DEPARTMENT OF FISHERIES

ANNUAL REPORT

ON

FISH CULTURE

1941

OTTAWA
EDMOND CLOUTIER
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1943

ANNUAL REPORT ON FISH CULTURE

BY

J. A. RODD, *Director of Fish Culture*

Fish cultural operations in 1941 were carried on by the Department of Fisheries in Nova Scotia, New Brunswick and Prince Edward Island, where the fisheries are entirely, or to a large extent, under federal administration. In addition over 1,000,000 sockeye salmon eyed eggs were planted in Hillier Creek, Maggie Lake, Vancouver Island, British Columbia, in continuation of the stocking effort, resumed in 1937, to add these waters to the sockeye producing areas of the Barclay Sound district.

Thirteen main hatcheries, one subsidiary hatchery, six rearing stations, six salmon retaining ponds and several egg collecting camps were operated. The total output from these establishments was 29,635,654, over 83 per cent of which was distributed in the fingerling and older stages. The output by species, hatcheries and provinces was:

STATEMENT BY SPECIES OF THE FISH AND FISH EGGS DISTRIBUTED FROM THE HATCHERIES DURING THE YEAR ENDED DECEMBER 31, 1941

Species	Eyed Eggs	Fry	Advanced fry	Fingerlings	Yearlings and Older	Total Distribution
Salmo salar—Atlantic salmon	.....	100,000	2,894,500	12,086,153	90,684	15,171,337
Salmo irideus—Rainbow trout	.....	.....	.....	386,645	223	386,868
Cristivomer namaycush—Salmon trout	.....	.....	.....	67,550	.....	67,550
Salmo salar sebago—Sebago salmon	.....	.....	.....	.....	39,235	39,235
Oncorhynchus nerka—Sockeye salmon	1,030,296	.....	.....	.....	.....	1,030,296
Salvelinus fontinalis—Speckled trout	.....	309,000	576,090	12,009,837	45,441	12,940,368
	1,030,296	409,000	3,470,590	24,550,185	175,583	29,635,654

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 1941

Established	Hatchery	Location	Species	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				695,000	183,389					878,389	
			Rainbow trout				43,780						43,780	
			Speckled trout			75,000	2,656,317	156,000	63,000	25,050		13,554	2,988,921	3,911,090
1876	Bedford	Bedford, N.S.	Atlantic salmon						60,900				60,900	
			Speckled trout				17,715						17,715	78,615
1937	Cobequid	Jackson, N.S.	Atlantic salmon			175,000	536,000	235,000	102,267	13,553			1,061,820	
			Speckled trout				277,730						277,730	1,339,550
1938	Coldbrook *(f)*	Coldbrook, N.S.	Rainbow trout						37,000				37,000	
			Speckled trout						120,527				120,527	157,527
1936	Grand Lake *(f)*	Wellington Station, N.S.	Atlantic salmon					11,000	192,800	110,000		88,180	401,980	
			Speckled trout									5,290	5,290	
			Sebago salmon									38,235	38,235	445,505
1937	Kejimkujik *(f)*	New Grafton, N.S.	Atlantic salmon						230,394				230,394	
			Speckled trout					62,423					62,423	292,817
1912	Lindloff	St. Peters, N.S.	Atlantic salmon				300,000	400,000	138,847				838,847	
			Speckled trout				1,179,000	283,347	778			7,131	1,470,256	2,309,103
1902	Margaree	N.E. Margaree, N.S.	Atlantic salmon				1,400,000	325,000	14,160				1,739,160	
			Speckled trout			258,430	1,269,000	290,000	210,000	160,000	80,420	5,009	2,272,859	4,012,019
1935	Mersey River *(f)*	Liverpool, N.S.	Atlantic salmon						251,700				251,700	
			Speckled trout						1,697				1,697	253,397
1913	Middleton	Middleton, Annapolis Co., N.S.	Atlantic salmon					9,100	285,000				294,100	
			Salmon trout				50,000	17,550					67,550	
			Speckled trout				10,000	180,000	152,225			100	342,325	703,975
1933	Nictaux Falls *(f)*	Nictaux Falls, N.S.	Atlantic salmon				247,400						247,400	247,400
1929	Yarmouth	South Ohio, N.S.	Atlantic salmon				66,785	42,850	81,748	29,824		2,504	223,711	
			Rainbow trout									223	223	
			Speckled trout			36,660	237,280	202,672	22,564	4,040	9,291	3,159	515,666	739,600
1939	Charlo	River Charlo, N.B.	Atlantic salmon				439,310	1,274,434	60,000				1,773,744	
			Speckled trout		34,000		2,000		76,500				112,500	1,886,244
1928	Florenceville	Florenceville, N.B.	Atlantic salmon				470,000	774,899					1,244,899	
			Sebago salmon									1,000	1,000	
			Speckled trout				1,580,472					10,373	1,590,845	2,836,744
1880	Grand Falls	Grand Falls, N.B.	Atlantic salmon		100,000	250,000	940,800	136,000	63,667				1,490,467	
			Speckled trout		275,000		289,000	156,000	335,302				1,055,302	2,545,769
1874	Miramichi	South Esk, N.B.	Atlantic salmon			1,874,500	841,800	438,562					3,154,862	
			Speckled trout			85,000	136,900						221,900	3,376,762
1914	Saint John	Saint John, N.B.	Atlantic salmon			345,000	398,853	4,000	5,186				753,039	
			Rainbow trout					15,380					15,380	
			Speckled trout			121,000	773,700	118,750	81,500	26,000	1,864	825	1,123,639	1,892,058
1938	Cardigan *(f)*	Cardigan, P.E.I.	Atlantic salmon				10,000	18,000	16,845				44,845	
			Rainbow trout				20,000		116,000	7,000			143,000	
			Speckled trout						302,000	11,673			313,673	501,518
1906	Kelly's Pond	Southport, P.E.I.	Atlantic salmon			250,000	231,080						481,080	
			Rainbow trout				147,485						147,485	
			Speckled trout				424,000	23,100					447,100	1,075,665
1911	Anderson Lake *(a)*	Anderson Lake, Kildonan, Vancouver Island, B.C.	Sockeye salmon	*e*1,030,296									1,030,296	1,030,296
				1,030,296	409,000	3,470,590	15,691,407	5,357,456	3,022,607	387,140	91,575	175,583	29,635,654	29,635,654

