed to the dam and flume were effected, and rearing facilities were increased by the construction of four new circular ponds. In April and May the following shipments of eyed eggs were received: 1,000,000 Atlantic salmon from the Miramichi hatchery, and 500,000 speckled and 100,000 rainbow trout from the Antigonish hatchery. An initial collection of 77,028 speckled trout eggs was made at McRae's lake. Trout were quite plentiful but of small size averaging one-quarter pound in weight. The eggs were laid down in the Lindloff hatchery for a short period and later 75,428 were transferred to the Antigonish hatchery.

#### MARGAREE SALMON POND

*J. P. Chiasson, Superintendent*

A new spawning shed and supply tank for spring water were constructed this year. As usual the salmon for fish cultural purposes at this point were purchased from commercial fishermen operating a trap-net in the mouth of the Margaree river. This net was operated between September 21 and October 27, but was lifted or closed to fishing between September 25 and 28, and from the afternoon of October 2 to 5 inclusive. The number of parent salmon secured was 515. The loss of fish during the retention period, which terminated when the last eggs were taken on December 6, was only 3. Some 3,471,000 eggs were taken and laid down in the Margaree hatchery. The number of salmon tagged, by attaching tags to the dorsal fin, was 33.

#### MIDDLETON HATCHERY AND NICTAUX SALMON POND AND REARING STATION

*F. M. Millett, Superintendent*

The 1937 distribution from the Middleton hatchery, almost double that of the previous year, consisted of Atlantic salmon, salmon and speckled trout fry, advanced fry and fingerlings.

Preparations for the taking of wild speckled trout ova at Sand lake, Annapolis county, began on October 27. Some 254 trout averaging one pound in

weight were captured by the use of a dip-net and barbless hooks from the above date to November 11 and from these 121,600 eggs were collected and laid down at the Middleton hatchery.

Owing to the unusual growth of algae, bulrushes, etc., which threatened to fill up the hatchery pond, steps became necessary to remedy the situation. Accordingly after the distribution was completed and fry were transferred to Stevens ponds, the pond was drained off and together with the stream leading to it coated with four tons of unslaked lime to check further growth of plant life.

During the retention period at Stevens ponds some 350,000 speckled trout fingerlings escaped through the upper barriers of the ponds to the Nictaux river system. To prevent further escapement of this nature the barriers at the head of the ponds were replanked and cemented. Special repairs made during the year consisted of: Interior of dwelling redecorated, exteriors of hatchery, ice-house and coal shed repainted, roofs of the last two named buildings reshingled, and the watchman's shack at Stevens ponds was given a coat of paint.

On March 2, 479,125 Atlantic salmon eyed eggs were transferred to the rearing station at Nictaux Falls and from there 1,340,000 fry and advanced fry were taken to Stevens ponds in May.

Eyed eggs received during the year were: In January 300,000 salmon trout from the Ontario Provincial Department of Game and Fisheries, via Belleville hatchery; in April 500,000 Atlantic salmon from the Miramichi hatchery, and in December 1,615,880 speckled trout purchased from the American Fish Culture Company, Carolina, Rhode Island, U.S.A. In the autumn 360,014 and 498,000 Atlantic salmon ova were received from the Nictaux and Saint John salmon ponds, respectively.

Distributions from the Middleton hatchery were: Atlantic salmon 1,758,975, salmon trout 227,000 and speckled trout 1,245,200; total, 3,231,175. Of the above 1,500 speckled trout and 5,300 Atlantic salmon fingerlings were marked by the removal of the adipose and left ventral fins.

The number of Atlantic salmon eggs collected at the Nictaux pond in 1937 was 360,014, some 154,000 less than in the previous year—although nearly the same number of parent salmon were secured both years. All eggs were laid down in the Middleton hatchery. The decrease may be attributed to a great extent to some 35 salmon retained in the power canal that did not ascend into the trap. These could not be captured as it was not feasible to drain the canal, which is used for power purposes. The racks at the head of the canal were removed and these salmon allowed to ascend the Nictaux river to spawn naturally. The number of salmon that ascended the fishway and were placed in the pond in 1937 was 168. The first fish was taken on May 21 and the last on October 30. The loss during retention was 9. The number of salmon marked, by affixing tags to the dorsal fin, was 124.

Operations at the Nictaux rearing station commenced this season on February 27. Salmon eyed eggs received during the year were: In February, 1,000,000 from the Yarmouth hatchery; in March, 479,125 from Middleton hatchery; and in April, 500,000 from the Miramichi hatchery. During the month of May 1,340,000 fry and advanced fry were transferred to Stevens ponds. The capacity of this plant was increased by three additional tanks and one trough. Angling in the Nictaux river was reported to be better this season than in the previous year. The total distribution from this rearing station was 335,100 Atlantic salmon fingerlings, of which 9,982 were marked by the removal of the adipose and left ventral fins.

## YARMOUTH HATCHERY

*H. V. Gates, Superintendent*

Operations at the Yarmouth hatchery were influenced to a considerable extent this year by the unusual high temperatures that prevailed during the greater part of the rearing period, having a detrimental effect on fry and fingerlings as well as the brood stock retained at this hatchery. Distributions, which included nearly 175,000 yearlings, were the largest since 1932. The value of the selective breeding at this hatchery is still in evidence, the fry from selected parents withstanding the high temperatures much better than those from other sources.

Ova obtained from the hatchery ponds consisted of 150,000 speckled trout and 160,000 rainbow trout.

Live Atlantic salmon, rainbow and speckled trout of various ages reared at the Yarmouth hatchery were shown at the Nova Scotia Fisheries Exhibition and Fishermen's Reunion, Lunenburg, at the Yarmouth County Exhibition, Yarmouth, and at the Municipality of Clare Exhibition, Little Brook. Six speckled trout three-year olds and two adult salmon were allotted to the Provincial Government of Nova Scotia in connection with their exhibits at the Sportsmen's Shows at Boston, Hartford and New York.

In February 1,000,000 Atlantic salmon eyed eggs were transferred to the Nictaux Falls rearing station, and in May 100,000 Atlantic salmon advanced fry and 470,000 speckled trout advanced fry and No. 1 fingerlings were transferred to Kejimikujik rearing ponds.

Eyed eggs were received during the year, as follows: In February 500,000 speckled trout from Antigonish hatchery, and in December 1,513,500 speckled trout purchased from the American Fish Culture Company, Carolina, Rhode Island. In November 1,070,700 Atlantic salmon green eggs were received from the Saint John pond.

Distributions for the season were: Atlantic salmon 532,500, Kamloops trout 20, rainbow trout 124,717 and speckled trout 1,358,198; total 2,015,435. The marking of fish by the clipping of the adipose and right ventral fins was continued this year. The numbers marked were 68,030 speckled trout and 97,000 Atlantic salmon.

It was reported that speckled trout angling in the Carleton and Coldstream river systems and in Mersey river system above the dams was good.

## FLORENCEVILLE HATCHERY

*George Sutherland, Superintendent*

The collection of 2,391,964 speckled trout eggs from the Florenceville ponds in 1937 was the largest ever recorded for this plant, and shows an increase of more than 682,000 over 1936. All eggs were laid down in the hatchery except 700 shipped to Doctor A. H. Leim of the Atlantic Biological Station at St. Andrews.

The auxiliary building to house the outside troughs was completed and operated this season, considerably increasing the rearing capacity of the plant. A garage was also built for the truck.

Live speckled trout fingerlings, old fish and Atlantic salmon fingerlings were loaned the Fredericton and Carleton branches of the New Brunswick Fish and Game Protective Association for their exhibits at the Fredericton and Woodstock Exhibitions, New Brunswick.

In February 10,200 speckled trout eyed eggs, the progeny from early spawners, were shipped to the Antigonish hatchery.

The following allotments of Atlantic salmon eyed eggs were received: In March 500,000 from the Saint John hatchery, and in April 30,000 from the Restigouche hatchery. The resultant fingerlings from this latter shipment were planted in the Nashwaak river in continuation of the experiment of introducing progeny from "early" run salmon to this stream. Most of these fingerlings were marked by the removal of the adipose and left pectoral fins. In April 500,000 speckled trout eyed eggs were received from the Antigonish hatchery. In the autumn 1,012,600 Atlantic salmon ova were received from the Saint John salmon pond. Distributions were: Atlantic salmon 1,937,596 and speckled trout 1,256,480; total 3,194,076. The number of fish marked at this hatchery by the removal of the adipose and left pectoral fins in 1937 was: 25,789 Atlantic salmon and 4,123 speckled trout.

#### GRAND FALLS HATCHERY

*W. A. McCluskey, Superintendent*

The hatch from Atlantic salmon eggs at the Grand Falls hatchery this season was all that could be desired. The fry were strong and healthy and developed into sturdy fingerlings. Distributions from speckled trout stock began early as there appeared to be a weakness developing in some of them. The trout fry and fingerlings distributed, however, were on the whole strong, large in size for their age and healthy. Every effort was made to comply with the numerous requests for fish received. Great assistance was rendered by the Grand Falls and Madawaska Fish and Game Clubs in planting fry and fingerlings in waters in which they are interested.

The four circular ponds constructed in 1936 operating for the first time proved a helpful addition to the rearing facilities at this plant; fingerlings thrived in these ponds and were of fine quality when liberated.

The collection of wild speckled trout ova at Fraser's pond, Three brooks, in the autumn was 1,165,640, which is somewhat smaller than that of the previous year. The eggs were laid down in the Grand Falls hatchery and 962,259 of them were purchased from the owner of the pond, when they had reached the eyed stage.

In March 1,000,000 speckled trout eyed eggs of the Fraser's pond stock were transferred to the Cobequid hatchery.

Also, in March 220,000 Atlantic salmon eyed eggs were received from the Restigouche hatchery, and in April 500,000 speckled trout from the Antigonish hatchery. In the autumn 2,510,750 Atlantic salmon ova were received from the Saint John pond. Distributions were: Atlantic salmon 2,175,349 and speckled trout 1,343,262; total 3,518,611. The marking of hatchery stock was confined to Restigouche salmon fingerlings and the number marked was 36,104. Of this number 10,000 were distributed in the Salmon river, 10,000 in the Tobique river and 16,104 in the Saint John river.

Large numbers of both salmon and trout are reported from time to time by guides, sportsmen and lumbermen as being seen on the spawning grounds in the Saint John river and tributaries.

#### MIRAMICHI HATCHERY AND MIRAMICHI SALMON-RETAINING POND

*Frank Burgess, Superintendent*

The distribution from the Miramichi hatchery in 1937 was 3,665,366, consisting of 3,279,016 Atlantic salmon and 386,300 speckled trout advanced fry and fingerlings, and 50 trout yearlings. Various allotments of Atlantic salmon eggs were sent to other hatcheries, as given below: To Bedford hatchery, 500,000; Restigouche, 1,000,000; Middleton, 500,000; Nictaux Falls, 500,000;

Lindloff, 1,000,000; United States Bureau of Fisheries, Craig Brook hatchery, 100,000, and the Ontario Department of Game and Fisheries, Mount Pleasant hatchery, 20,000. A shipment of 500,000 speckled trout eyed eggs was received in March from the Antigonish hatchery and 7,624,931 Atlantic salmon eggs in the fall from Miramichi pond. The marking of fish by the clipping of fins was continued at this hatchery this season with 16,700 Atlantic salmon fingerlings and 43 trout yearlings marked by the removal of the adipose and right ventral fins.

General repairs were effected, including reconstruction of a gravel filter above the hatchery dam and the building of a chimney for the storehouse.

Parent salmon for the Miramichi pond this season were purchased by tender and contract from the late summer run. Trap-nets were operated in the Northwest Miramichi river in the vicinity of the hatchery. The first fish was secured on September 8 and the last the 25th of that month. One thousand five hundred and eighty-nine salmon were impounded, in which there was a small loss of twenty-nine. The yield of eggs was 7,624,931, which were laid down at the Miramichi hatchery for incubation. The number of salmon tagged, by affixing tags to the dorsal fin, was 617.

#### NEW MILLS SALMON POND

*Wm. White, Superintendent*

Most of the Atlantic salmon for the New Mills pond were from the early run, and were purchased from the commercial fishermen of the district. The pond launch was assisted in towing the fish from the nets to the pond by the patrol boat *Gilbert*. Four hundred and forty-nine salmon were impounded between May 24 and July 19. An additional 63 were captured at Benjamin river between September 10 and 25, making a total of 512 salmon available for fish cultural purposes. There was a small loss of 8 in the fish purchased from the commercial fishermen, due to injuries received in nets, and one in those from the Benjamin river. The collection amounted to 1,743,974 eggs which were laid down in the Restigouche hatchery. The number of salmon tagged, by affixing tags to the dorsal fins, was 169.

The spawning shed equipped with two egg hardening tanks was rebuilt this year by the pond staff.

#### RESTIGOUCHE HATCHERY

*R. O. Barrett, Superintendent*

A slightly larger-than-usual distribution of Atlantic salmon and speckled trout fry and fingerings was made from this plant in 1937, including a greater distribution in the advanced fry and fingerling stages, namely, 2,622,451, as compared with 2,293,442 in 1936 and with 92,229 in 1935.

In March 1,000,000 Atlantic salmon eyed eggs were received from the Miramichi hatchery and 500,000 speckled trout eyed eggs from Antigonish hatchery. The following outgoing shipments of Atlantic salmon eyed eggs were made: 30,000 to Florenceville hatchery and 220,000 to Grand Falls hatchery. A further supply of 1,743,974 Atlantic salmon ova was received in the fall from the New Mills pond. Distributions for the season were: 2,423,742 Atlantic salmon and 408,095 speckled trout; total 2,831,837.

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

*J. D. Nichol, Superintendent*

The usual distribution of fry, fingerlings, yearlings and older fish was made from the various species propagated at this plant.

The following collections of eggs at the hatchery ponds were made this season: Rainbow trout 5,000 and speckled trout 1,614,565.

Live speckled trout were loaned to the Bureau of Information and Tourist Travel for the Province of New Brunswick in connection with their exhibits at the Sportsmen's Shows, at Boston, Hartford and New York. The exhibit under the care of Assistant Wm. T. Owens was made up of 18 three year and 32 five year old trout. There was only a loss of two fish during these shows. The exhibit proved a great attraction. At the Saint John exhibition under the care of Superintendent Nichol were shown representative species as propagated at Saint John hatchery and also one male and one female Atlantic salmon. The Saint John branch of the New Brunswick Fish and Game Protective Association were also loaned for exhibit there 12 speckled trout fingerlings and 2 adult salmon. Atlantic salmon fingerlings, and rainbow and speckled trout of various ages were also loaned to the Moncton branch of the New Brunswick Fish and Game Protective Association for showing at the Moncton exhibition. The exhibit was under the care of Assistant N. J. Lamb of the Saint John hatchery.

In February 10,000 speckled trout eyed eggs and in June 2,500 trout No. 1 fingerlings were shipped to the Atlantic Biological Station, Saint Andrews. Some 10,000 Atlantic salmon eyed eggs were sent the Department of Game and Fisheries, Toronto for incubation in their provincial hatchery at Pembroke, Ontario. In March 500,000 Atlantic salmon eyed eggs were transferred to the Florenceville hatchery. Supplies of eggs from other sources in addition to collections were: In April 500,000 speckled trout eyed eggs from the Antigonish hatchery, and in the autumn 1,012,600 Atlantic salmon ova from the Saint John pond. Distributions for the season were: Atlantic salmon 900,084; rainbow trout 8; sebago salmon 2,210 and speckled trout 1,500,000; total 2,402,302. Of the above 15,000 speckled trout fingerlings were marked by the removal of the right pectoral fin and 2,210 sebago two years by the removal of the adipose and right pectoral fins. The marked speckled trout were distributed in Red Rock lake and the sebagos in Chamcook lake.