(a) Subsidiary hatchery. *(f)* Rearing station. *(e)* Autumn collection 1941.

The eggs, fry and fingerlings included in this distribution, with the exception indicated, were from collections in the autumn of 1940 and the spring of 1941.

HATCHERY OUTPUT, BY PROVINCES, OF EYED EGGS, FRY, FINGERLINGS, YEARLINGS AND OLDER FISH DURING 1941

—	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			
Nova Scotia—											
Atlantic salmon			175,000	3,245,185	1,206,339	1,357,816	153,377		90,684	6,228,401	
Rainbow trout				43,780		37,000			223	81,003	
Salmon trout				50,000	17,550					67,550	
Sebago salmon									38,235	38,235	
Speckled trout			370,090	5,647,042	1,174,442	570,791	189,090	89,711	34,243	8,075,409	
			545,090	8,986,007	2,398,331	1,965,607	342,467	89,711	163,385	14,490,598	14,490,598
New Brunswick—											
Atlantic salmon		100,000	2,469,500	3,090,763	2,627,895	128,853				8,417,011	
Rainbow trout					15,380					15,380	
Sebago salmon									1,000	1,000	
Speckled trout		309,000	206,000	2,782,072	274,750	493,302	26,000	1,864	11,198	4,104,186	
		409,000	2,675,500	5,872,835	2,918,025	622,155	26,000	1,864	12,198	12,537,577	12,537,577
Prince Edward Island—											
Atlantic salmon			250,000	241,080	18,000	16,845				525,925	
Rainbow trout				167,485		116,000	7,000			290,485	
Speckled trout				424,000	23,100	302,000	11,673			760,773	
			250,000	832,565	41,100	434,845	18,673			1,577,183	1,577,183
British Columbia—											
Sockeye salmon	1,030,296									1,030,296	1,030,296
											29,635,654

The Anderson Lake hatchery, Vancouver Island, British Columbia, was operated for a short period and over a million sockeye salmon eggs collected, eyed at the hatchery, and planted in Hillier creek at the head of Maggie Lake. Natural spawning in the Anderson Lake area was reported to have taken place under very favourable conditions and apparently the area was well seeded.

Some 34,915 Atlantic salmon fingerlings were marked by the removal of the adipose and one side fin, either a pectoral or a ventral, and distributed from the Cobequid and Charlo hatcheries, bringing the total of marked Atlantic salmon in all hatcheries from 1935 to 1941 inclusive to 820,272. The tagging of Atlantic salmon by affixing a numbered tag to the dorsal fin, which was commenced in 1913, was continued on a limited scale at the Margaree Pond. Four such salmon that had been tagged at this pond in previous years and that had been to sea were reported, 2 from points not far distant, and 2 from the harbour where they had previously been marked and liberated. Four that were tagged and liberated in the harbour were taken a short time later—three from Margaree River pools by anglers and one at the harbour net. Seventeen that had been tagged and liberated at River Philip, Nova Scotia, were reported from different parts of the coast, from the river where they had been liberated and one as far distant as Newfoundland. There was one reported recapture each from the New Mills and St. John taggings. A considerable number of speckled trout fingerlings and older fish were marked by the removal of the adipose and one of the side fins and distributed from most hatcheries and rearing ponds.

The recapture of these marked and tagged fish, if reported, will add to present data in regard to the "homing" theory, sea movements or migrations of salmon, and the growth, survival and migration of trout. A reward of one dollar is paid for information as to the date, length, weight and place of recapture of each salmon, accompanied by the tag, a number of scales, and the scars left by the removal of the fins. The percentage of fin clipped fish that have been reported from the different districts varies greatly in regard to the number that are marked in this way. Apparently the anglers and residents of some districts are not prepared to co-operate to the extent of reporting the taking of marked fish by post-cards provided by the Department or by reporting verbally to the nearest fishery officer, although at the same time they do not hesitate to complain if the angling is not as good as it used to be when the fishing effort was only a fraction of what it is at the present time. The nature of the information that might be made available by full co-operation of the public is indicated by the returns from Chamcook Lakes, New Brunswick, where the sebago salmon hatchery fish are marked before they are liberated. A similar course is followed with sebago salmon at Grand Lake, Nova Scotia. During the collection of salmon eggs at Chamcook Lakes this year, out of a total of 141 fish 41 or 29 per cent bore the hatchery mark. This percentage during the past six seasons averaged 31·2 per cent. At Grand Lake 39·5 per cent of those taken in 1940 and 38·4 per cent of those taken in 1941 were hatchery marked fish. In addition, considerable numbers of marked fish are taken by anglers in these waters.