Commencing June 3 and ending July 25 Atlantic salmon for the Saint John salmon pond were accepted and impounded as caught. The number taken was 1,324, of which about one quarter were males. The loss was approximately 22.1 per cent. Notwithstanding the shortage of males a satisfactory collection of 6,104,650 eggs was obtained and laid down, as follows: In Middleton hatchery 498,000; Yarmouth 1,070,700; Florenceville 1,012,600; Grand Falls 2,510,750, and Saint John 1,012,600. At the request of the Bureau of Information and Tourist Travel for the Province of New Brunswick 12 parent salmon were transferred to and retained at the Saint John hatchery for future exhibition purposes. The number of salmon tagged, by affixing tags to the dorsal fin, was 20.

The collection of sebago salmon eggs at Chamcook lakes was under the direction of Assistant T. K. Lydon of the Saint John hatchery. The traps were placed in position on October 21 and operated until November 16. One hundred and seven sebagos were taken, 43 of which were females and 64 males. The yield of eggs was 73,210; of these 69,080 were laid down at the Saint John hatchery and 4,130 were shipped to the Atlantic Biological Station, Saint Andrews. The average length of the fish captured was 18 inches and the average weight two

pounds although two weighed two and a half pounds after stripping. Twenty-six seabagos marked by the removal of the adipose and the right pectoral fins were captured, that is, 24 per cent of all fish taken were marked fish. These are returns of seabago yearlings that were marked and liberated from the Saint John hatchery in 1935.

### KELLY'S POND HATCHERY AND MORELL RIVER SALMON POND

*F. C. Hayley, Superintendent*

On account of heavy freshets the collection of wild speckled trout eggs was not as large as last year. The number of eggs taken in 1937 was as follows: Fortune river 58,500, hatchery pond 5,000, Ing's pond 93,740, Andrew's pond 31,000 and York pond 178,200; total 366,440. Wild eggs independently collected are paid for on the basis of the number that reach the eyed stage. A trap was operated by the department at Fortune river where 158 sea-run speckled trout were captured between October 8 and November 27, and from which the collection above mentioned of 58,500 eggs was made. There was no loss of trout during retention at that point.

A new porch was built for the hatchery dwelling, repairs made to kitchen roof and all buildings repainted.

In February 50,000 speckled trout eyed eggs were received from the Antigonish hatchery. The resulting fingerlings from these eggs, amounting to 30,940, were marked by the removal of the adipose and left pectoral fins and liberated in Vessey brook, a tributary to Winter river. In November 2,475,280 Atlantic salmon ova from the Morell salmon pond, were laid down in addition to speckled trout eggs collected. Distributions for the season were: Atlantic salmon 957,570 and speckled trout 440,755; total 1,398,325.

The construction of rearing ponds this year at Cardigan (Buchanan's Mills) will greatly increase the rearing facilities of this district.

Operations at the Morell salmon retaining pond were in charge of Assistant I. A. Mowat of the Restigouche hatchery. Preparations for the taking of fish began September 23, consisting of driving piles, placing fence in position, setting net, repairing dam, etc. A good run of salmon occurred in the river. The first fish was taken on October 15 and last on November 17 and some 909, of which 350 were females and 559 males, were captured and impounded. The salmon were held without a loss and were liberated after stripping. A collection of 2,475,280 eggs was obtained and laid down in the Kelly's Pond hatchery. The number of salmon marked, by affixing tags to the dorsal fins, was 34.

### WESTERN DIVISION

Under the conditions as outlined in the following Order in Council P.C. 2532 of October 12, 1937, the Department of Fisheries withdrew from fish cultural operations in the Province of British Columbia as from December 31, 1937:—

P.C. 2532

*CERTIFIED to be a true copy of a Minute of a Meeting of the Committee of the Privy Council, approved by His Excellency the Governor General on October 12, 1937.*

The Committee of the Privy Council have had before them a report, dated September 28 1937, from the Minister of Fisheries, submitting as follows:—

While the administration of the fisheries in the non-tidal waters of the provinces and in Quebec in the waters that are above those that are navigable from the sea, is a provincial responsibility, certain fish that are of commercial importance when they are in the tidal waters ascend to the non-tidal waters to reproduce and, while there, are valuable sport fishes. Hence the protection of these fish, even when they are in the non-tidal waters, and

their increase by fish cultural activities are matters of Federal concern and hatcheries for the reproduction of such fish have been established in different provinces. To such extent as these hatcheries can also increase the supply of fresh-water sport fish without unduly interfering with the purpose for which they were established, they are so used. In British Columbia in years gone by, a number of hatcheries for the propagation of sockeye salmon were established. From time to time it was urged that these hatchery operations should be extended to include sport fish. As valuable sport fish in that province reproduce during the period of the year when the sockeye hatcheries would be closed for the season, the staffs thereof could largely be used to hatch sport fish if hatcheries at suitable places were available. Consequently, from time to time relatively inexpensive sport fish hatcheries were established as follows:—

Hatchery	Location	Description
Smiths Falls.....	Cultus lake, Vedder Crossing.....	Buildings cheaply constructed. Built of logs and cedar shakes obtained in vicinity.
Argenta-Lardo.....	Argenta and Lardo on Kootenay Lake.	Argenta-hatching troughs only covered during hatching season with temporary covering. Lardo-hatching troughs covered with roof supported on posts. Troughs below roof enclosed with wire netting.
Lloyd's creek.....	Lloyd's creek, Kamloops.....	Hatchery building and living quarters for staff. Buildings not suitable for winter use as season extends from late spring to mid-summer.
Penask Lake.....	Penask Lake-Quilchena district.....	Hatchery building and living quarters not suitable for winter use. Season extends from late spring until mid-summer. Hatching troughs not enclosed but protected by roof supported on posts.
Summerland.....	Summerland.....	Stone building formerly the Summerland Power Station.
Fish Lake.....	Fish Lake, Kamloops district.....	Trap and retaining enclosures for parent fish; troughs in which to eye eggs before planting or transferring them to Lloyd's Creek Hatchery; no permanent buildings.
Beaver Lake.....	Beaver Lake, Kelowna district.....	Traps and retaining enclosures for adult fish; hatching troughs provided with temporary seasonal covering; no permanent buildings.

Also, a few years ago the Provincial Government undertook more actively to administer the sport fisheries of British Columbia and extended such activities to sport fish culture.

Following the closing of the sockeye salmon hatcheries in the province at the end of last season, the situation became similar in British Columbia to that in other provinces where the propagation of sport fish is being left entirely to the provincial authorities.

In the light of the above and as dual services are undesirable, the question was gone into with the Provincial Minister concerned—the Attorney-General—who was informed that, subject to approval, if he were prepared to undertake full responsibility for sport fish development in the province the above listed hatcheries or any of them would be placed at the disposal of the province following the end of the operating season of this year.

He has now replied that the province feels that sport fish culture should be placed under provincial jurisdiction entirely and that his department will examine the above hatcheries and will be glad to have an opportunity of taking over such of them as can be usefully utilized.

In the circumstances, the Minister, on the advice of the Deputy Minister of Fisheries, recommends:—

- (1) That at the end of the hatching season of this year the Department of Fisheries shall discontinue sport fish hatching in British Columbia;
- (2) That such of the above listed hatcheries as the province may wish to utilize for hatchery purposes be transferred to the province without cost;
- (3) That should any of the above listed hatcheries not be so taken over they be disposed of to the best advantage.

The Committee concur in the foregoing recommendations and submit the same for approval.

(Sgd.) E. J. LEMAIRE,

*Clerk of the Privy Council.*

The following results from distributions of hatchery output in British Columbia made by the Fish Culture Branch of the Department are indisputable because the species listed were not present in the various waters before they were introduced. Results apparent in many other waters are equally satisfactory:—

Name and Location	First stocked	Species	Results
Manistee lake (Ferne District)...	1925	Kamloops...	Spring 1927 Kamloops trout average 24" long, 7½ lbs. weight. One fish 13 lbs. 1 oz. taken in September, 1927. Results very good in 1931.
Forbidden Plateau Lakes, (Court-enay, Vancouver Is.)	1929	Kamloops...	Trout averaged 3 lbs. in weight in 1932, some up to 6 lbs. in 1933. Natural spawning took place in 1933.
Snowshoe lake (tributary to Arrow lake) (Edgewood).	1926	Kamloops...	Trout up to 3½ lbs. by July 1928 and some specimens of 24 lbs. in 1933.
Jewel or Long lake (near Greenwood).	1925	Kamloops...	Trout of 13 lbs. 10 oz. taken in 1928; 44 lb. fish caught 1931. Very fair catches during September and October 1932.
Cahill lake (Slocan, B.C.).....	1925	Kamloops...	Trout up to 15 lbs. when dressed in 1931. Good fishing in 1932.
Box lake (near Nakusp).....	1925	Kamloops...	Trout 4 lbs. taken in fair numbers in 1932.
White Swan lake (Kootenay district).	1931	Kamloops...	Favourable showing Kamloops fingerlings in autumn 1931.
Haskins lake (Kelowna district)..	1927	Kamloops...	Trout 14 lbs. taken four years after first introduction. Seven-pound trout fairly numerous.
Kinney lake (Mt. Robson Park)...	1932	Kamloops...	Splendid showing of Kamloops fry fall 1932. Stocking reported very successful in 1934.
Beaver lake (Kelowna district)...	1926	Kamloops...	In 1929 fish were taken from 4 to 15 lbs. in weight. Large numbers 8 to 10 lbs. taken on fly; largest 18 lbs. Average catch about 3½ lbs. From 800 to 1,000 fish caught in 1932. Over 700,000 eggs collected for fish cultural purposes in 1934; over 900,000 in 1935 and 1936, and 1,330,000 in 1937.
Horseshoe lake (Cranbrook district)	1923	Kamloops...	Trout 3½ lbs. taken in 1928. Trout up to 13 lbs. taken by 1932.
Garibaldi lake (Pemberton district)	1928	Kamloops...	Trout up to 9 lbs. taken in weight caught in 1933. Some natural spawning.
Rock lake (Cranbrook district)...	1923	Kamloops...	Source of egg supply for Cranbrook in 1925. Results reported good in 1929 and 1931.
Lake O'Hara (27-17 W. 5).....	1926	Rainbow.....	Trout over 2 lbs. in weight caught in 1930. Lake reported as teeming with various sized fish in 1931, up to over 2 lbs. in weight. In 1933 they were 2½ lbs.
Lillian lake (near Nelson).....	1929	Rainbow.....	Trout reached from 2 to 3 lbs. ½ years after stocking, and up to 7 lbs. by May 1932. Good results in 1936.
Cooper lake, on Moyie river.....	1925	Cutthroat.....	Cutthroat trout 15" long by 1932.
Paul lake (near Kamloops).....	1909	Kamloops...	First collection of eggs for hatchery purposes, nearly 800,000 made in 1922. Now supplies approximately 1,000,000 eggs annually, of which 250,000 are returned to the lake, leaving the balance for other waters. Approximately 6,000 trout are taken annually in this lake. Dr. Mottley estimates that in addition to the sport furnished residents, non-resident anglers leave approximately 10,000 collars yearly in the district.
Cowichan area (Vancouver Island)	1932	Brown trout..	Five male brown trout taken in Beadnell creek in advanced spawning condition 1934. Two taken at Duncan, one at Saltham, all 14½ inches, 1935. Fish up to 4 lbs. taken in 1936 in Cowichan lake. Natural spawning took place in Oliver creek in 1935.
Little Qualicum river (Vancouver Island)	1933	Brown trout..	Trout 9 inches long, 1934. Several specimens up to 1½ lbs. taken.
Wilson lake (near Nakusp).....	1922	Kamloops...	Specimens up to 15 lbs. caught in 1932. Fishing good in 1933 as result of natural spawning. Conditions most satisfactory in 1936.
Cowan lake (Penask lake district).	1931	Kamloops...	6½ lb. fish taken in 1935.
Peter Hope lake (near Merritt)...	1932	Kamloops...	6 to 7 lb. fish caught in 1934; 10 lb. common in 1935, while one was reported 17½ lbs.
Jones lake (Hope district).....	1924	Kamloops...	Excellent supply of beautiful trout up to 18 lbs. in 1936.
Peterson lake (Nicola Valley).....	1931	Kamloops...	Produced fish up to 6½ lbs. in 1935; 4 lb. fish in good numbers.
Jackson lake (Nicola Valley).....	1931	Kamloops...	Produced fish up to 6½ lbs. in 1935; 4 lb. fish in good numbers; good fishing 1936.
Nevet lake (Nicola Valley).....	1928	Kamloops...	Produced fish up to 6½ lbs. in 1935; 4 lb. fish in good numbers; good fishing in 1936.
Pinantan lake (near Kamloops)...	1908	Kamloops...	Provides excellent fishing. Has been a source of eggs for Lloyds Creek hatchery since 1923 yielding as an average nearly 600,000 Kamloops eggs annually.
Evans lake (Squamish district)...	1936	Kamloops...	Trout weighing 7 ounces and 10½ inches long caught in September, 1937.
Premier lake (near Cranbrook)....	1915	Kamloops...	Fish 25 to 42 lbs. have been taken.
Murtle lake (Blue River district)..	1928	Kamloops...	Remarkable results; now an abundance of good sport fish 1936. 126,862 eggs taken from 30 female fish in 1936.
Kathlyn lake (Smithers).....	1925	Kamloops...	Kamloops trout up to 12½ lbs. caught in 1932.
McConnell lake (Kamloops district).	1935	Kamloops...	Excellent fishing in 1937.
Hyas (Long) lake (Kamloops district).	1923	Kamloops...	Excellent results. Fish 2 to 5 pounds.
Weaver lake (Harrison lake district).	1919	Kamloops...	Excellent fishing in recent years.
Cartwright lake (near Brisco)....	1935	Kamloops...	Several hundreds of Kamloops trout in good condition 10 to 16 inches long were seen in 1937.
Marble lake (West Kootenay district).	1932	Cutthroat.....	Good catches made in 1937.

Sport fishing in Paul, Pinantan, Knouff and Fish lakes in Kamloops district was excellent this season, and anglers were well satisfied with their catches.

An increased number of fishermen visited Beaver lake in the Kelowna district during the year where there is an abundance of sport fish.

As available information indicates that runs of sockeye salmon have never occurred in the streams of the easterly coast of Vancouver Island south of Seymour Narrows, a survey of the Nanaimo river system, with a view to ascertaining whether or not a sockeye run could be established there, was undertaken in 1932. As far as could be determined from a short summer investigation, physical conditions were found to be reasonably suitable for sockeye salmon production, but there were two adverse biological factors in an apparent paucity of plankton and a large trout population. Following this survey an experimental planting of eyed sockeye salmon eggs from the Rivers Inlet hatchery was made in the Nanaimo system in March, 1933. These eggs were collected in the autumn of 1932, and as the Rivers Inlet sockeye are predominantly four-year and five-year fish, any returns that might result from the experimental planting should make their appearance in 1936 and 1937. For the purpose of ascertaining the extent of any runs that might occur, a gillnet was operated in the lower part of the Nanaimo river in July, August and September, 1936. Only three male sockeye were taken. Observations were continued in 1937 and 22 sockeye were caught. All were identified by their scales as five-year fish having spent two years in fresh water. In addition to those that were caught and examined, the fishery guardian saw over thirty sockeye on July 30 and over 100 in August in a pool about five miles above the mouth of the river.

The appearance of five-year sockeye, having spent two years in the lake, in noticeable numbers indicates a close relationship with the planting of the eggs that were collected at Rivers Inlet in 1932.

In relation to the restoration of the sockeye salmon fishery of the Fraser river system a most encouraging return of sockeye to the Anderson-Seton lake system, tributary to the Fraser river, occurred in 1937. This system at one time carried a heavy run of sockeye which practically disappeared some twenty years ago. Between 1920 and 1931 the Department planted considerable numbers of eyed eggs and fry in this system in an effort to restore the run to something like its former proportions but the past two seasons are the first during which real encouragement was observed. In 1936 the run was estimated at 12,000 fish and in 1937 at approximately 70,000. The extraordinary feature of this run is the fact that while the majority of fish were of the four-year type there was an almost negligible run in the brood year of 1933.

In June, Liumchin lake, a barren water in Liumchin Park in British Columbia, was stocked with 10,000 Kamloops trout eyed eggs from the Cultus lake hatchery. This lake is some 4,500 feet above sea level and has an area of approximately twenty-five acres. The eggs were carried by saddle horse up the Liumchin trail. Part of the way was over snow which in sheltered places was ten feet deep.

Boston lake, 4,000 feet above sea level, on the Forbidden Plateau, Vancouver Island, and Long lake in the Upper Comox lake area were stocked with Kamloops trout during the past season.

Water conditions were such in British Columbia in 1937 that many fish in various stages of development became stranded. These were rescued and transferred to suitable locations as shown in the following statement:—

From	To	District	Date	Length	Number	Species
Bark creek.....	Fish lake.....	Okanagan.....	September 2.....	Fry.....	1,500	Kamloops trout.
Bark Shanty creek.....	Deep water of stream.....	Kootenay.....	August 4-12.....	2" to 4".....	1,098	Speckled trout.
Chilliwack river.....	" ".....	Lower Mainland.....	August 27.....	Fry.....	1,200	Coho salmon.
Elk creek.....	" ".....	" ".....	September 17.....	".....	350	200 Cutthroat trout and 150 Coho salmon.
Goat river.....	" ".....	Kootenay.....	September 10.....	2½" to 3".....	62	Cutthroat trout.
Little Sheep creek.....	" ".....	".....	September 1-13.....	2½" to 3½".....	1,350	Speckled trout.
Lorenzetta river.....	" ".....	Lower Mainland.....	September 22.....	Fry.....	300	Coho salmon.
Meadow creek.....	" ".....	Kootenay.....	October 27.....	3" to 4".....	402	Speckled trout.
Oyama creek.....	Oyama lake.....	Okanagan.....	September 3-18.....	Fry.....	3,000	Kamloops trout.
Pringle creek.....	Monte lake.....	Kamloops.....	September 5-11.....	".....	15,800	" " "
Six Mile Lakes creek.....	Six Mile Lakes.....	Kootenay.....	September 19.....	2½".....	148	" " "
Upper Sumas river.....	Deep water of stream.....	Lower Mainland.....	September 24.....	Fry.....	250	Cutthroat trout.
	" ".....	" ".....		5".....	30	" " "
Vedder river.....	" ".....	" ".....	September 10, 21.....	Fry.....	600	200 Cutthroat trout and 400 Coho salmon.
					26,090	

The seeding of Maggie lake, Vancouver island, was resumed in 1937 by the planting therein of 1,500,000 eggs from the Smiths Falls hatchery.

In 1937 this department gave the Provincial Game Board 790,000 Kamloops trout eyed eggs; 400,000 from the Lloyds creek hatchery and 390,000 from the Penask Lake hatchery. Some 580,000 eggs of the same species taken by the Board at Beaver lake were laid down in their eyeing station at Wild creek.

## ALBERTA

The arrangement whereby the Banff, Jasper and Waterton Lakes hatcheries were directed by the Department of Fisheries but at the expense of the National Parks Bureau; Lands, Parks and Forests branch, Department of Mines and Resources, was discontinued on April 1, 1937, at which time the Bureau took over the complete management of these hatcheries.

### BANFF HATCHERY

*J. E. Martin, Superintendent*

In February 198,860 salmon trout eyed eggs were received from the Provincial Department of Game and Fisheries, Toronto, Ontario, via their hatchery at Port Arthur. This was an exchange for Kamloops trout eggs from Lloyd's Creek hatchery.

On April 1, there was on hand some 486,000 Loch Leven, 317,300 speckled and 197,540 salmon trout eyed eggs and fry, and brood stock consisting of 646 brown, 1,017 cutthroat, 972 Kamloops, 426 Loch Leven, 2,316 rainbow, 2,888 speckled and 249 salmon trout ranging from one to eighteen years of age.

### WATERTON LAKES HATCHERY

*G. E. Bailey, Superintendent*

On March 1, one hundred thousand six hundred and forty salmon trout eyed eggs (an exchange for Kamloops trout eggs) were received from the Provincial Department of Game and Fisheries, Toronto, Ontario, through their hatchery at Port Arthur. On April 1, one hundred thousand two hundred and forty-six of them were still on hand.

## FRASER RIVER WATERSHED

### CULTUS LAKE AND SMITHS FALLS HATCHERIES

*A. Robertson, Superintendent*

The run of steelhead salmon to Sweltzer creek in 1937 was equal to that of the previous year but males were in the majority. Between March 27 and May 17, two hundred and fifty-three thousand ova of this species were collected. Between April 5 and May 15, thirty-nine thousand four hundred cutthroat trout eggs were secured from fish retained in the ornamental pool and tank. Eggs of the same species amounting to 30,914 were purchased from Messrs. E. A. Wells and Son, Sardis. Lloyd's creek eyeing station supplied 199,000 Kamloops trout eyed eggs on June 24 and Smiths Falls hatchery 3,728,000 sockeye eyed eggs in February and March.

Distributions for the calendar year were: Coho salmon 1,063,053, cutthroat trout 65,892, Kamloops trout 198,140, sockeye salmon 3,625,450 and steelhead salmon 203,325; total 5,155,860.

From the trap operated in Sweltzer creek some 2,700 suckers were removed and destroyed. The Biological Board's campaign on the destruction of predatory fishes was continued.

A collection of 1,339,685 cutthroat trout eggs was made from the brood stock held in the wooden ponds at Smiths Falls hatchery.

From the steelhead brood stock 12,107 yearlings were distributed. On August 20 thirty-two cutthroat trout three years were shipped to the Provincial Game Board, Vancouver, for furunculosis research and investigation.

Outgoing shipments during the year were: 3,728,000 sockeye eyed eggs to Cultus lake hatchery in February and March and 1,500,000 for Maggie lake, Vancouver island, in February. Distributions for the season were: Cutthroat trout 897,672, sockeye salmon 12,158,838 and steelhead salmon 12,107; total 13,068,617.

## SPORT FISH OPERATIONS—SOUTHERN INTERIOR

### NELSON HATCHERY

*A. P. Hills and P. B. Stratton, Officers in Charge*

The distribution from this hatchery in 1937 was 2,047,731 consisting of 985,829 Kamloops trout, 1,060,560 Kennerly's salmon and 1,342 speckled trout.

At the beginning of the year there were some 1,092,600 Kennerly's salmon eggs and 1,346 speckled trout yearlings in the hatchery.

No collections of Kamloops trout eggs were made during the year in this district, but shipments of eyed eggs of this species amounting to 1,050,000 were received from the Penask Lake hatchery.

At the end of August when all stock was distributed the dismantling of troughs was undertaken, all equipment removed from the Nelson Armoury building and stored.

Fishing generally throughout the district was reported satisfactory and consistently good catches were made in Kootenay lake and river. Porto Rico lake first stocked in 1936 had a good showing of fingerlings when further plantings were made there in 1937. Good results are also apparent from stockings made in Arkansaw and Devil's Hole lakes. The showings of cutthroat trout in Kokanee, Kaslo and Tanal lakes are particularly gratifying.

### ARGENTA HATCHERY

*E. Hunter, Officer in Charge*

Operations at this sub-station commenced on June 12, consisting of the setting up of hatching troughs and water system. As considerable trouble had been experienced in past seasons with silt collecting in the troughs when Argenta creek was high a settling tank six by five by two feet six inches deep was erected to eliminate this difficulty.

In July 400,000 Kamloops trout eyed eggs arrived from Penask Lake hatchery. These were laid down in the troughs and the resultant fry, viz., 363,495, were liberated in the upper end of Kootenay lake.

At the end of the season the equipment was dismantled as in previous years and stored in a building on private property adjacent to the site.

### PENASK LAKE AND SUMMERLAND HATCHERIES

*R. H. Eaton, Superintendent*

Due to high water conditions at Penask lake during the run of Kamloops trout, a number of parent fish escaped around the fences in 1937. However, a satisfactory collection of 3,413,000 eggs was secured; some 141,000 being obtained from Spahomin creek and 3,272,000 from Penask creek. The number of parent fish captured at Spahomin creek was 224 females and 220 males and

at Penask creek 5,457 females and 4,741 males. Transfers of eyed eggs to other establishments were: 400,000 Argenta; 1,050,000 Nelson; 943,100 Summerland; 405,500 Cranbrook, and 390,000 to the Provincial Game Board. Distributions for the season were: 795,500 eyed eggs made up of shipments to the Cranbrook hatchery and to the Provincial Game Board and 91,860 fry; a total of 887,360.

During the year a bridge was constructed across Penask creek.

As no collections of eggs are made at Summerland hatchery, it depends entirely on its supply from an outside source, which this year was Penask Lake hatchery and which supplied it in June and July with 943,100 Kamloops trout eyed eggs. The total distribution for the year was 927,320, consisting of 383,100 eyed eggs and 544,220 fry. Included in the above distributions were allotments of fry, as follows: To the Vernon Fish and Game Association 20,000, to the Princeton Rod and Gun Club 96,000 and to the Penticton Rod and Gun Club 20,000.

#### LLOYD'S CREEK HATCHERY

*A. P. Hills, Superintendent*

The run of parent Kamloops trout in 1937 to Paul and Pinantan creeks and Knouff lake was, it is believed, the largest on record. At Knouff lake the collections in the past five years have increased from less than a quarter of a million to over three-quarters of a million. The spawning run at Fish lake was up to the average for the past few years, but the collection there was smaller this year, which at least is partially due to a larger number of fish spawning along the shores of the lake. The following collections were made: Fish lake 872,000, Knouff lake 763,000, Paul creek 1,530,000 and Pinantan creek 1,059,000; total, 4,244,000, which is an increase of 433,000 over last year.

Through an exchange agreement with the Provincial Department of Game and Fisheries, Ontario, 100,000 Kamloops eyed eggs were sent their hatchery at Chatsworth.

Distributions for the season were: 2,717,000 Kamloops eyed eggs and 968,566 fry; total 3,685,566. The above includes allotments of eyed eggs, as follows: to the Revelstoke Rod and Gun Club, Biological Station, Taft, 120,000 and to the Provincial Game Board, Vancouver district, 400,000.

Sport fishing was again reported very good generally throughout the Kamloops and Shuswap districts, excellent catches being made from several lakes which were barren of fish life prior to being stocked by this department, especially Peterhope, McConnel and Andy lakes.

During egg-collecting operations at Paul creek 28 Kamloops trout were caught that had been tagged by the Fisheries Research Board in 1937 as compared with 16 that were taken during the previous year. Of those caught in 1936, two were again taken in 1937. These recaptures would indicate that a good percentage of the Kamloops trout of Paul lake and its tributary streams are biennial spawners.

#### BEAVER LAKE EYEING STATION

*R. A. McRae, Officer in Charge*

After obtaining 750,580 Kamloops eggs for this station, the staff assisted the Provincial Game Board in collecting an additional 580,000 for their eyeing station at Wild creek, making a total collection at Beaver lake this year of 1,330,580 ova.

The distributions for the season were: 302,000 eyed eggs and 391,280 fry; a total output of 693,280 Kamloops trout, which included 300,000 eyed eggs and 50,000 fry for the Kelowna Rod and Gun Club.

Good showings of yearlings were observed in Lost, Doreen, Wilma and Echo lakes, which were previously barren of fish life.

STATEMENT BY SPECIES, OF LOCAL COLLECTION AND DISPOSAL OF EGGS DURING 1937

Species	Collection area	Number collected	Disposal—Establishment at	Number	Totals
Atlantic salmon.....	Margaree pond, N.S.....	3,471,000	Margaree.....	3,471,000	
	Nictaux pond, N.S.....	360,014	Middleton.....	360,014	
	River Philip, N.S.....	5,227,300	Bedford.....	2,690,400	
			Cobequid.....	2,536,900	
	Sackville river, N.S.....	728,400	Bedford.....	728,400	
	Miramichi pond, N.B.....	7,624,931	Miramichi.....	7,624,931	
	New Mills pond, N.B.....	1,743,974	Restigouche.....	1,743,974	
	Saint John pond, N.B.....	6,104,650	Middleton.....	498,000	
			Yarmouth.....	1,070,700	
			Florenceville.....	1,012,600	
			Grand Falls.....	2,510,750	
			Saint John.....	1,012,600	
Cutthroat trout.....	Morell river, P.E.I.....	2,475,280	Kelly's pond.....	2,475,280	27,735,549
	Cultus lake hatchery (fountain pond and tank), B.C.....	39,400	Cultus lake.....	39,400	
	Smiths Falls hatchery ponds, B.C.....	1,339,685	Smiths Falls.....	1,339,685	1,379,085
Kamloops trout.....	Beaver creek, B.C.....	402,600	Beaver lake.....	402,600	
	Crooked creek, Beaver lake, B.C.....	71,980	Beaver lake.....	71,980	
	Echo creek, Beaver lake, B.C.....	276,000	Beaver lake.....	276,000	
	Fish lake, Kamloops, B.C.....	872,000	Lloyd's creek.....	872,000	
	Knouff lake, Kamloops, B.C.....	763,000	Lloyd's creek.....	763,000	
	Paul lake, Kamloops, B.C.....	1,530,000	Lloyd's creek.....	1,530,000	
	Pinantan creek, Kamloops, B.C.....	1,059,000	Lloyd's creek.....	1,059,000	
	Penask creek, Nicola Valley, B.C.....	3,272,000	Penask lake.....	3,272,000	
Sebago salmon.....	Spahomin creek, Nicola Valley, B.C.....	141,000	Penask lake.....	141,000	8,387,580
	Chamcook lakes, N.B.....	73,210	Saint John.....	69,080	
			Atlantic Biological Station, St. Andrews, N.B.....	4,130	
Rainbow trout.....	Grand lake, N.S.....	38,000	Bedford.....	34,000	
	Grand lake rearing ponds, N.S.....	8,500	Grand lake.....	4,000	
			Bedford.....	7,000	
			Grand lake.....	1,500	119,710
Antigonish hatchery ponds, N.S.	Antigonish hatchery ponds, N.S.	254,150	Antigonish.....	254,150	
	Giants lake, Guysborough Co., N.S.	12,650	Antigonish.....	12,650	
	Yarmouth hatchery ponds, N.S.	160,000	Yarmouth.....	160,000	
Saint John hatchery ponds, N.B.	5,000	Saint John.....	5,000	431,800	

Speckled trout.....	Antigonish hatchery ponds, N.S.	3,785,429	Antigonish.....	7,795,176	
		(b) 4,009,747			
	Margaree hatchery ponds, N.S.	3,012,470	Margaree.....	3,204,970	
		(b) 192,500	Cobequid.....	4,500	
	Folly river, Colchester Co., N.S.	4,500			
	Hart lake, Colchester and Cumberland Cos., N.S.	380,550	Cobequid.....	380,550	
	McRae lake, Richmond Co., N.S.	77,028	Lindloff.....	77,028	
	Sand lake, Annapolis Co., N.S.	121,600	Middleton.....	121,600	
	Yarmouth hatchery ponds, N.S.	31,000	Yarmouth.....	150,000	
		(b) 119,000			
	Florenceville hatchery ponds, N.B.	2,042,280	Florenceville.....	2,391,964	
		(b) 349,684			
	Saint John hatchery ponds, N.B.	983,435	Saint John.....	1,614,565	
		(b) 631,130	Kelly' pond.....	58,500	
	Fortune river, P.E.I.....	(c) 58,500	Kelly' s pond.....	5,000	15,803,853
Kelly's pond hatchery pond, P.E.I.	5,000				
Steelhead salmon.....	Sweltzer creek, Cultus lake, B.C.	253,000	Cultus lake.....	253,000	253,000
				54,110,577	

(b) Eggs from yearling fish.