Prophylactic and sanitary measures were practised on a rather extensive scale at all hatcheries and rearing ponds, and experiments with equipment, methods and foods of various kinds were continued.

As the prices of beef liver, at one time the standard fish food used in fish cultural work, and other meat products have increased to such an extent, with corresponding increases in the production costs of hatchery fish, fish culturalists generally have been experimenting for many years with a great variety of foods and combinations of foods with the hope of finding less costly and equally or more efficient rations for hatchery fish.

A notable and important advance was made on behalf of this Department towards the solution of this feeding problem inasmuch as Doctor W. D. McFarlane, Professor and Chairman of the Department of Chemistry, Macdonald College, McGill University, undertook an investigation of the composition of some natural foods of Atlantic salmon and speckled trout fry in the Maritime Provinces during 1940. From the result of these analyses, he formulated rations that approximated as closely as possible the composition of the natural food and these were tested out at the different hatcheries during 1941. In all 23 different ingredients were used in various combinations and 96 tests were made.

Some of the rations tested gave very promising results, inasmuch as the mortality percentage was low and the cost in food of producing one pound of fish was considerably smaller than it was with the standard meat products. On the basis of the results obtained from these tests under varying conditions that prevailed at the several hatcheries and rearing ponds in 1941, an even more comprehensive series of tests will be undertaken during the coming year.

A modified potato ricer was tried out experimentally at several hatcheries as a means of feeding the rations in worm-like form. Results justified further experiments in this method of feeding and modified ricers will be used to a larger extent at several establishments next season.

The Charlotte County Lakes management was continued as planned. The closure was removed with the opening of the speckled trout season on April 1, and a creel census was taken in Johnson and Kerr Lakes. Johnson Lake (34 acres) received 459 and Kerr Lake (177 acres) received 2,390 marked speckled trout yearlings in 1939. While the angling season extends from April 1 to September 30, the first and last trout were caught respectively on May 5 and July 30 in Johnson Lake and on April 30 and August 30 in Kerr Lake. The yield was low, being only 0·9 and 0·4 pounds per acre respectively. The number of marked fish reported was also small, being only one in Johnson Lake and fourteen in Kerr Lake. The monthly creel census results in 1941 were:—

Johnson Lake	April	May	June	July	Aug.	Sept.	Totals
Number of fishermen	0	38	13	3	0	0	54
Fish Caught	0	63	12	4	0	0	79
Marked	0	1	0	0	0	0	1
Unmarked	0	62	12	4	0	0	78
Hours fished	0	109·5	29·5	8·5	0	0	147·5
Fish per hour	0	0·57	0·40	0·47	0	0	0·53
Average weight (oz)	0	8·0	6·8	10·4	0	0	8·0

Kerr Lake	April	May	June	July	Aug.	Sept.	Totals
Number of fishermen	7	124	56	47	32	0	266
Fish Caught	2	139	38	37	17	0	233
Marked	0	7	4	2	1	0	14
Unmarked	2	132	34	35	16	0	219
Hours fished	29	319	138·75	114	61·5	0	662·25
Fish per hour	0·07	0·43	0·27	0·32	0·27	0	0·35
Average weight (oz.)	6·0	6·1	5·9	5·7	5·2	0	6·0

Welch Lake (43 acres) and Gibson Lake (57 acres) were stocked respectively with 6,000 No. 2 and 1,560 No. 5 fingerlings in 1941. The closures will be removed from Limeburner Lake (129 acres) and Bonaparte Lake (105 acres), and along with Johnson Lake (34 acres) and Kerr Lake (177 acres), will be open to angling and a creel census will be taken in them in 1942.

Limeburner Lake was stocked with 3,484 No. 5 fingerlings and Bonaparte Lake with 14,180 No. 2 fingerlings in 1939. Ten thousand five hundred and thirty-five No. 2 fingerlings were distributed in St. Patrick Lake and 6,976 No. 2 fingerlings in Crecy Lake in 1940.

The fish distributed in Johnson, Kerr, Limeburner and Gibson Lakes were marked by the removal of the adipose and one of the side fins.

The Charlotte County Lakes management is a co-operative effort between the Fish Cultural Branch and the Atlantic Biological Station of the Fisheries Research Board. It comprises eight lakes within a radius of approximately fifteen miles and reasonably convenient to the Station. The biological studies were made by the staff of the Station, the area of the lakes was determined and the stocking plan was devised by Doctor M. W. Smith, a member of the staff. The fish are provided and all expenses due to guardianship and creel census are borne by the Fish Cultural Branch.

The plan calls for,—

1. The planting in rotation of trout of three different sizes, viz., No. 2 fingerlings, No. 5 fingerlings and yearlings;

2. The closure of the lakes until the trout planted in them are three years old, and then opening them to angling so that four of the lakes will be open and four closed to angling every year;

3. The maintenance of an adequate patrol to prevent illegal angling, and

4. Creel census to determine the value, in terms of the anglers' catch, of stocking lakes of this kind with hatchery fish of three sizes.

The lakes are closed the year following that in which they are stocked with yearlings, and the second year following that in which they are stocked with fingerlings.