(c) Sea-run variety.

				111,729	
				1,320,026	
				119,000	
				81,000	
				35,000	
				603,526	
				1,213,700	
				1,012,380	
				30,811	30,811

EYED EGGS PURCHASED IN 1937

Species	Month laid down	Purchased from	Laid down in hatchery	Number received	Total by species
Cutthroat trout.....	May.....	E. A. Wells & Son, Sardis, B.C.....	Cultus lake.....	30,914	30,914
	December.....	American Fish Culture Company, Carolina, Rhode Island.....	Middleton.....	1,615,880	
Speckled trout.....	December.....	"	Yarmouth.....	1,513,500	4,386,639
	October, November.....	Donald Fraser, Plaster Rock, N.B.....	Grand Falls.....	962,259	
	November, December.....	Ambrous Henry, East Royalty, P.E.I.....	Kelly's pond.....	30,000	
	November, December.....	Earl Ings, Mount Herbert, P.E.I.....	Kelly's pond.....	90,000	
	November, December.....	Harold Watts, York, P.E.I.....	Kelly's pond.....	175,000	

Summary of eggs received: Total eggs collected, 54,110,577; total eggs purchased, 4,417,553; total 58,528,130.

EXCHANGED EYED EGGS RECEIVED 1937

From Department of Game and Fisheries, Toronto, Ontario, in exchange for Kamloops and speckled trout:—

Salmon trout from Belleville hatchery, laid down at Middleton hatchery.....	300,000
Salmon trout from Port Arthur hatchery, laid down at Banff hatchery.....	198,860
Salmon trout from Port Arthur hatchery, laid down at Waterton lakes hatchery.....	100,640

In the interest of economy and convenience in the distribution of fry the following transfers of eyed eggs were made in 1937:

Species	From	To	Number	Date received	
Atlantic salmon.....	(a) Cobequid.....	Antigonish.....	1,000,000	April 6	
	(a) Middleton.....	Nictaux Falls.....	479,125	March 2	
	(a) Yarmouth.....	Nictaux Falls.....	1,000,000	February 28	
	(a) Miramichi.....	Bedford.....	500,000	March 11	
	(a) Miramichi.....	Lindloff.....	1,000,000	April 8	
	(a) Miramichi.....	Middleton.....	500,000	April 1	
	(a) Miramichi.....	Nictaux Falls.....	500,000	April 1	
	(a) Miramichi.....	Restigouche.....	1,000,000	March 19	
	(a) Restigouche.....	Florenceville.....	30,000	April 1	
	(a) Restigouche.....	Grand Falls.....	220,000	March 31	
	(a) Saint John.....	Florenceville.....	500,000	March 9	
	Kamloops trout.....	(b) Lloyd's creek.....	Cultus lake.....	199,000	June 24
		(b) Penask lake.....	Argenta.....	400,000	July 11
(b) Penask lake.....		Nelson.....	1,050,000	July 7 and 10	
(b) Penask lake.....		Summerland.....	943,100	June 20, 30	
(b) Penask lake.....		Summerland.....	943,100	July 10, 17	
Rainbow trout.....	(b) Antigonish.....	Lindloff.....	100,000	May 22	
Sockeye salmon.....	(a) Smiths Falls.....	Cultus lake.....	3,728,000	February 9, 10, 22, March 22	
	(a) Smiths Falls.....	Cultus lake.....	3,728,000	February 9, 10, 22, March 22	
Speckled trout.....	(a) Antigonish.....	Bedford.....	500,000	March 19	
	(a) Antigonish.....	Lindloff.....	500,000	April 13	
	(a) Antigonish.....	Yarmouth.....	500,000	February 26	
	(a) Antigonish.....	Florenceville.....	500,000	April 2	
	(a) Antigonish.....	Grand Falls.....	500,000	April 2	
	(a) Antigonish.....	Miramichi.....	500,000	March 19	
	(a) Antigonish.....	Restigouche.....	500,000	March 19	
	(a) Antigonish.....	Saint John.....	500,000	April 1	
	(a) Antigonish.....	Kelly's Pond.....	50,000	February 26	
	(a) Florenceville.....	Antigonish.....	10,200	February 26	
	(a) Grand Falls.....	Cobequid.....	1,000,000	March 10	

(a) 1936 fall collection.

(b) 1937 collection.

## TAGGING AND MARKING OF FISH

The tagging of Atlantic salmon taken for fish cultural purposes which was commenced in 1913 was continued on a somewhat larger-than-average scale in 1937 at the several salmon retaining ponds in the Maritime Provinces. The adipose and one ventral or one pectoral fin was removed from a considerable number of Atlantic and Sebago salmon, ouananiche and speckled trout before they were distributed. The object of the tagging is to add to present information in regard to the movements of the fish, frequency in spawning and the extent to which early fish of any season return to fresh water as early fish or vice versa. The marking or fin clipping was practised for the purpose of gaining further information on the movements, growth and survival of hatchery product. The extent of the tagging and marking, as well as of the recaptures reported during 1937, are given in detail in the following statements and in the report of the District Supervisor of Fish Culture for the Maritime Provinces.

## ADULT ATLANTIC SALMON, TAGGED BY AFFIXING TAGS TO THE DORSAL FIN, 1937

	Number tagged	Type of tag	Period of tagging	Where liberated
<i>Nova Scotia</i> —				
Margaree pond.....	33	Silver.....	Sept. 21-22.....	Margaree Harbour
Nictaux Falls pond.....	124	Celluloid.....	Nov. 15-20.....	Nictaux river
River Philip pond.....	34	Silver.....	Oct. 13.....	River Philip
	10	Celluloid.....	Oct. 13.....	River Philip
Sackville river pond.....	34	Silver.....	Sept. 29.....	Sackville river
	205	Celluloid.....	Nov. 8-19.....	Sackville river
<i>New Brunswick</i> —				
Miramichi pond.....	107	Silver.....	Sept. 13-Nov. 9.....	Miramichi river
	510	Celluloid.....	Sept. 13-Nov. 8.....	Miramichi river
New Mills pond.....	10	Silver.....	July 19-Sept. 17.....	New Mills, Bay Chaleur
	159	Celluloid.....	Sept. 22-Nov. 2.....	New Mills, Bay Chaleur
Saint John pond.....	10	Silver.....	Aug. 16.....	Saint John Harbour
	10	Celluloid.....	Aug. 16.....	Saint John Harbour
<i>Prince Edward Island</i> —				
Morell pond.....	34	Silver.....	Oct. 21.....	Morell river

FISH MARKED BY FIN CLIPPING, 1937

	Number marked	Species	Stage of development	Dates of liberation	Liberated	Nature of mark
<i>Nova Scotia—</i> Antigonish hatchery.....	727	Speckled trout.....	Yearlings.....	Jan. 27.....	Cooee Coffre lake.....	Removal of adipose and right pectoral.
	400	"	"	Dec. 14.....	Copper lake.....	"
	500	"	"	Dec. 10.....	Cutler lake.....	"
	340	"	"	Dec. 17.....	Dobson lake.....	"
	500	"	"	Dec. 14.....	Donahue lake.....	"
	1,000	"	"	Jan. 4, Dec. 9...	James river lake or McLean lake.	"
	404	"	"	Dec. 15.....	Long lake, East River St. Mary.	"
	250	"	"	Dec. 23.....	MacMillan lake.....	"
	200	"	"	Dec. 16.....	McKeen lake.....	"
	500	"	"	Dec. 17.....	Sherbrook lake.....	"
	181	"	"	Dec. 23.....	South river lake.....	"
	500	"	"	Dec. 11.....	Stewart dam tributary to Little Harbour.	"
	200	"	"	Dec. 16.....	Trot lake.....	"
	500	"	"	Dec. 9.....	West river.....	"
	900	"	Two years.....	May 13.....	Campbell river-River John...	"
	273	"	"	Jan. 27.....	Cooee Coffre lake.....	"
	128	"	"	Dec. 17.....	Dobson lake.....	"
	1,000	"	"	May 20.....	Donahue lake.....	"
	50	"	"	June 1.....	Fraser's pond-Little Harbour.	"
	200	"	"	Dec. 23.....	Grant lake.....	"
	1,200	"	"	May 10.....	Sherbrook lake.....	"
	690	"	"	June 10.....	Simon lake.....	"
	400	"	"	Dec. 23.....	South river lake.....	"
	1,125	"	"	June 1, 12.....	Stewart dam tributary to Little Harbour.	"
	235	"	Old fish.....	Dec. 23.....	South river lake.....	"
Cobequid hatchery.....	2,000	"	Fingerlings.....	Sept. 28.....	Colwell brook.....	Removal of adipose and right ventral
	8,000	"	"	Sept. 22.....	Folly lake.....	"
	5,000	"	"	Sept. 16.....	Maccan river.....	"
	8,000	"	"	Sept. 27.....	Wallace river.....	"
	811	"	Wild.....	Dec. 4.....	Hart lake.....	Removal of adipose
Grand lake rearing ponds.....	(b) 4,000	Atlantic salmon.....	Yearlings.....	May 4.....	Middle river.....	Removal of adipose and right ventral
	(b) 3,000	"	"	April 26.....	Nine Mile river.....	"
	(b) 3,000	"	"	April 27.....	Sackville river.....	"
	(b) 3,000	"	"	April 30.....	Ship Harbour lake.....	"

	9,000	Sebago salmon.....	"	July 15, 27, Oct. 20, 21.	Grand lake.....	"	"
	10	"	Three years.....	Dec. 10.	"	"	"
	47	"	Wild.....	Dec. 7.	"	"	"
	737	Ouananiche salmon..	Two years.....	Dec. 7, 8, 9..	"	"	"
Margaree hatchery.....	20,656	Atlantic salmon.....	Fingerlings.....	Oct. 15.....	Northeast Margaree river, Big Intervale bridge.	Removal of adipose and right pectoral.	"
	312	Speckled trout.....	Five and six years.	April 26.....	Lake O'Law.	"	"
Middleton hatchery.....	5,300	Atlantic salmon.....	Fingerlings.....	Oct. 2.....	Nictaux river.....	Removal of adipose and left ventral.	"
	700	Speckled trout.....	"	Sept. 25.....	Feed lake.....	"	"
	400	"	"	Sept. 24.....	McGill lake.....	"	"
	400	"	"	Sept. 11.....	Sand lake.....	"	"
Nictaux Falls rearing station..	9,982	Atlantic salmon.....	"	Oct. 14.....	Nictaux river.....	"	"
Yarmouth hatchery.....	40,000	"	"	Oct. 8, 9, 18.	Clyde river.....	Removal of adipose and right ventral.	"
		"	"	Nov. 11.	"	"	"
	20,000	"	"	Oct. 24, Nov. 16	Mersey river.....	"	"
	21,000	"	Yearlings.....	April 16, 17, 19, 21.	Clyde river.....	"	"
	16,000	"	"	April 24, May 1.	Mersey river.....	"	"
	6,000	Speckled trout.....	Fingerlings.....	Oct. 27.....	Baker Flats Pond.....	"	"
	5,700	"	"	Oct. 22.....	Gardener brook.....	"	"
	6,000	"	"	Oct. 13.....	Grand lake.....	"	"
	2,500	"	"	Dec. 3.....	Mallett lake.....	"	"
	5,000	"	"	Oct. 16.....	Ninth lake.....	"	"
	2,500	"	"	Dec. 3.....	Porter or Mistake lake.....	"	"
	3,000	"	"	Dec. 1.....	Simpson lake.....	"	"
	5,000	"	"	Oct. 15.....	Sixth lake stream.....	"	"
	2,000	"	Yearlings.....	June 2.....	Blystner lake.....	"	"
	3,300	"	"	May 8, Aug. 11..	Carrying Road lake.....	"	"
	1,000	"	"	May 27.....	Grafton lake.....	"	"
	2,500	"	"	April 20.....	Ellenwood lake.....	"	"
	2,000	"	"	June 9.....	Freeman brook-Medway river..	"	"
	2,000	"	"	June 11.....	Hunt's brook-Medway river..	"	"
	2,500	"	"	July 26.....	Long Tusket river.....	"	"
	530	"	"	Dec. 1.....	Harris lake.....	"	"
	1,500	"	"	June 2.....	Maligeak lake.....	"	"
	3,000	"	"	May 7.....	Moose river.....	"	"
	2,500	"	"	April 20.....	Salmon lake (Yarmouth county).	"	"
	4,000	"	"	April 26.....	Salmon river (Digby county)..	"	"
	3,000	"	"	Aug. 6.....	Thunder lake.....	"	"
	2,500	"	"	May 7.....	Wentworth lake.....	"	"

(b) Marked by Bedford staff.

FISH MARKED BY FIN CLIPPING, 1937—Concluded

—	Number marked	Species	Stage of development	Dates of liberation	Liberated	Nature of mark
<i>New Brunswick—</i> Florenceville hatchery....	(a) 25,789	Atlantic salmon....	Fingerlings.....	Sept. 8, 21....	Nashwaak river.....	Removal of adipose and left pectoral.
	3,000	Speckled trout.....	" .....	Oct. 15.....	Private pond, Power creek, Mr. Zeno Martin.	" "
	100	" .....	Two years .....	May 20.....	Gallivan brook-Saint John river.	" "
	212	" .....	" .....	May 21, 22....	Big Guisguiguit river.....	" "
	200	" .....	" .....	May 19, 20....	Little Guisguiguit river.....	" "
	250	" .....	" .....	May 21.....	River de Chute.....	" "
	100	" .....	Four years.....	May 18.....	Big Guisguiguit river.....	" "
	100	" .....	" .....	May 19.....	Little Guisguiguit river.....	" "
	100	" .....	" .....	May 18.....	River de Chute.....	" "
	18	" .....	Six years.....	May 22.....	McLeary brook-Lakeville pond.	" "
Grand Falls hatchery.....	(a) 10,000	Atlantic salmon....	Fingerlings.....	May 22.....	" "	" "
	(a) 16,104	" .....	" .....	Oct. ....	Salmon river and Little Salmon river.	Removal of adipose and right pectoral.
Miramichi hatchery.....	(a) 10,000	" .....	" .....	Oct. ....	St. John river.....	" "
	6,700	" .....	" .....	Aug. 28.....	Tobique river.....	" "
	6,600	" .....	" .....	Aug. 23.....	Northwest Miramichi river...	Removal of adipose and right ventral.
St. John hatchery.....	3,400	" .....	" .....	Aug. 17.....	Sevogle river.....	" "
	43	Speckled trout.....	Yearlings.....	July 24.....	Trout brook.....	" "
	15,000	" .....	Fingerlings.....	July 26.....	Votoure lake.....	" "
	2,210	" .....	Two years.....	Nov. 6, 16....	Red Rock lake.....	Removal of right pectoral.
<i>Prince Edward Island—</i> Kelly's Pond hatchery.....	30,940	" .....	Fingerlings.....	Aug. 23, 24, 25..	Chamcook lake.....	Removal of adipose and right pectoral.
					Vessey brook-Winter river...	Removal of adipose and left pectoral.

(a) Restigouche stock.

## RECAPTURES, 1937—ATLANTIC SALMON

## MARGAREE RIVER, N.S.

Number	Weight (lbs.)	Length (ins.)	Condition	Sex	Date	1. Where liberated 2. Where caught
F6704	16 (z) (u) 21	37 44	Kelt..... Clean.....	F F	Dec. 3, 1934 1937	(a) Margaree Pond, N.S. Margaree Pond, N.S.
F7173	15 26	37 40	Kelt..... Clean.....	F F	Nov. 20, 1935 July 26, 1937	Margaree Pond, N.S. La Pointe, Inverness county, N.S.
F7175	12 21	36 40	Kelt..... Clean.....	F F	Nov. 20, 1935 July 19, 1937	Margaree Pond, N.S. Mabou Mines, Inverness county, N.S.
F7442	15 34½	38 41½	Kelt..... Clean.....	F F	Dec. 3, 1935 July 24, 1937	Margaree Pond, N.S. River of Ponds, St. Barbe dis- trict, Newfoundland.
F7595	6 16	26 .....	Kelt..... Clean.....	M M	Dec. 6, 1935 July 21, 1937	Margaree Pond, N.S. Pleasant bay, Inverness county, N.S.
F7617	14 28	37 37	Kelt..... Clean.....	F F	Dec. 7, 1935 July 24, 1937	Margaree Pond, N.S. La Pointe, Inverness county, N.S.
F7658	7 (z) (u) 23	29 44	Kelt..... Clean.....	M M	Dec. 7, 1935 1937	(a) Margaree Pond, N.S. Margaree Pond, N.S.
F7660	7 19	28 36½	Kelt..... Clean.....	M M	Dec. 7, 1935 July 5, 1937	Margaree Pond, N.S. Aucoin point, Inverness county, N.S.
F7703	9 (z) (u) 20	32 40	Kelt..... Clean.....	M M	Dec. 7, 1935 1937	(a) Margaree Pond, N.S. Margaree Pond, N.S.
F7706	7 16½	29 35	Kelt..... Clean.....	M M	Dec. 7, 1935 July 3, 1937	Margaree Pond, N.S. Friar Head, Inverness county, N.S.
F7713	14 30	39 .....	Kelt..... Clean.....	M M	Dec. 7, 1935 July 5, 1937	Margaree Pond, N.S. At Plaster Rock, Broad Cove Chapel, Inverness county, N.S.
F7763	11 28	32 40½	Kelt..... Clean.....	M M	Dec. 7, 1935 July 19, 1937	Margaree Pond, N.S. One-half mile northeast of Mar- garee Harbour, N.S.
F7807	15 .....	36 36	Kelt..... Kelt.....	F F	Nov. 25, 1936 June 15, 1937	Margaree Pond, N.S. La Pointe, Inverness county, N.S.
F7810	18 .....	39 .....	Kelt..... Kelt.....	F F	Nov. 25, 1936 June 7, 1937	Margaree Pond, N.S. La Pointe, Inverness county, N.S.
F7845	14 .....	36 .....	Kelt..... Kelt.....	F F	Nov. 25, 1936 June 3, 1937	Margaree Pond, N.S. Flat Brook, Terre Noire, Inver- ness county, N.S.
F7856	20 .....	41 .....	Kelt..... Kelt.....	F F	Dec. 1, 1936 June 10, 1937	Margaree Pond, N.S. La Pointe, Inverness county, N.S.
F7899	18 .....	37 .....	Kelt..... Kelt.....	F F	Dec. 1, 1936 June 7, 1937	Margaree Pond, N.S. La Pointe, Inverness county, N.S.
F7900	15 .....	36 .....	Kelt..... Kelt.....	F F	Dec. 1, 1936 May 6, 1937	Margaree Pond, N.S. Long Marsh pool, Margaree river, N.S.

(a) Caught for second time for fish cultural purposes, Sept. 21-Oct. 27, 1937.

(u) Liberated with same tag attached.

(z) Weight after stripped.

RECAPTURES, 1937—ATLANTIC SALMON—*Concluded*

## MARGAREE RIVER, N.S.

Number	Weight (lbs.)	Length (ins.)	Condition	Sex	Date	1. Where liberated 2. Where caught
F7901	8	31	Kelt.....	F	Dec. 1, 1936	Margaree Pond, N.S. Long Marsh pool, Margaree river, N.S.
	.....	.....	Kelt.....	F	May 6, 1937	
F7934	15	37	Kelt.....	F	Dec. 5, 1936	Margaree Pond, N.S. Cape Rouge, Inverness county, N.S.
	.....	.....	Kelt.....	F	June 9, 1937	
F7956	10	33	Kelt.....	M	Dec. 6, 1935	Margaree Pond, N.S. Eight miles from Grand Bay, south, Port-aux-Basques, Newfoundland.
	.....	.....	Clean.....	M	May 1937	

## NICTAUX RIVER, N.S.

F5386	5	27½	Kelt.....	F	Nov. 5, 1936	Nictaux Pond, N.S. Bluff Head, Yarmouth county, N.S.
	7	.....	Clean.....	F	June 15, 1937	
F5630	9	32	Kelt.....	F	Nov. 3, 1933	Nictaux Pond, N.S.* Hermitage bay, Newfoundland.
	(w)	.....	Clean.....	F	July 1, 1936	

## RIVER PHILIP, N.S.

F2563	23	39	Kelt.....	F	Nov. 10, 1936	River Philip pond, N.S. River Philip, at Oxford, N.S.
	.....	.....	Kelt.....	F	April 28, 1937	

## SACKVILLE RIVER, N.S.

F5805	9¼	33	Kelt.....	F	Nov. 13, 1933	Sackville Pond, N.S. Petit De Grat Harbour, Richmond county, N.S.
	(v) 12	.....	Clean.....	F	May 20, 1937	
F7035	8	30	Kelt.....	F	Nov. 3, 1936	Sackville Pond, N.S. Sackville Pond, N.S.
	(z) (u) 8½	34	Clean.....	F	1937	
F7039	8	31	Kelt.....	F	Nov. 3, 1936	Sackville Pond, N.S. (b) Sackville Pond, N.S.
	(z) (u) 9	33½	Clean.....	F	1937	
F7052	3¾	22	Kelt.....	F	Nov. 3, 1936	Sackville Pond, N.S. (b) Sackville Pond, N.S.
	(z) (u) 3¾	22½	Clean.....	F	1937	
F7065	10	31	Kelt.....	F	Nov. 3, 1936	Sackville Pond, N.S. (b) Sackville Pond, N.S.
	(z) (u) 11	33¼	Clean.....	F	1937	
F7088	8½	31	Kelt.....	F	Nov. 5, 1936	Sackville Pond, N.S. Bedford Basin, N.S.
	13	33	Clean.....	F	July 20, 1937	
F7100	5¼	26¼	Kelt.....	F	Nov. 5, 1936	Sackville Pond, N.S. Terre Noire, Inverness county, N.S.
	(v) 10	.....	Clean.....	F	July 1937	

## MIRAMICHI RIVER, N.B.

(c) 621	17	38	Kelt.....	F	Nov. 2, 1937	Miramichi Pond, N.B. Miramichi river, Chatham, N.B.
	.....	.....	Kelt.....	F	Dec. 8, 1937	
(c) 763	11	31½	Kelt.....	M	Nov. 8, 1937	Miramichi Pond, N.B. Miramichi river, Nordin, N.B.
	.....	.....	Kelt.....	M	Dec. 2, 1937	
(c) 839	10½	31	Kelt.....	M	Nov. 6, 1937	Miramichi Pond, N.B. Miramichi river, Oak Point, N.B.
	.....	.....	Kelt.....	M	Dec. 3, 1937	

(b) Caught for second time for fish cultural purposes, Sept. 26-Oct. 29, 1937.

(c) Celluloid tags.

(u) Liberated with same tag attached.

(v) Weight estimated.

(w) Reported in 1937.

(z) Weight after stripped.

NOVA SCOTIA  
ANTIGONISH HATCHERY

	Atlantic salmon			Rainbow trout			Speckled trout					
	Advanced fry	Fingerlings		Fingerlings		Two years	Advanced fry	Fingerlings		Year-lings	Two years	Old fish
		No. 1	No. 4	No. 1	No. 3			No. 1	No. 4			
Antigonish Co.—												
Beaver Meadow river.....							35,000					
Brierly brook.....								10,000				
Copper lake.....								30,000		400		
Glenroy river.....							45,000					
Grant lake.....											200	
James river.....	40,000											
James river lake or McLean lake.....							5,000			1,000		
MacMillan lake.....										250		
Maryvale brook.....								10,000				
Meadow Green river.....							45,000					
North lake.....								15,000				
Polson brook-South river.....								25,000				
Rights river.....	40,000											
South lake.....							15,000					
South river.....	40,000											
South river lake.....							33,707			1,441	179	
West river.....							30,000		5,000	500	400	235
Guysborough Co.—												
Cole Harbour lake.....							15,000					
Cooee Coffre lake.....										727	273	
Cooper lake.....							15,000					
Country Harbour river.....	90,000	30,000										
Cutler lake.....										500		
Dobson lake.....										340	128	
Donahue lake.....							35,000			500	1,000	
Ecum Secum river.....							30,000					
Giant lake.....											185	
Guysborough river.....	40,000							25,000				
Harrigan lake.....									2,000			
Hazel Hill lake.....							20,000					
Indian Harbour lake.....							20,000					
Jellow lake.....								40,000				
Long lake—East River St. Mary.....									2,000	404		
McKeen lake.....										200		
Robertson lake.....									2,000			

ANTIGONISH HATCHERY—Concluded

	Atlantic salmon			Rainbow trout			Speckled trout					
	Advanced fry	Fingerlings		Fingerlings		Two years	Advanced fry	Fingerlings		Yearlings	Two years	Old fish
		No. 1	No. 4	No. 1	No. 3			No. 1	No. 4			
Salmon river.....	75,000						30,000					
East River St. Mary.....	80,000	120,000	20,462									
West River St. Mary.....		150,000										
Sherbrook lake.....							25,000			500	1,200	
Smelt lake.....				20,000	17,512							
Three Mile lake.....							15,000					
Tracadie river.....		50,000										
Trout lake.....										200		
Pictou Co.—												
Barney river.....	50,000							35,000				
Big brook—East river.....								40,000				
Brora lake.....								40,000				
Campbell lake—River John.....											900	
Campbell lake—French river.....							30,000					
East river.....		50,000										
Fraser's pond—Little Harbour.....											50	
French river.....	30,000											
French river, branch.....							15,000					
McLellan brook.....								20,000				
McPherson lake.....								45,000				
Maple lake.....							15,000					
Middle river.....		10,000										
Moose river.....			10,000									
Robertson lake.....								45,000				
Simon lake.....											690	
Six Mile brook.....							15,000					
Stewart dam tributary to Little Harbour.....										500	1,125	
West branch brook.....							25,000					
West river.....							75,000					
	485,000	410,000	30,462	20,000	17,512	185	588,707	396,293	11,000	7,643	6,145	235

Total distribution..... 1,973,182

## BEDFORD HATCHERY

	Atlantic salmon				Speckled trout		
	Eyed eggs	Advanced fry	Fingerlings		Advanced fry	Fingerlings	
			No. 1	No. 2		No. 1	No. 2
Dalhousie University, Halifax.....	3,000						
Colchester Co.—							
D'Armand lake.....					30,000		
Otter brook.....					30,000		
Stewiacke river.....		60,000					
Stewiacke river, south branch.....					30,000		
Halifax Co.—							
Bennett lake.....						1,200	
Chezzetcook river.....		60,000					
Conrod lake.....						30,000	
Fish lake.....						30,000	
Five Island lake.....						30,000	
Fraser lake-Nine Mile river.....						30,000	
Gay river.....			60,000				
Governor lake-Nine Mile river.....						30,000	
Halfway river.....						30,000	
Higgins lake.....					60,000		
Ingram river.....			90,000				
Junction lake.....						30,000	
Kehoe or Second lake.....						30,000	
Little Quoddy lake.....						30,000	
Little Sandy lake-Sackville river.....						30,000	
McLeod lake.....						12,860	
Musquodoboit river.....		32,000	60,000				
Newcombe lake.....					20,000	10,000	
Nine Mile river.....		30,000					
Ostier river.....		30,000					
Oyster ponds.....						30,000	
Upper Petpeswick, Long Bridge or Bridge End lake.....						30,000	
Portuguese Cove lake.....						18,420	
Queensland pond.....						30,000	
Rocky brook-Moser river.....						30,000	
Round or Little lake-Porter lake.....					60,000		
Round pond.....					30,000		
Sackville river.....		60,000	25,000	19,480			
Salmon river (Port Dufferin).....			60,000				
Second Sheldrake lake.....						30,000	
Smith brook-Necumteuch Harbour.....						30,000	
Taylor brook.....			30,000				
West River Sheet Harbour.....			90,000				
Hants Co.—							
Cameron lake.....						30,000	
Cayley or Kaley lake.....					30,000		
Kennetcook river.....		60,000					
Lily lake-St. Croix river.....						30,000	
Norman lake.....						30,000	
Pentz lake.....						30,000	
Pigot lake.....						30,000	
Uniacke lake.....						30,000	
Lunenburg Co.—							
Awalt lake.....					30,000		
Corkum lake.....						30,000	
Cranberry lake.....					30,000		
Gold river.....			90,000				
Hennigar lake.....						30,000	
Long lake-St. Margaret's bay.....					30,000		
Mill lake-Hubbard river.....							42,855
Mill lake-Middle river.....						30,000	
Middle river.....			90,000				
Pigeon lake.....						60,000	
Spectacle lake.....						30,000	
Spondo lake.....					30,000		
	3,000	332,000	595,000	19,480	410,000	912,480	42,855

Total distribution..... 2 314,815

## COBEQUID HATCHERY

	Atlantic salmon		Speckled trout fingerlings		
	Advanced fry	Fingerlings No. 1	No. 1	No. 2	No. 3
Northumberland Co., N.B.—					
Lac St. Emile.....					1,000
Colchester Co.—					
Debert river.....	50,000	30,000			
Economy river.....		100,000			
Economy lake.....				15,000	
Folly river.....	50,000	30,000			
Folly lake.....				30,000	8,000
French river.....			10,000	10,058	
Gamble lake.....				10,000	
Great Village river.....	50,000	30,000			
Hart lake.....			15,000		
Indian lake.....			8,000		
Irving lake.....			15,000		
Long lake-French river.....				15,000	
McCallum lake.....				15,000	
Newton lake.....				15,000	
North river, near Truro.....	50,000	50,000			
Portapique river.....		83,000			
Salmon river.....	50,000	40,000			
Shatter lake.....				15,000	
Simpson lake.....			30,000		10,000
West Branch lake—River Philip.....			15,000		
Whirley Wha lake.....			15,000		
Cumberland Co.—					
Amherst Pumping Station pond.....			10,000		
Atkinson pond-Polly brook.....				10,000	
Black river.....			10,000		
Blair lake.....				15,000	
Colwell brook.....					2,000
Coulter lakes.....			3,000		
Cranberry lake.....			20,000		
Currie pond.....				17,000	
Dead lake.....			15,000		
Fountain lake.....			30,000		
Fox river.....				15,000	
Gilbert lake.....				20,000	2,500
Halfway river lake.....			10,000		2,500
Harrison lake.....					5,000
Isaac lake.....			12,000	10,000	
Leak lake.....			8,000		
Little lake-Newfound lake.....			6,000		
McAloney lake.....				20,000	
McLeod lake.....			10,000		
Maccan river.....	50,000	30,000	10,000		
Maccan river, south branch.....			10,000		5,000
Maccan river, west branch.....					5,000
Mountain brook.....			10,000		
Newfound lake.....			12,000	10,000	
Parrsboro Aboiteau.....				15,000	2,500
Poison lake.....			10,000		
Ramshead river.....				15,000	
Ramshead lake.....				10,000	
River Philip.....	125,000	271,200		20,000	7,622
River Philip, west branch.....			12,845		
River Philip, east branch.....				20,000	
Shinimikas river.....	50,000	30,000			
Silica lake or Bass River lake.....			15,000		
Sugarloaf brook.....			8,000		
Sutherland lake.....				20,000	
Tillie creek.....			8,000		
Wallace river.....	120,000	30,000	8,000	20,000	8,000
Wallace river, west branch.....				20,000	
Webb lake.....			6,000		
Welton lake.....				20,000	
Pictou Co.—					
River John.....		100,000			
	595,000	824,200	351,845	402,058	59,122