The acreage of the lakes and the stocking schedules are as follows:

STOCKING SCHEDULE

Lake	Area (acres)	Number of Fish		
		No. 2 fingerlings	No. 5 fingerlings	Yearlings
Welch	43	5,810	1,162	581
Gibson	57	7,700	1,540	770
Limeburner	129	17,420	3,484	1,742
Bonaparte	105	14,180	2,836	1,418
Johnson	34	4,590	918	459
Kerr	177	23,900	4,780	2,390
St. Patrick	77	10,400	2,080	1,040
Crecy	50	6,750	1,350	675

SCHEDULE FOR STOCKING AND OPENING LAKES AND SIZE OF STOCK

Lake	Stocking year	Stock	Opening year	Stocking year	Stock	Opening year
Limeburner	1939	No. 5 fingerlings	1942	1943	No. 2 fingerlings	1946
Bonaparte	1939	No. 2 fingerlings	1942	1943	No. 5 fingerlings	1946
Johnson	1939	Yearlings	1941	1942	No. 2 fingerlings	1945
Kerr	1939	Yearlings	1941	1942	No. 2 fingerlings	1945
St. Patrick	1940	No. 2 fingerlings	1943	1945	Yearlings	1947
Crecy	1940	No. 2 fingerlings	1943	1945	Yearlings	1947
Welch	1941	No. 2 fingerlings	1944	1945	No. 5 fingerlings	1948
Gibson	1941	No. 5 fingerlings	1944	1945	No. 2 fingerlings	1948

The interest and co-operation of the local organizations which was referred to in a previous report has been continued. Provincial fish and game protective associations have co-operated, and the local fish and game clubs as well as angling and protective associations in many instances have assisted hatchery staffs as opportunity offered in the distribution of the season's output, particularly in waters in which these organizations are interested. Among those that were particularly helpful were the Fish, Forest and Game Protective Associations in the Middleton district, Nova Scotia, all branches of the New Brunswick Fish and Game Protective Association in the Saint John district, and Grand Falls, Madawaska, St. Leonards and Ste. Anne Fish and Game Clubs, New Brunswick.

Valuable and much appreciated advice and co-operation were extended whole-heartedly by the directors and staffs of the Atlantic Biological Station, the Atlantic Fisheries Experimental Station, and the Consulting Director of the Fisheries Research Board, all of which are referred to in the report of the Board.

Several transfers and promotions were made in the interests of increased efficiency during the year. Superintendent K. G. Shillington was transferred from the Antigonish to the Saint John hatchery; Superintendent W. D. Turnbull from the Margaree to the Antigonish hatchery; Superintendent J. W. Heatley from the Cobequid to the Margaree hatchery, and Superintendent F. F. Annis from Kejimkujik to the Yarmouth hatchery. Mr. P. B. Stratton was transferred and promoted from the position of Assistant at the Saint John hatchery to that of Superintendent at the Cobequid hatchery. Superintendent George Sutherland of the Florenceville hatchery was retired on superannuation on account of ill health and his position filled temporarily by Assistant T. K. Lydon and later by the transfer to Florenceville early in 1942 of Superintendent J. M. Butler of the Grand Lake rearing ponds. Assistant W. H. Cameron of the Antigonish hatchery was placed in charge, also temporarily, early in 1942, of the Grand Lake ponds.

These transfers carry with them promotion to a hatchery of higher grade with higher salary range or increased compensation in the way of a residence with light and fuel.

Owing to the conditions brought about by the war, operations were not expanded, new construction was not undertaken, and replacements and repairs were confined to essentials. Inspections of possible egg-collecting waters and hatchery and rearing-pond sites were also restricted to what might be done by fish cultural officers in the discharge of their regular duties.

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

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.	5,423	38	4,631	3,724	8,355	236	210	446	45
C.P.R.	976	12	1,348	1,348	2,696	133	133	266	20
D.A.R.	.....	.....	451	337	788	22	11	33	5
	6,399	50	6,430	5,409	11,839	391	354	745	70

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

From 1899 to 1941 inclusive, rainbow trout have been distributed in fifty-six lakes and seven streams in the Maritime Provinces. Distributions were made in seven lakes and in two streams in 1899 and 1900. Forty-nine lakes and six streams received allotments from 1917 to 1941. These waters were examined by the District Supervisors of Fish Culture during the past two seasons. In only one, viz., Crooked creek, Albert County, New Brunswick, is there definite evidence of natural reproduction. Rainbow trout were distributed in this creek in 1900 and specimens of various sizes are still taken there. There is also some evidence of natural reproduction in the Giants Lake area, Smelt Lake and Lindloff Lake, Nova Scotia, but it cannot yet be said that the fish have become established in these waters. They provide good sport in Glenfinnan and O'Keefe's (Pisquid) Lakes, Prince Edward Island, particularly during the late summer and early autumn when the native speckled trout are out of condition or are protected by close season. There is, however, no visible outlet from Glenfinnan and a similar condition prevails during the greater part of the year at O'Keefe's Lake. Even during periods of highest water the outflow from O'Keefe's Lake is through a road culvert in which a fairly effective screen has been maintained.

In this country Atlantic salmon are seldom taken by fly fishing in fresh water lakes. Loch Lomond, Richmond County, Nova Scotia, is an exception in this regard and apparently fly fishing for salmon has improved in this lake in recent years. Consequently the question was raised by some local anglers as to whether the fish that they were catching were sea-going or non-sea-going salmon. The salmon whose scales have been examined had however spent one or two years in the sea.