Total distribution..... 2,232,225

## GRAND LAKE REARING PONDS

	Atlantic salmon fingerlings				Year- lings	Ouan- a- niche Two years	Sebago salmon	
	No. 1	No. 2	No. 4	No. 5			Year- lings	Three years
Colchester Co.— Pembroke river.....	40,000							
Halifax Co.— Big Salmon river.....	40,000			4,000	4,000			
Charles or Third lake.....			9,000		8,800		700	
Grand lake.....			6,060		2,197	737	9,000	10
Nine Mile river.....					3,000			
Sackville river.....				4,000	3,000			
Salmon river (Port Duf- ferin).....	40,000							
Ship Harbour lake.....	40,000		7,200		3,000			
Springfield lake.....			10,000					
Hants Co.— McLeod brook-Kennet- cook river.....	40,000							
Lunenburg Co.— Gold river.....	40,000	25,500						
Middle river.....	40,000		5,400		4,000			
	280,000	25,500	37,660	8,000	27,997	737	9,700	10
Total distribution.....							389,604	

## KEJIMKUJIK REARING PONDS

	Atlantic salmon Fingerlings		Speckled trout Fingerlings		
	No. 1	No. 2	No. 1	No. 2	No. 3
Annapolis Co.— Little river.....				44,175	7,757
Maitland river.....				24,500	
Mount Tom brook.....				29,000	
West river.....				41,000	
Queens Co.— Cashman brook.....				10,000	
Fairy lake.....				15,000	2,000
Grafton lake.....			3,000	13,600	1,100
Grafton brook.....				5,000	
High lake.....				10,000	
Kejimkujik lake.....				125,000	9,000
McGinty brook.....				10,000	
Medway river.....		4,335			
Mersey river.....	21,500				
Roger brook.....				20,000	
	21,500	4,335	3,000	347,275	19,857
Total distribution.....					395,967

## LINDLOFF SUB-HATCHERY

	Atlantic salmon Fingerlings		Rainbow trout Finger- lings
	No. 1	No. 2	No. 2
Cape Breton Co.— Enon lake (via Munroe lake).....			38,850
Gaspereau river.....	40,000	36,930	
Lever lake.....			38,848
Salmon river.....	190,000	181,395	
Richmond Co.— Grand river.....	155,000	207,509	
McKay or Murchison brook-Grand river.....	50,000		
	435,000	425,834	77,698
Total distribution.....			938,532

MARGAREE HATCHERY

	Atlantic salmon					Speckled trout					Old fish
	Advanced fry	Fingerlings				Fingerlings					
		No. 1	No. 2	No. 3	No. 4	No. 1	No. 2	No. 3	No. 4	No. 5	
Dr. A. G. Huntsman, Fisheries Research Board of Canada.....	1,000										
Cape Breton Co.—											
Bell lake.....								15,000			
Brown lake.....								15,000			
Canoe lake.....								6,000	6,000		
Chain lakes-Mira river.....								6,000	8,000		
English lake.....								7,500			
Forester lake.....								10,000	8,000		
Giovannetti lake.....								15,000			
Grand lake-Indian bay.....								30,000			
Hardy lake.....								15,000			
Kelvin or McDonald lake.....								15,000			
Jackson lake.....								20,000			
McCormack lake.....								6,000			
McIntyre lake.....								15,000			
Scott lake.....								10,000	6,000		
Dalem lake (Boularderie island).....								15,000			
Inverness Co.—											
Captain John's brook.....									3,000		
Cheticamp river.....	130,000	40,000									
Flat brook.....						15,000					
Gallant river.....						50,000				5,000	
Gillis brook.....						15,000					
Glen brook-River Denys.....								5,000			
Little Judique river.....									3,000		
Northeast Mabou river.....						30,000					
Southwest Mabou river.....						30,000					
Northeast Margaree river—											
Between Big Intervale, Ward's pool and Old Bridge.....	100,000										
Between Ingraham bridge and Whiteley pool.....	100,000										
Big brook.....						40,000			3,000	5,000	
Big Intervale bridge.....	200,000	60,000	40,000	70,000	42,000						
Black Rock pool.....			50,000	30,000							
Cranton bridge.....	100,000		30,000								
Crowdis pool.....				18,000							
Doyle's bridge.....		60,000									

Egypt brook.....					30,000			2,500	
Ethridge pool.....		50,000							
First Forks.....				15,000					
Forest Glen brook.....						30,000		8,000	
Garden pool.....		50,000							
Hart pool.....				18,000					
Hatchery or Ingram brook.....				27,412	40,000			5,000	
Island brooks.....	80,000								
Lake O'Law brook.....					50,000		3,000	5,000	
Lake O'Law.....								20,000	312
Fortune brook.....					20,000				
McKinnon brook.....					30,000				
Lake O'Law, upper.....									
Levis brook.....					40,000			5,452	
McDermid pool.....		75,000						5,027	
McDonald brook.....					20,000			3,000	
McLean pool.....		80,000							
McLeod pool.....					30,000				
McLeod brook.....						30,000			
Murray's.....					45,000				
Murray's brook.....								3,000	
Old Bridge.....		50,000							
Rock pool.....		65,000							
Ross Bridge.....	100,000			15,000					
Stewart brook.....		35,000	15,000	30,000	30,000				
Stewart pool.....					30,000				
Tingley crossing.....	100,000	30,000	18,000						
Ward's pool.....		50,000							
Watson brook.....						20,000			
McColl brook.....							5,000		
Pembroke lake.....							20,000		
Plateau brook.....						35,000			
Skye brook.....							5,000		
Southwest Margaree river.....	200,000								
Captain Allan's brook.....						20,000			
Matheson Glen brook.....						30,000			
Strathlorne brook.....						20,000			
Victoria Co.—									
Middle Aspy river.....							7,666		
Baddeck bay brook.....						30,000			
Baddeck river—									
Gillis brook.....							30,000		
MacDonald brook.....							30,000		
Mathewson lake.....							20,000		
North branch.....	100,000								
Peter brook.....						35,000			
West branch.....	30,000								
Barasois river.....								10,000	
Big Harbour brook.....					25,000				
Giffin lake.....							6,000		

MARGAREE HATCHERY—*Concluded*

	Atlantic salmon					Speckled trout					Old fish
	Advanced fry	Fingerlings				Fingerlings					
		No. 1	No. 2	No. 3	No. 4	No. 1	No. 2	No. 3	No. 4	No. 5	
Victoria Co.— <i>Concluded</i>											
Morrison lake.....								6,000			
Middle river.....	200,000									5,000	
Beaver brook.....						50,000					
Black brook.....						20,000					
Cold brook.....								5,000			
Indian brook.....						60,000					
McDonald brook.....								10,000			
McKenzie brook.....						40,000					
North river.....		120,000	20,000								
Church river.....								30,000			
South Gut brook.....								20,000			
Washabuck river.....								20,000			
	1,180,000	481,000	665,000	219,000	219,412	825,000	30,000	234,666	207,500	99,979	312

Total distribution..... 4,161,869

MIDDLETON HATCHERY

	Atlantic salmon						Salmon trout			Speckled trout			
	Fry	Advanced fry	Fingerlings				Fry	Advanced fry	Fingerlings No. 1	Advanced fry	Fingerlings		
			No. 1	No. 2	No. 3	No. 4					No. 1	No. 2	No. 3
Annapolis Co.—													
Allen lake, west													8,000
Annapolis river		45,000	40,000	40,000									1,000
Bowlby brook												8,000	
Cranberry lake												10,000	
Crisp brook												10,000	
Parker brook												10,000	
Crotched lake												15,000	
Durling lake												16,000	
Elliott lake									10,000				
Fales river				25,000									
Fed lake												15,000	
Foster lake												12,000	
Gibson lake									10,000				
Lake LaRose									15,000				
Lamb brook												10,000	
Lequille river			50,000	50,000									
Lily lake												15,000	1,500
Little river—Annapolis river				40,000									10,000
Long lake-Medway river													10,000
Long lake-North Mountain												10,000	
McGill lake									10,000				1,000
McLennan lake												15,000	
Milford lake												40,000	
Morton brook									10,000				
Nictaux river					60,000	180,000	97,300				350,000		
Paradise lake											20,000		
Private lake												5,000	
Round Hill river				100,000									
Rumsey lake												10,000	
Sand lake												4,000	1,500
Sandy Bottom lake												15,000	
Shannon lake												10,000	
Shannon river												20,000	
Slocomb brook											6,000		
Stronach lake												8,000	
Thirty lake											30,000		
Trout lake													12,000
Waterloo lake												10,000	
Wright lake										15,000			
Zwicker lake											20,000		

MIDDLETON HATCHERY—Concluded

	Atlantic salmon					Salmon trout			Speckled trout				
	Fry	Advanced fry	Fingerlings				Fry	Advanced fry	Fingerlings No. 1	Advanced fry	Fingerlings		
			No. 1	No. 2	No. 3	No. 4					No. 1	No. 2	No. 3
Digby Co.—													
Feed lake.....												700	
Lake Jolly.....												15,000	
Hants Co.—													
Avon river, south branch.....			25,000										
Avon river, west branch.....				15,000									
Lebreau brook.....											5,000		
Murphy lake.....											10,000		
Panuke lake.....												20,000	
Zwicker lake.....											10,000		
Kings Co.—													
Aylesford lake.....											25,000		
Cornwallis river.....				25,000									
Gaspereau lake.....									25,000				
Gaspereau river.....			30,000										
Habitant river.....									10,000				
Halfway river.....												5,000	
Hardwood lake.....												10,000	
Lake Paul.....											15,000		
Lake Torment.....											35,000		
Murphy lake.....									15,000				
Nimchin Page lake.....										10,000			
Sutton's pond.....												500	
Trout river.....											20,000		
Upper Sixty lake.....									20,000				
Lunenburg Co.—													
Canoe lake, north.....											10,000		
Canoe lake, south.....											10,000		
Card lake.....											25,000		
Butler lake.....									13,000				
Franev lake.....										12,000			
Gold river.....			80,000	100,000									
La Have river.....	35,000		40,000	181,675									
La Have river, north branch.....				40,000									
Lake William.....										35,000			
Middle river.....				100,000									
Ninevah lake.....											10,000		
Petite river.....				100,000									

West or Rocky lake.....													10,000	
Sherbrooke lake.....							30,000	100,000	97,000				10,000	
Smith lake.....													20,000	
Cross or Sperry lake.....													20,000	
Whetstone lake.....													10,000	
Wiles Stillwater-La Have river.....														
Queens Co.—														
Medway river.....			40,000	220,000										
	35,000	45,000	305,000	1,096,675	180,000	97,300	30,000	100,000	97,000	48,000	578,000	523,000	96,200	

Total distribution..... 3,231,175

#### NICTAUX FALLS REARING STATION

	Atlantic Salmon Fingerlings		
	No. 2	No. 3	No. 4
Annapolis Co.— Nictaux river.....	100,000	25,000	210,100
Total distribution.....		335,100	

No.		Atlantic salmon					Year- lings	Kam- loops trout Six years	Rainbow trout	
		Fry	Fingerlings						Fingerlings	
			No. 2	No. 3	No. 4	No. 5			No. 4	No. 5
1	Annapolis Co.—									
	Simpson lake.....									
2	Digby Co.—									
	Babine Meadows.....									
3	Belliveau Cove river.....									
4	Carrying Road lake.....									
5	Clear lake.....							13,000		
6	Clearwater lake.....									
7	Dean brook.....									
8	Doucette brook.....									
9	Grand lake.....									
10	Grosses Coques river.....									
11	Harris lake.....									
12	Long Tusket lake.....									
13	Mallett lake.....									
14	Meadow brook-Carleton river.....									
15	Meteghan river.....									
16	Moose river.....									
17	Ninth lake.....									
18	Porter or Mistake lake.....									
19	Salmon river.....	100,000	10,000		50,000	16,000	27,000			
20	Seven Pence Ha'Penny river.....									
21	Silver river.....									
22	Sissiboo river.....									
23	Sixth lake stream.....									
24	Thunder lake.....									
25	Wentworth lake.....									
	Kings Co.—									
26	Sunken lake.....							8,000	10,000	
	Lunenburg Co.—									
27	Blystner lake.....									
28	Feener's lake.....		200							
29	Maligeak lake.....									
30	Wiles lake.....							10,000	10,000	
	Queens Co.—									
31	Deep lake.....									
32	Freeman brook-Medway river.....									
33	Grafton lake.....									
34	Hunt's brook-Medway river.....									
35	Medway river.....				16,000					
36	Mersey river.....				20,000	39,000				
37	Tupper lake.....							16,000		
	Shelburne Co.—									
38	Baker's Flats pond.....									
39	Barelay brook-Jordan bay.....									
40	Big brook.....									
41	Birchtown brook.....									
42	Bloody creek.....									
43	Branch brook-Clyde river.....									
44	Branch brook-Roseway river.....									
45	Clyde river.....				40,000	29,000				
46	Deception brook.....									
47	Ogden brook.....									
48	Roseway river.....		60,000							
49	Tigney brook.....									
	Yarmouth Co.—									
50	Argyle river.....									
51	Brazil lake.....							10,000		
52	Burrell brook.....									
53	Carleton river.....									
54	Coldstream river.....									
55	East branch-Tusket river.....									
56	Ellenwood lake.....									
57	Gardener brook.....									
58	Jesse lake.....									
59	Big Meadow brook.....									
60	Little Meadow brook.....									
61	Pleasant lake.....									
62	Reuben's brook-Tusket river.....									
63	Salmon river.....	100,000			25,300					
64	Salmon lake.....									
65	Salmon lake brook.....									
66	Tusket river.....									
67	Utley lake.....						20			
		200,000	70,000	200	151,300	16,000	95,000	20	57,000	
									20,000	

Total distribution.....

HATCHERY

Rainbow trout				Speckled trout						No.		
Year- lings	Three years	Four years	Five years	Fry	Ad- vanced fry	Fingerlings					Year- lings	Two years
						No. 1	No. 3	No. 4	No. 5			
									3,000			1
				40,000								2
				30,000								3
10,000										3,300		4
						30,000						5
				30,000		15,000						6
						15,000						7
								6,000				8
				30,000								9
										530		10
										2,500		11
									2,500			12
							10,000					13
				140,000								14
								5,000		3,000		15
												16
								5,000				17
									2,500			18
							5,000			4,000		19
							10,000					20
							20,000					21
								5,000				22
										3,000		23
										2,500		24
												25
8,000												26
										2,000		27
								100		50	18	28
9,020		10								1,500		29
												30
4,000												31
										2,000		32
										1,000		33
										2,000		34
												35
												36
16,500												37
									6,000			38
						15,000						39
						20,000						40
							10,000					41
						15,000						42
						10,000						43
							5,000					44
								15,000				45
												46
						15,000						47
						45,000						48
						15,000						49
					50,000							50
	100		87									51
							5,000					52
							20,000					53
												54
							10,000					55
										2,500		56
												57
								5,700				58
						215,000						59
						45,000						60
						40,000						61
						40,000						62
						20,000						63
										2,500		64
							5,000					65
							20,000					66
												67
47,520	100	10	87	910,000	50,000	195,000	135,000	21,800	14,000	32,380	18	

2,015,435

NEW BRUNSWICK  
FLORENCEVILLE HATCHERY

	Atlantic Salmon			Green eggs	Speckled Trout						
	Fingerlings				Fingerlings	Two years	Four years	Six years	Seven years		
	No. 1	No. 2	No. 3							No. 1	No. 3
Atlantic Biological station, Saint Andrews, N.B.				700							
New Brunswick Fish and Game Protective Association, Fredericton branch Carleton Co.—		500				250					
Acker creek-Saint John river					20,000						
Becaguimec river	130,000	76,000									
Big Guisiguit river					80,000			212	100		
Little Guisiguit river					60,000			200	100		
Big Presquile river	75,000		36,000								
Little Presquile river			40,000								
Big Shiktahawk river	40,000		7,796								
Little Shiktahawk river	30,000										
Birmingham brook-Becaguimec river					5,000						
Bogan brook-Southwest Miramichi river	10,000										
Bubby brook-Saint John river					6,000						
Bull creek-Saint John river					70,000						
Burntland brook-Becaguimec river					5,000						
Burpee brook-Presquile river					10,000						
Clearwater brook-Southwest Miramichi river	15,000										
Colton brook-Shiktahawk river					10,000						
Day brook-Becaguimec river					5,000						
Dingee brook-Saint John river					3,000						
Gallivan brook-Saint John river					15,000			100			
Gin brook-Becaguimec river					5,000						
Hagerman brook-Saint John river					25,000						
Hardwood brook-Saint John river					12,000						
Second Howard brook-Becaguimec river					5,000						
Lanes creek-Saint John river					10,000						
McLeary brook-Lakeville pond					30,000						
McQuade pond-Saint John river					40,407					18	43
Mallory brook-Saint John river					15,000						
Meduxnekeag river	120,000	80,000	18,000								
Mile brook-Saint John river					2,000						
Southwest Miramichi river, north branch	195,000		38,000								
Southwest Miramichi river, south branch	125,000	72,000	38,000								

Monquart river.....	60,000		8,000									
River de Chute.....					80,000			250	100			
Saint John river, at Woodstock.....			300									
Simpson brook-Southwest Miramichi river.....	10,000											
Smith brook-Becaguimec river.....					10,000							
Stickney brook-Saint John river.....					6,000							
Teague brook-Southwest Miramichi river.....	15,000											
Tweedie brook-Saint John river.....					5,000							
Madawaska Co.—												
Private pond, Power creek, Mr. Zeno Martin.....								3,000				
York Co.—												
Artificial lake-Keswick river.....					2,000							
Brandy brook-Russiagornis stream.....					10,000							
Brown lake.....					15,000							
Clincher brook-Magaguadavic river.....					10,000							
Coach stream-Saint John river.....					10,000							
Cross creek-Nashwaak river.....					30,000							
Davis lake.....					10,000							
Davidson lake.....					60,000							
Dunbar stream-Nashwaak river.....					10,000							
Second Eel river lake.....					50,000							
Garden creek-Saint John river.....					15,000							
Indian lake.....					30,000							
Kelly creek-Saint John river.....					10,000							
Keswick river.....	50,000	56,000										
Kingsley brook-Nashwaaksis river.....					10,000							
Limekiln brook-Nashwaak river.....					10,000							
Long creek-Saint John river.....					10,000							
McBean brook-Nashwaak river.....					10,000							
McCullum creek-Nashwaak river.....					10,000							
McIntosh creek-Saint John river.....					5,000							
Mactaquac river.....		74,000										
Manzer Mill stream-Nashwaak river.....					15,000							
Middle brook-Nashwaak river.....					10,000							
Nackawic river.....	60,000											
Nashwaak river.....	120,000	138,000	16,000									
Nashwaaksis river.....					100,000							
Pidgeon brook-Nashwaak river.....					10,000							
Pokiok river.....					80,000							
Risteen lake.....					30,000							
Russiagornis stream-Oromocto river.....					15,000							
Shogomoc river.....					80,000							
Skiff lake.....	60,000	124,000										
Taffa lake.....					30,000							
Tay river.....					20,000							
Tinkettle brook-Nashwaak river.....					10,000							
	1,115,000	620,500	202,096	700	1,251,407	250	3,000	762	300	18	43	

Total distribution..... 3,194,076

## GRAND FALLS HATCHERY

	Atlantic salmon Fingerlings			Speckled trout	
	No. 1	No. 2	No. 3	Fry	Finger- lings No. 1
<b>Salmon river—Victoria Co.—</b>					
Salmon river, headwaters.....		35,000	210,277		
Salmon river, mouth of.....	40,000				
Salmon river, at Estey camp.....		20,000			
Salmon river, at Guimont lodge.....		40,000			
Salmon river, at Power's camp.....		40,000			
Aubin crossing.....		30,000			
Big bogan.....		10,000			
Boat Landing.....	30,000	20,000			
Cote Mill.....	30,000	70,000			
Covered bridge.....		30,000			
Cyr flats.....		20,000			
Danish Mill.....		30,000			
Davis Mill.....	25,000	10,000			
Little Salmon river.....	45,000	40,000			
Mooney brook.....				85,000	
Sutherland brook.....				60,347	85,000
<b>St. John river—Victoria Co.—</b>					
Andover.....		75,000			
Andover bar.....		55,000			
Andover, lower.....		35,000			
Argossey.....		5,072			
Aroostook bar.....	45,000	35,000			
Aroostook junction.....		35,000			
Aroostook river, mouth of.....		20,000			
Boutout brook, mouth of.....					10,000
Cliffordvale.....		10,000			
Coronation.....	25,000	10,000			
Four Falls brook.....					35,000
Gallagher flats.....		35,000			
Hart brook.....					10,000
Hatchery brook, below falls.....					10,000
Hitchcock flats.....		35,000			
Inman flats.....		60,000	25,000		
Kilburn ferry.....		135,000	25,000		
Limestone.....	25,000	20,000			
Morrill.....	25,000				
Muniac river, mouth of.....		95,000	20,000		
Ortonville.....	25,000				
Perth.....		20,000			
Perth junction.....		55,000			
Perth, lower.....		75,000	40,000		
Perth, upper.....		20,000			
Sullivan flats.....		10,000			
Fraser's dead water, Three brooks.....				21,949	
Three brooks, below dam.....				50,000	
Undine.....		10,000			
Watson flats.....		10,000			
Tobique river, mouth of.....		35,000	10,000		
Arthurette bridge.....		20,000			
Millers.....			40,000		
Millers bogan.....		40,000	20,000		
Red Rapids.....		20,000			
Riley brook.....			20,000		
Two brooks.....		40,000			
Waters bogan.....		20,000	20,000		
<b>Madawaska Co.—</b>					
Grand river.....				100,000	
Bear brook.....				100,000	
Burgess Mill.....				50,000	
Iroquois river.....					200,966
Little river—					
Beaulieur's Mill.....					75,000
Coombe brook.....					50,000
Dead brook.....					100,000
Michaud rocks.....					50,000
Six mile brook.....					50,000
Siegas river.....				100,000	
Trout brook.....					100,000
	315,000	1,430,072	430,277	567,296	775,966

Total distribution..... 3,518,611

## MIRAMICHI HATCHERY

	Atlantic salmon			Speckled trout			Year- lings
	Advanced fry	Fingerlings		Advanced fry	Fingerlings		
		No. 1	No. 2		No. 1	No. 2	
Aboujag river.....					11,000		
Black river-Northumberland Co.....				16,000	12,500	2,300	
Buckley lake.....				12,000			
Buctouche river, south branch.....				8,000			
Caraget river.....				12,000			
Cocagne river.....				8,000		2,000	
Elmtree river.....				12,000			
Grand Aldouane river.....					12,000		
Green brook-Bartibog river.....					27,500		
Hashmans brook-Westmorland Co.....					6,000		
Branch.....					5,000		
Hayward brook-Albert Co.....						400	
Kennebecasis river.....						800	
Kouchibouguac river.....					6,000	2,000	
Branch.....					5,000		
McGinnis brook.....				8,000			
Little river-Nipisiguit bay.....				12,000			6,000
Little river-Westmorland Co.....						1,600	
Little Southwest Miramichi river.....	438,000	248,800					
McKee Mills river.....				8,000			
Middle river.....			56,000				
Mill creek stream-Albert Co.....					12,000		
Millstream-Nipisiguit bay.....				12,000			
Nappan river.....				8,000			
Nigadu river.....				12,000			
North river-Westmorland Co.....				4,000			
Northwest Miramichi river.....	945,000	32,000	18,000				
Buckley pond.....					5,000		
Millstream.....	56,000	32,000	27,516				
Sevogle river.....			184,000				
Stewart brook.....		21,600					7
Trout brook.....			27,200				
Pabineau river.....					12,500		
Pokemouche river.....				12,000			
Pollett river-Albert Co.....						800	
Richibucto river, Coal branch.....				4,000		2,000	
St. Nicholas river.....				8,000			
Salmon river.....				8,000		2,000	
Scoudouc river.....					16,000	800	
Southwest Miramichi river.....		171,200	33,000				
Barnaby river.....	112,000						
Burntland brook lake.....					12,500		
Cain river.....	48,000	256,000					
Renou river.....		166,400					
Dungarvon river.....	56,000	43,200	18,000				
Taxis river.....	94,500						
Tabusintac river.....		76,800	60,200				
Eskedelloe brook.....				8,000			
Tetagouche river.....			57,600				
Tracadie river.....				12,000			
Little Tracadie river.....				12,000			
Turtle creek-Albert Co.....				8,000		800	
West river-Albert Co.....						800	
Wrigley lake.....				8,000			
Votoure lake.....					9,000		43
	1,749,500	1,048,000	481,516	212,000	152,000	22,300	50

Total distribution..... 3,665,366

RESTIGOUCHE HATCHERY

	Atlantic salmon			Speckled trout	
	Advanced fry	Fingerlings		Fry	Advanced fry
		No. 1	No. 2		
Charlo river, north branch.....				20,386	38,414
Charlo river, south branch.....					30,000
Christopher brook.....				25,000	
Black brook.....				15,000	
Lamontagne lake.....				10,000	
Eel river.....				60,000	
Grog brook.....				50,000	
Jacquet river.....		90,000			
Island lake.....					25,000
Loch Lomond.....				4,000	
Louison river.....					71,792
Jack Burns lake.....					23,208
Middle river.....	50,000				
Nipisguit river.....	360,000				
Restigouche river.....	93,299	488,858	38,082		
Kedwick river.....		115,000			
Little Main river.....		150,000			
Matapedia river.....	75,000	479,349			
Patapedia river.....		50,000			
Upsalquitch river.....	75,000	359,154			
Walker brook.....				25,000	10,295
	653,299	1,732,361	38,082	209,386	198,709

Total distribution..... 2,831,837

ST. JOHN HATCHERY

	Atlantic salmon			Sebago salmon Two years	Rainbow trout Old fish	Speckled trout							
	Advanced fry	Fingerlings				Eyed eggs	Fry	Advanced fry	Fingerlings				
		No. 1	No. 2						No. 3	No. 1	No. 2	No. 3	No. 4
Atlantic Biological Station, Saint Andrews, New Brunswick.....						10,000			2,500				
Albert Co.—													
Fenton pond—Crooked creek.....									2,500				
Little river.....									10,000				
Point Wolfe river.....									10,000				
Pollett river.....									10,000				
Stannard lake.....									10,000				
Turtle creek-Petitcodiac river.....									10,000				
West river.....									10,000				
Charlotte Co.—													
Bartlett brook.....									15,000				
Bonaparte lake.....									15,000				
Burns brook-Digdeguash river.....									10,000				
Chamcook lakes.....				2,210									
Clarence stream—Magaguadavic river.....									30,000				
Craig brook-Digdeguash river.....									10,000				
Digdeguash river.....									51,000				
Disappointment or Mistake lake.....								20,000					
Doak brook-St. Croix river.....									5,000				
Echo lake.....										4,000			
Big Eel brook.....									3,000				
Little Eel brook.....									3,000				
Green Brown brook-Kanus river.....									10,000				
Hitching brook-Digdeguash river.....									10,000				
Kerr lake.....									20,000				
Lake Utopia.....									50,000			25,000	
Leland pond.....									10,000				
Lepreau river.....									30,000				
Linton stream-Magaguadavic river.....	100,000												
McClary brook-St. Croix river.....										5,000			
McDougall lake.....									40,000				
Magaguadavic river.....	200,000												
Murchie brook-St. Croix river.....										10,000			
New river.....									30,000				
Red Rock lake.....											15,000		
St. Patrick lake.....										20,000			
St. Stephen rearing pond.....										6,000	1,000		
Seal Cove brook.....										3,000			
Sparks lake.....										10,000			
Spear brook-Lake Utopia.....										30,000			
Stein lake.....										10,000			
Welch lake.....										5,000			
Whale Beach pond.....											4,000		
Kings Co.—													
Fenwick lake.....										5,000			
Hall brook-Kennebecasis river.....											3,000		
Hammond river.....								30,000		10,000			

ST. JOHN HATCHERY—Concluded

	Atlantic salmon			Sebago salmon Two years	Rainbow trout Old fish	Speckled trout							
	Advanced fry	Fingerlings				Eyed eggs	Fry	Advanced fry	Fingerlings				
		No. 1	No. 2						No. 3	No. 1	No. 2	No. 3	No. 4
<b>Kings Co.—Concluded</b>													
Kennebecasis river.....	100,000												
Kennebecasis river, headwaters.....								30,000			15,000	25,000	
Kennebecasis river, south branch.....									10,000				
McBrien lake.....									10,000				
Moss Glen lake.....									15,000				
Otter lake.....									5,000				
Pichette lake.....									15,000				
Pollett lake.....									10,000				
Price brook.....									10,000				
School brook-Kennebecasis river.....										3,000			
Smith creek-Kennebecasis river.....									15,000				
Studholm brook or Millstream.....									15,000				
Taylor brook-Kennebecasis river.....										3,000			
Trout creek-Kennebecasis river.....	100,000												
Wetmore dam-Kennebecasis river.....									5,000				
<b>Queens Co.—</b>													
Canaan river, north forks.....									10,000				
Coal creek.....									20,000				
Mill brook-Washademoak lake.....										7,000			
Robinson brook-Washademoak lake.....										8,000			
Salmon river.....	50,000												
Snowshoe lake.....									15,000				
<b>Saint John Co.—</b>													
Black river.....	70,000	4,694											
Boaz lake.....							15,000						
Donaldson lake.....							15,000						
Germain brook-Hammond river.....							20,000						
Glen Falls Reservoir.....										5,000			
Grassy lake.....									15,000				
Hanford brook.....								20,000					
Hanson river.....	20,000											5,000	
Henry lake.....								20,000					
Hopey lake.....									5,000				
Hunter lake.....									10,000				
Little river.....						8				5,000			
Little river Reservoir.....			390							5,000			
Loch Lomond.....										25,000			
Loch Lomond, third lake.....										25,000			
McDonald lake.....										1,000			
Mechanic pond.....									5,000				
Milligan lake.....									25,000				
Mispek river.....								25,000		15,000			
Moose creek.....									10,000				
Southern lake.....										15,000			
Taylor lake.....									15,000				
Tyne Mouth creek.....	50,000												
Seven Mile lake.....												8,000	
Wilmot brook-Loch Lomond.....									25,000				

Sunbury Co.—													
Brisley brook.....											15,000		
Burpee brook-French lake.....											10,000		
Mersereau brook.....											10,000		
Oromocto river.....		75,000											
Otter lake.....											20,000		
Peltoma lake.....												5,000	
Rockwell brook.....											15,000		
Shin creek.....											20,000		
Three Tree creek.....											20,000		
Westmorland Co.—													
Anagance river.....											10,000		
Bennett brook-Petitcodiac river.....										15,000			
Dickie brook-Shediac bay.....												2,000	
Petitcodiac river.....	100,000												
York Co.—													
Baker brook.....											10,000		
Big Cranberry lake.....											20,000		
Davis brook-Magaguadavic river.....	10,000												
Harvey lake.....											20,000		
Lake George.....											20,000		
Lyon brook.....											20,000		
Little McAdam stream.....											15,000		
Magaguadavic river, branch.....											20,000		
Mink Lake.....											5,000		
Mink stream.....											5,000		
Lake George rearing pond.....											10,000		
Spring brook (James Vail)—Magaguadavic river.....	10,000												
Spring brook (Lemuel Vail) Magaguadavic river.....	10,000												
	680,000	215,000	4,694	390	2,210	8	10,000	145,000	285,000	886,000	94,000	42,000	38,000