A salmon which proved to be a " hermaphrodite " was spawned at Miramichi pond. The fish had a hooked nose and so far as colouring and outward appearance was concerned resembled a male. Its eggs were smaller than those usually obtained from a salmon of similar size but otherwise appeared normal. It is the second salmon of dual gender reported from the Maritime Provinces, although a number of " hermaphrodite " sockeye salmon have been observed during fish cultural operations in British Columbia. The previous Atlantic fish of dual gender was taken in the St. John River many years ago.

Collections, transfers and distributions are given to the nearest hundred in the summaries of operations at the respective establishments.

MARITIME PROVINCES

Senior District Supervisor of Fish Culture, James Catt

Although the appropriation did not permit of any expansion of operating plants, Fish Cultural operations in the Eastern Division continued to show progress during 1941 in a new record in ova collection and an expanded program of nutritional tests embracing desirable diets not only for rearing of salmon and trout stocks for distribution, but also for maintaining brood stocks of trout and landlocked salmon.

Four thousand, five hundred and eight Atlantic salmon were obtained for fish cultural purposes and retained. These included 2,552 purchased from fishermen and 1,956 taken in departmental traps. The average weight (pounds) of the salmon at each pond was: Margaree, 11; River Philip, 15; Sackville River, 6; Miramichi, 8·3; New Mills, 17; Jacquet River, 8, and Morell, 10. Some 21,925,800 eggs were secured, which, while slightly larger than last year, did not quite come up to expectations due chiefly to relatively small runs on the Sackville and Morell rivers and escapement of fish from a damaged retainer at the latter place.

Landlocked salmon ova collections were much increased over those of 1940 due to more successful operations at Chamcook Lakes, New Brunswick, and an increased number taken from brood fish in Grand Lake ponds, Nova Scotia.

Over 41,300,000 speckled trout eggs, an increase of 30 per cent over the preceding year were collected. At Antigonish a new record of more than 27,000,000 eggs was established. Collections at the Saint John and Lindloff hatcheries far exceeded their estimated output chiefly due to a heavy yield from the parent fish. The average egg production per female for pond fish, including yearlings, at Antigonish was 2,099 in 1941 and 1,128 in 1940, at Saint John 1,118 in 1941 and 801 in 1940 and at Lindloff 1,283 in 1941 and 915 in 1940.

Operations at Spear's brook, Lake Utopia, New Brunswick, resulted in an economically successful collection of excellent speckled trout eggs at a cost per thousand of less than one-half that of 1940. Ova obtained from sea trout at Tweedie's Meadow brook was over twice the quantity obtained at the same place in the preceding year. The previous year's collection of trout eggs was also exceeded at Cobequid, Yarmouth and Kelly's Pond hatcheries.

Rainbow trout egg collections from brood stocks were very satisfactory and were augmented by a present of 424,000 from the American Fish Culture Company, Carolina, Rhode Island, U.S.A.

Salmon and trout fingerlings, reared at the several hatcheries and ponds, were of excellent quality on the whole. Speckled trout at Lindloff hatchery, only 41 weeks old, were from 6¼" to 7¼" in length and averaged 2·25 ounces in weight. This particular strain was obtained from a cross between hatchery fish originating from selected stock and wild trout native to the Lindloff hatchery brook.

At the Mersey ponds a small number of speckled trout were reared for the first time. Mortality was comparatively low throughout the season and those distributed were of excellent quality.

Brood stocks of speckled trout were increased; the high average yield of fertile ova per fish at several plants demonstrates the excellent condition of the parents throughout the year.

Selective breeding was continued at the hatcheries carrying trout stock. Quick growing strains of high egg productivity have been established for some time. To these valuable characteristics must now be added generally greater uniformity in size of fingerlings. This condition now obtains to a promising degree in certain Antigonish hatchery strains that have been developed during several generations of careful selective breeding. It also is hoped that further selection will produce earlier spawners. Some progress has been made in this direction.

Examinations of lakes and streams, as listed in the annual reports of Supervisors Tingley and Hills, were somewhat more limited than expected.

To ascertain if fish eggs change in size between water hardening and hatching a group of the Atlantic salmon species were laid down at the Saint John hatchery on November 5, 1940, and 24 fluid ounces carefully measured and segregated on November 25. The loss up to February 27, when the eggs were well eyed, was 359. On that date this loss was replaced with 359 eggs from the original group and the test lot was remeasured. It was found that the bulk had increased from 24 to 26 ounces or a gain of 8·3 per cent. From February 27 to April 16 a further loss of 109 eggs was picked from the test lot. This was again replaced from the original lot and the test lot remeasured a second time. It was found the bulk had increased to 26½ ounces, a total increase of 2½ ounces or 10·4 per cent.

On first sight this looks as if the eggs had increased in size during the period November 25 to April 16—at any rate, the same number of eggs would not go into the same space at the latter date, or expressed in another way—a unit measure holds more green water hardened eggs than it does eyed eggs.

Whether this is due to increase in size in the individual egg or to more rigidity in the egg at the latter date and, consequently, less ability to closely pack together, is not definitely known.

The only hatchery stocks exhibited were those taken to the annual meeting of the Nova Scotia Guides Association at Lake William.

District Supervisor of Fish Culture, F. A. Tingley

During the year the Saint John, Florenceville, Grand Falls, Charlo, Miramichi, New Mills, Kelly's, Cardigan, Bedford, Middleton, Yarmouth, Coldbrook, Kejimkujik, Mersey, Grand Lake, Margaree, Margaree Pond, Lindloff and Antigonish establishments were inspected. Fin clipping was observed and methods of computing output by volume and weight were tested and demonstrated during these inspections as opportunities permitted.

Burpee and Lenihan brooks, Martin's pond, North River, Pritchard and Clear Lakes, N.B., and Graham Lake and Mersey River at Cowie Falls, N.S., were examined.

The material collected during the field work of the previous year was examined and classified at Saint John and a week was spent in a further identification of the more difficult specimens at the Atlantic Biological Station, St. Andrews, with the assistance of Drs. R. H. M'Gonigle and M. W. Smith. Specimens of Crangonyx, a fresh water amphipod, unknown elsewhere in the Maritimes, were collected from Pugg Lake in Shelburne County and forwarded to the station at St. Andrews.

Commercial salmon fishermen and fish dealers were interviewed in April, May and June to solicit their co-operation in observing and reporting marked salmon. In late August and early September survival tests were made with speckled trout fingerlings at Mulgrave and Porters Lakes and Halfway River, N.S.

While in the Restigouche area Supervisors A. P. Hills and self accompanied Messrs. Mowat, head and assistant guardians for the Restigouche Riparian Association, in an examination of the river from Kedgwick to Deeside to investigate the feasibility of re-stocking by out-board motor boat, and the prospects for taking and retaining adult salmon in this area for fish cultural purposes.

October and the first half of November were devoted to the installation and care of fish fences at Spear's brook, collection of speckled trout eggs at this point and at Tweedie's Meadow brook and delivery of the eggs respectively to the Saint John and Miramichi hatcheries. Assistance also was given with the collection of landlocked salmon at Chamcook Lakes.

District Supervisor of Fish Culture, A. P. Hills

Yarmouth, Middleton, Cobequid, Antigonish, Margaree, Margaree Pond, Lindloff, Nictaux, Bedford, Grand Lake, Coldbrook, Mersey, Kejimkujik, Florenceville, Grand Falls, New Mills, Jacquet, Charlo, Kelly's and Cardigan establishments were inspected.

Cochran, Loon, First, Corkum, Sand, Pritchard, Moose, Porter's, Green Hill, Clear, Midway, Pugg and Dolan's Lakes; Middle and Hunter Rivers and Lenihan brook were examined or visited.

Specimens collected were identified at Saint John and St. Andrews as also mentioned under Supervisor Tingley's section. The same inspection trip of the Restigouche was made conjointly with Supervisor Tingley.

A collection of sebago salmon eggs was attempted at Clinch brook, tributary to Magaguadavic Lake, but only 28,300 were taken and assistance was given in stripping the same species at Chamcook Lakes and speckled trout at Spear's brook.

ANTIGONISH HATCHERY

K. G. Shillington and W. D. Turnbull, Superintendents

Superintendent Turnbull took charge of Antigonish hatchery on May 21 when the former Superintendent, Mr. Shillington, was transferred to the Saint John establishment.

A collection of 27,170,600 speckled trout eggs was made from the hatchery ponds. This exceeds last year's production by over 5,144,600 and sets a new all-time record for the number of eggs of this species taken from hatchery reared fish at any of the Maritime hatcheries. The eggs from the McRae Lake 3-year-old pond stock (early spawners) were taken from October 13 to 25 and from the other pond stock between October 31 and November 19. These collections were supplemented by receipt of 1,000,000 Atlantic salmon eggs from Bedford hatchery in March and April, by 30,300 rainbow trout eggs from Yarmouth in May and 30,000 of the same species from Saint John during the same month. Outgoing shipments of speckled trout eyed eggs in February and March were as follows: to Middleton 2,100,000, Lindloff 1,600,000, Glenora hatchery, Ontario, 150,000 (in exchange for salmon trout eggs sent Middleton hatchery), Charlo 210,000, Kelly's 1,400,000, Saint John 650,000, Yarmouth 1,325,000, Miramichi 500,000, Grand Falls 800,000 and Bedford 1,900,000. In June 3,500 speckled trout yearlings were moved to Saint John hatchery and in September and October 40,000 No. 4 fingerlings of the same species to Grand Lake ponds. Following the 1941 fall collections the following speckled trout green eggs were shipped in November: to Middleton 1,802,300, Yarmouth 2,008,100 and Bedford 2,026,100. The following distributions for the year were made—878,400 Atlantic salmon, 43,800 rainbow trout and 2,988,900 speckled trout. These include 13,554 speckled trout one year and older marked by the removal of the adipose and right pectoral fins.

In selective breeding, fifty groups of eggs from selected pairs of two-year-old stock were segregated. These fish averaged 3,787 eggs per female—the lowest yield being 3,067 and the highest 5,112. Selections were made on the basis of size of parents, number and quality of eggs, early spawning and general appearance. The average egg yield per female held in ponds has increased progressively in the last four years. The average yield for one-year fish in 1938 was 439, in 1939, 751, in 1940, 910, and in 1941, 1,068; for two-year fish in 1938 it was 1,058, in 1940, 1,916, and in 1941, 2,374; for three-year fish in 1938 it was 1,148, in 1939, 1,190, in 1940, 1,971, and in 1941, 2,332. The average weight per fish (speckled trout) as at November first this year compared with the average weight last year at the same date as follows: yearlings 1940 10 ounces; 1941, 10¼ ounces, 2-year-old fish 1940, 14⅔ ounces; 1941, 21 ounces; 3-year-old fish 1940, 16⅓ ounces, 1941, 31 ounces; selected fingerlings 1940, 1·04 ounces, 1941, 1·28 ounces.