Total distribution..... 2,402,302

PRINCE EDWARD ISLAND  
KELLY'S POND HATCHERY

	Atlantic salmon			Speckled trout			
	Advanced fry	Fingerlings		Advanced fry	Fingerlings		
		No. 1	No. 2		No. 1	No. 2	No. 3
<b>Kings Co.—</b>							
Big pond.....		50,000			4,800		
Black pond.....					4,000		
Cardigan river.....						5,800	
Coogan stream-Morell river.....					10,000		
Creed's pond-Sturgeon river.....					5,000		
Fisher brook-Morell river.....		13,000					
Fortune river.....					20,000		
Fox river.....					5,000		
Goose river.....					10,000		
Hay river.....					10,000		
Head of Hillsborough river.....		51,000					
McCaskil river.....		30,000					
McKinnon brook-Morell river.....					10,500		
McRae's pond-Montague river.....					5,000		
Midgell river.....		51,000	15,000				
Montague pond.....					10,000		
Montague river.....	51,600	30,000					
Mooney's bridge-Morell river.....		35,000					
Morell river.....	197,800	120,800	30,370				
Naufrage river.....	51,000	65,000					
North lake.....					4,800		
Pool's pond-Lower Montague.....					5,000		
Quigley's stream, below mill—St. Peters bay.....	51,000						
Red bridge-Morell river.....		35,000					
Schooner pond.....		30,000					
Sturgeon river.....		35,000					
Warren's pond-Head of East River.....					5,000		
<b>Prince Co.—</b>							
Bain creek.....					5,000		
Barbara Weit river.....					3,000		
Barlow pond-Grand river.....						5,000	
Black brook.....						2,400	
Black pond.....					5,000		
Cain stream-Mill river.....						5,000	
Carr stream.....						5,000	
Clark's pond-Wilmot river.....					5,000		
Dunk river.....					15,000	6,000	
Fitzgerald's pond-Grand river.....						5,000	
Foxley river.....						9,800	
Gard stream-Mill river.....						5,000	
Green stream-Miminegash river.....					5,000		
Harper's pond.....					5,000		
McNally's pond.....						5,000	
McWilliam's pond.....					5,000		
Nail pond.....					5,000		
Old Wool Mill pond-Tryon river.....					5,000		
Pierre Jacques river.....					5,000		
Scales pond.....					5,000		
Seacow pond.....					5,000		
Sheep river.....						5,000	
Skinner's pond.....					5,000		
Trout brook-Mill river.....						5,000	
Tuplin's pond-Indian river.....						5,000	
Wright's pond.....						5,000	
<b>Queens Co.—</b>							
Bagnall's pond.....					5,000		
Bell river.....					10,000		
Blooming Point pond.....					10,000		
Campbell's pond-New Glasgow.....						6,000	
Clark's stream-East river.....					5,000		
Coles pond-North river.....						3,515	
Crooked creek.....					5,200		
Dixon's pond-Sable river.....					5,000		
Hardy's pond.....					8,000		
Hope river.....					10,000		
Leard's pond-Crapaud river.....					5,000		
McPherson's pond-Flat river.....					5,000		

PRINCE EDWARD ISLAND—*Concluded*  
KELLY'S POND HATCHERY—*Concluded*

	Atlantic salmon			Speckled trout			
	Advanced fry	Fingerlings		Advanced fry	Fingerlings		
		No. 1	No. 2		No. 1	No. 2	No. 3
<i>Queens Co.—Concluded</i>							
McPherson's pond-Pinette river.....				10,000			
Nunn's pond-Mr. Walter Burke, Winsloe.....				1,000	1,000		
Parson's pond-Trout river.....				10,000			
Rackham's pond-Wheatley river.....				11,000			
Sherry brook-Johnston river.....				5,000			
Vessey brook-Winter river.....				20,000			30,940
Winter river.....		15,000		8,000			
Winter river, north branch.....				5,000			
	351,400	545,800	60,370	1,000	325,300	83,515	30,940

Total distribution..... 1,398,325

BRITISH COLUMBIA  
ARGENTA SUB-HATCHERY

	Kamloops trout fry
<i>Kootenay lake—</i>	
Argenta slough.....	100,000
Big slough.....	50,000
East shore.....	63,495
Fry creek bay.....	50,000
Lardeau bay.....	50,000
Schroeder bay.....	50,000
	363,495
Total distribution.....	363,495

BEAVER LAKE EYEING STATION

	Kamloops trout	
	Eyed eggs	Fry
Private ponds, Mr. C. H. Haskins, East Kelowna.....	2,000	
Alex. Mountain lake-Island lake.....		3,000
Beaver lake.....		30,000
Crooked lake.....		10,000
Dee lake.....		5,000
Deer lake.....		5,000
Doreen lake-Aberdeen lake.....		10,000
Echo lake.....		4,000
Island lake.....		10,000
Kelowna rearing ponds, Kelowna Rod and Gun Club.....	300,000	50,000
Lost lake-Deer lake.....		3,000
Okanagan lake.....		253,280
Rod lake-Crooked lake.....		3,000
Round lake.....		2,000
Wilma lake-Dee lake.....		3,000
	302,000	391,280

Total distribution..... 693,280

CULTUS LAKE HATCHERY

	Cutthroat trout		Coho salmon Eyed eggs	Kamloops trout		Steelhead salmon				Sockeye salmon	
	Eyed eggs	Fry		Eyed eggs	Fry	y	Advanced fry	Fingerlings		Eyed eggs	Fry
								No. 1	No. 2		
Cultus lake.....											3,551,050
Spring creek.....			1,063,053								
Devils lake.....				4,000							
Echo lake.....				19,140							
Elbow lake.....				5,000							
Hatchery creek-Sweltzer creek.....										74,400	
Liumchin lake.....				10,000							
Loch Erroch-Fraser river.....				20,000							
Silver lake.....				30,000							
Stacey lakes.....				30,000							
Stave lake.....				30,000							
Cannell lake.....				30,000							
Cedar lake.....				10,000							
Cypress lake.....				10,000							
Sweltzer creek.....		29,567				144,795	1,000	23,840	2,678		
Sweltzer creek, lower.....	36,325								31,012		
	36,325	29,567	1,063,053	170,000	28,140	144,795	1,000	23,840	33,690	74,400	3,551,050

Total distribution..... 5,155,860

## LLOYD'S CREEK SUB-HATCHERY

	Kamloops trout	
	Eyed eggs	Fry
Cloyah lake, near Prince Rupert.....	40,000	
Flora lake, N. D. Bothwell, Esq., Britannia Beach, B.C.....	5,000	
Link lake, near Ocean Falls.....	75,000	
Prudhomme lake, near Prince Rupert.....	100,000	
Hope district—		
Coquihalla river.....	35,000	
Crown lake.....	20,000	
Kelly lake.....	50,000	
Pavilion lake.....	50,000	
Scham or Haig lake.....	5,000	
Silver creek.....	50,000	
Kamloops district—		
Andy lake.....		5,000
Aylmer lake.....		10,000
Badger lake.....		5,000
Beaver lake, near Devick.....		2,000
Black Pines lake.....		2,000
Crystal lake, near Clearwater.....	30,000	
Devick lake.....		3,000
Eleanor lake, near Blue river.....	15,000	
Fish lake.....		250,000
Genier lake.....		10,000
King lake.....		5,000
Knouff lake.....		5,000
Kullach lake.....		6,447
Latremouille lake, near Mt. Olie.....	30,000	
McConnell lake.....		5,000
Monte lake.....		75,000
Paul lake.....		175,000
Peterhope lake.....		10,000
Pillar lake.....		25,000
Pinantan lake.....		150,000
Red lake.....		30,000
Rhoda lake.....		5,000
Pacific Great Eastern Railway, Pemberton district—		
Alta lake.....	30,000	
Bob lake.....	5,000	
Evans lake.....	5,000	
Fairy lake.....	20,000	
King lake.....	5,000	
Marshall lake.....	30,000	
Nita lake.....	5,000	
Woods lake.....	10,000	
Prince George district—		
Cluculz lake.....	30,000	
Kathlyn lake.....	50,000	
Lascelle lake.....	15,000	
Moose lake.....	50,000	
Ness lake.....	10,000	
Small lake.....	10,000	
Yellowhead lake.....	20,000	
Quesnel district—		
Crystal lake.....	40,000	
Curry lake.....	2,000	
Lac LaHache.....	30,000	
Machete lake.....	20,000	
McLeese lake.....	20,000	
Watch lake.....	20,000	
Provincial Game Board, Vancouver.....	400,000	
Revelstoke Rod and Gun Club, Biological Station, Taft.....	120,000	
Shuswap district—		
Johnston's pool, near Eagle bay, (A. T. Johnston, Esq.).....		1,000
Canoe creek-Shuswap lake.....	50,000	
Gardners lake, Salmon Arm (Gardner Lake Fishing Club).....		2,000
Granite creek-Shuswap lake.....	140,000	
Loon lake.....		9,000
Mabel lake.....		30,000
McGuire lake.....		5,000
Palmer creek-Salmon river.....	50,000	
Reneickers creek-Shuswap lake.....	80,000	
Salmon river.....	125,000	
Scotch creek-Shuswap lake.....	320,000	
Shuswap lake.....		113,119
White lake.....		30,000
Vancouver district—		
Powell lake.....	100,000	

LLOYD'S CREEK SUB-HATCHERY—*Concluded*

	Kamloops trout	
	Eyed eggs	Fry
Vancouver island—		
Boston lake.....	20,000	
Cameron lake.....	70,000	
Campbell lake.....	50,000	
Cowichan lake hatchery.....	60,000	
Great Central lake.....	70,000	
Long lake.....	10,000	
Sproat lake.....	70,000	
Telford creek-Shawinigan lake.....	50,000	
	2,717,000	968,566
Total distribution.....	3,685,566	

## NELSON HATCHERY

	Kamloops trout		Ken- nerly's salmon fry	Speckled trout Two years
	Eyed eggs	Fry		
Grand Forks district—				
Christina lake.....	40,000			
Granby river.....		35,000		
Smelter lake.....		35,000		
Greenwood district—				
Boundary creek-Kettle river.....	30,000			
Conkle lake.....	20,000			
Jewel lake.....		30,000		
Kettle river (above Westbridge).....	40,000			
Kettle river, west fork.....	40,000			
Wildgress or Loon lake.....		20,000		
West Kootenay—				
Anderson creek.....			35,000	
Arrow lake, lower (at Edgewood).....		30,000		
Arrow lake, lower (Syringa-Robson district).....		30,000		
Arrow lake, upper.....		30,000		
Barratt lake.....	5,000			
Bear lake.....		15,000		
Boundary lake.....				1,292
Box lake.....		15,000		
Canyon creek.....		15,000		
Columbia river (below Castlegar).....		25,000		
Crawford creek-Kootenay river.....		20,000		
Eight Mile creek-Kootenay river.....			35,000	
Falls creek.....	10,000			
Four Mile creek-Kootenay river.....			25,000	
Grays creek.....		10,000		
Hidden creek.....	20,000			
Kokanee creek.....			370,000	
Kootenay lake, west arm.....		90,000		
Kootenay river.....		60,000		
Kootenay river, below Slocan pool.....		25,000		
Peter lake, Nelson Golf Course.....				50
Porto Rico lake.....	15,000			
Redfish creek.....			160,000	
Rosebud lake.....		20,000		
Salmon river.....		25,000		
Seven Mile creek-Kootenay river.....			40,000	
Sitkum creek.....			140,000	
Six Mile creek-Kootenay river.....			180,560	
Slocan lake.....		50,000		
Slocan river.....		35,000		
Slocan pool.....		61,829		
Snowshoe lake, Mr. A. Coates, Whatshan lake.....		4,000		
Sproule creek.....			75,000	
Summit lake.....		20,000		
Ten Mile creek-Slocan lake.....		10,000		
Unnamed creek-Crawford bay.....		10,000		
Whatshan lakes.....		30,000		
Woodbury creek.....	15,000			
	235,000	750,829	1,060,560	1,342
Total distribution.....	2,047,731			

## PENASK LAKE SUB-HATCHERY

	Kamloops trout	
	Eyed eggs	Fry
Cranbrook hatchery.....	405,500	
Provincial Game Board, Vancouver.....	390,000	
Douglas lake.....		10,000
Jackson lake.....		5,000
Minnie lake.....		10,000
Mystery lake.....		5,000
Mud lake-Penask lake.....		20,000
Penask creek.....		36,860
Peterson lake.....		5,000
	795,500	91,860

Total distribution..... 887,360

## SMITHS FALLS SUB-HATCHERY

	Cutthroat trout			Sockeye salmon		Steelhead salmon yearlings
	Eyed eggs	Fry	Three years	Eyed eggs	Fry	
Provincial Game Board, Vancouver.....			32			
Vancouver island-Maggie lake.....				1,500,000		
Atchelitz river.....	25,500					
Brown creek-Vedder river.....	40,000					
Clayburn river.....	14,000					
Cultus lake.....					8,869,144	
Hatzic lake.....	50,000					
Haywood lake.....	50,000					
Hope slough-Fraser river.....	59,000					
Kanaka creek.....	25,000					
Liumchin creek, above falls.....		10,000				
Marshall creek-Sumas river.....	25,000					
Miami river-Harrison lake.....	55,000					
Nicomekl river.....	73,500					
Popkum lake.....	40,000					
Rexford creek-Vedder river.....	100,000					
Salmon river, Langley.....	40,000					
Silver creek.....	25,000					
Sweltzer creek.....	60,040	37,600		992,000		12,107
Sweltzer creek, lower.....				797,694		
Unnamed stream, Matsqui slough-Fraser river.....	30,000					
Vedder river.....	28,000					
Woodruff creek-Vedder river.....	90,000					
Yarrow creek-Sumas river.....	20,000					
	850,040	47,600	32	3,289,694	8,869,144	12,107

Total distribution..... 13,068,617

## SUMMERLAND SUB-HATCHERY

		Kamloops trout	
		Eyed eggs	Fry
Kettle river—			
	McCulloch lake.....	10,000	
	Caribou lake.....	3,000	
	Idebell lake.....	3,000	
	Pear lake.....	4,000	
Nicola river—			
	Brookmere lake.....		15,000
	Murphy lake.....		4,000
Okanagan district—			
	Brent lake.....		5,000
	Coldstream creek-Long lake.....	50,000	
	Deep creek.....	30,000	20,000
	Dog (Shaha) lake.....	55,000	40,000
	Eneas lake.....		10,000
	Glen lake.....		5,000
	Long lake, Vernon.....		25,000
	Okanagan lake.....		144,220
	Osoyoos lake.....	40,000	
	Penticton ponds (Penticton Rod and Gun Club).....		20,000
	Shannon lake.....		5,000
	Silver lake.....		5,000
	Trepannier creek.....		20,000
	Vaseux lake.....	18,100	
	Vernon ponds (Vernon Fish and Game Association).....		20,000
	Woods lake.....		20,000
Shuswap district—			
	Echo lake.....		5,000
	Mabel lake.....	100,000	
Similkameen river—			
	Blue lake.....		10,000
	Burgesson lake.....		10,000
	Clearwater lake.....	20,000	
	Davis lake.....		10,000
	Link lake.....		5,000
	McKenzie lake.....		10,000
	Missezula lake.....	10,000	
	Osprey lake.....		5,000
	Otter lake.....	40,000	
	Princeton rearing ponds (Princeton Rod and Gun Club).....		96,000
	Taylor lake.....		5,000
	Wolf lake.....		30,000
		383,100	544,220
Total distribution.....		927,320	

Total distribution