There was no serious outbreak of diseases among the fry and fingerlings during the year. Frequent baths were given in a solution of copper sulphate, acetic acid and salt. When the fingerlings reached the No. 1 stage the strength of the copper sulphate in the solution used was 1:2000, as the fish grew older, the strength was gradually increased to 2:2000 and finally 3:2000. It was found that such a strong concentration offered a greater control of fin-rot than the weaker solution. Extreme care however had to be observed in using a solution of this strength and the fish being treated had to be in a strong and vigorous condition and were fasted at least four hours before being treated. The Atlantic salmon were remedied by means of the constant flow syphon using a copper sulphate solution as a control for external parasites, fungus and as a general conditioner.

Repairs were made throughout the year where needed, troughs, trays and equipment painted and varnished, dwelling floors and lawns improved and extra supports built under troughs in the auxiliary hatchery.

BEDFORD HATCHERY AND SACKVILLE RIVER SALMON-RETAINING POND

George Heatley, Superintendent

On March 25 a shipment of 1,900,000 speckled trout eyed eggs was received from Antigonish hatchery. In November 256,000 Atlantic salmon eggs were secured from Sackville and 1,555,800 from River Philip ponds, 21,500 speckled trout eggs from Cobequid and 2,026,100 from Antigonish hatcheries. Outgoing shipments during the year consisted of 1,000,000 Atlantic salmon eyed eggs to Antigonish in March and April, 300,000 Atlantic salmon No. 1 fingerlings to Mersey June 10-14, 500,000 of the same species and stage of development to Grand Lake rearing station between June 23 and July 15, and 311,100 speckled trout advanced fry to Coldbrook between May 29 and June 7. Distributions direct from Bedford for the year were: 60,900 Atlantic salmon and 17,700 speckled trout fingerlings.

An experimental constant temperature egg hatching box with thermostatic temperature control for a small quantity of water was set up in November by Dr. S. A. Beatty of the Fisheries Experimental Station, Halifax. The object of the experiment is to develop a method of holding eggs for short periods in case of water shortage and to ascertain if it would be of any advantage in the way of better feeding and smaller fry loss to advance the hatch so that the fish would be larger when the usual rise in water temperature occurs.

An experimental adjustable grading device to automatically separate fingerlings of different sizes in troughs was constructed. While it is quite promising it is to be tested further next season.

The distribution from the Grand Lake rearing ponds with the exception of the sebago salmon that were liberated in Grand Lake was practically all made by the Bedford staff, and some assistance was also given by the Bedford establishment in the distributions from Coldbrook rearing ponds. A considerable quantity of gaspereaux for fish food was taken in the Sackville River by the hatchery staff during the migration of this species in the spring and placed in cold storage in Halifax for use later in the season. During the year some new hatching troughs and foot tanks were built to replace old equipment beyond repair, the hatching room and office murescoed and painted, the garage and garage floor raised 18 inches with a concrete wall on the east side and 4-inch terra cotta tile drain laid from the valve pit of the water supply to the river to provide better drainage.

At the Sackville River pond this season between August 23 and October 28, 90 Atlantic salmon were taken, from which 60 females were stripped on November 4 yielding 256,000 eggs for Bedford hatchery. The average weight of the salmon was 6 pounds as against 5·4 in 1940 and 4 in 1939.

COBEQUID HATCHERY AND RIVER PHILIP SALMON-RETAINING POND

J. W. Heatley and P. B. Stratton, Superintendents

Superintendent J. W. Heatley in May was transferred to Margaree hatchery and assistant P. B. Stratton was promoted to Superintendent of the Cobequid establishment.

Between November 6 and 17 some 1,414,500 Atlantic salmon eggs were secured from fish impounded in the River Philip pond, and from October 21 to December 5, 2,751,300 speckled trout eggs were collected from hatchery pond stock. In March and April 1,600,000 Atlantic salmon eyed eggs were shipped to the Grand Falls hatchery, and in November 21,500 speckled trout eggs were transferred to Bedford hatchery. Distributions for the year consisted of 1,061,800 Atlantic salmon and 277,700 speckled trout, including 24,439 salmon fingerlings marked by the removal of the adipose and right ventral fins. In selective

breeding the eggs from forty-four pairs of selected three-year-old and eighteen pairs of selected yearling speckled trout were segregated. Atlantic salmon fingerlings were held during the year in outside rearing tanks and circular ponds. In comparison, those in the ponds attained a size of approximately double those in the tanks, and their propensity for food was also particularly marked. Some repairs, alterations and general improvements to the equipment, buildings and grounds were carried out during the year, such as the construction of a new tank to catch the brine from the cold storage, the making of thirteen V-type pond shades and the erection of a single loop lawn fence along the hatchery frontage.

Repairs at the River Philip salmon pond commenced on August 12 and consisted of the construction of an 82-foot crib along the face of the old dam, the extension of the old fishway wall and minor repairs to the canal wall, pontoons and cabins. Assistant I. A. Mowat of the Charlo hatchery was in charge of operations from October 6. Between October 5 and November 8 some 1,246 salmon averaging 15 pounds in weight were captured, of which 770 females yielded from November 5 to 17 over 5,804,500 eggs. These were allotted as follows: 1,414,500 to Cobequid, 1,555,800 to Bedford, 1,011,100 to Lindloff, 1,003,500 to Middleton, and 819,600 to Yarmouth. Twelve of the salmon taken bore numbered metal tags showing that they had been marked at this pond in previous years; most of them were returns from the 1939 marking.

COLDBROOK REARING PONDS

E. Barrett, Superintendent

Between May 29 and June 7 some 311,100 speckled trout advanced fry were received from Bedford and on July 9 and 10 forty thousand nine hundred rainbow trout fingerlings from Middleton hatchery. The distributions for the season were successfully made with the assistance of the Middleton and Bedford trucks. Valuable assistance was also given by the Fishery Inspector for the district. The general output amounted to 120,500 speckled and 37,000 rainbow trout. Some loss was experienced in the speckled trout up to the end of the first week in July. Treatments of potassium permanganate were given with the constant flow syphon, and formaldehyde and salt baths were tried. The rainbow progressed satisfactorily throughout the retaining period. Minor painting was carried out, the ponds relined with gravel and disinfected.

GRAND LAKE REARING PONDS

J. M. Butler, Superintendent

Bedford hatchery supplied the Grand Lake rearing ponds with 500,000 Atlantic salmon fingerlings between June 23 and July 15, and in the fall Antigonish transferred thereto 40,000 speckled trout fingerlings. Sebago salmon held in the rearing ponds produced 56,000 eggs as compared with 16,500 in 1940 and 8,000 in 1939. Wild sebago from Rawdon River and Waverley run yielded 41,000 eggs. The distribution, with the exception of the sebago salmon which were liberated in Grand Lake, was practically all made with the assistance of the Bedford staff and consisted of 402,000 Atlantic salmon, 5,300 speckled trout and 38,200 sebago salmon—11,000 of the Atlantic salmon were supplied the Fisheries Research Board of Canada for Moser River. Practically all of the sebagos distributed were marked by the clipping of their adipose and right ventral fins. Seventy-six or 38·4 per cent of the sebago taken for their eggs bore the Grand Lake mark.

During the year necessary repairs were made to the trap equipment, four experimental feeding troughs complete with head tank and hinged shades were constructed, the ponds repaired with clay and gravel, and the grounds improved.

KEJIMKUJIK REARING PONDS

T. K. Lydon, Officer-in-Charge

Three hundred thousand Atlantic salmon advanced fry were received from the Yarmouth hatchery between May 26 and 31, and 100,000 speckled trout fingerlings from the same establishment on June 4 and 5. The output for the season amounted to 230,400 Atlantic salmon and 62,400 speckled trout. Treatments of salt and formalin were given as needed. The latter in the strength of 1-4000 administered for an hour to salmon in the circular ponds cleared up without harmful effects any fungus that appeared on the fish. During the year some improvements were made to grounds and a large box was built for catching brine from the freezer.

Good salmon fishing was available in the Medway River and large catches of speckled trout were reported taken from Kejimkujik Lake this season.

LINDLOFF HATCHERY

Wm. T. Owens, Superintendent

A record collection of speckled trout eggs amounting to 2,372,900, being over four times the number taken last year, was made from the brood stock developed at this hatchery; McRae Lake produced 137,800 eggs of the same species and Mill Lake 16,900. These collections were supplemented by receipt of 1,600,000 speckled trout eyed eggs from the Antigonish hatchery on February 18, and 1,011,100 Atlantic salmon eggs from River Philip pond on November 12. Distributions for the season were, 838,800 Atlantic salmon and 1,470,300 speckled trout of which the following speckled trout were marked by the removal of the adipose and left pectoral fins—6,494 yearlings and 637 two years old. In selective breeding, the eggs from thirty-five pairs of selected two-year speckled trout were segregated and the progeny will be further selected to further improve the brood stock. These fish were chosen for high egg yield, early spawning and general appearance.

Some clearing and grading was carried out during the year on a proposed new pond site, all hatchery troughs and tanks were varnished and painted, the interior of the hatchery building repainted, a three-inch hose and valve installed at the hatchery flume for filling the distributing tanks and barrels, and the grounds improved generally.

Speckled trout angling in the Lindloff area was reported as exceptionally good this season. The Fishery Inspector at Arichat co-operated in a very generous manner in assisting with distributions in his district and by furnishing information on the recapture of marked fish and on general fishing conditions. Mr. David McArel of Glace Bay also kindly assisted in securing scale samples from Atlantic salmon taken in Loch Lomond during the season.

MARGAREE HATCHERY

W. D. Turnbull and J. W. Heatley, Superintendents

On May 19 Superintendent W. D. Turnbull was transferred to Antigonish and Superintendent J. W. Heatley from Cobequid took charge of the Margaree hatchery.

Some 3,040,700 speckled trout eggs were collected from hatchery brood stock from October 20 to December 23, and in addition, 3,372,800 Atlantic salmon eggs were received from Margaree salmon pond in November and December. Distributions for the season were: 1,739,200 Atlantic salmon and 2,272,900 speckled trout, including 2,510 speckled trout, one to five years, marked by the removal of the adipose and right pectoral fins.

In selective breeding, the eggs from 16 pairs of selected three-year-old speckled trout were segregated. These averaged 2,344 eggs per female as against 1,661 in the general group. Some 10,000 fingerling trout also were held over for further selection.

During the season losses were normal with no serious outbreaks of disease among the fish. Preventive treatments were carried out by using copper sulphate, acetic acid, salt, potassium permanganate and formalin. As a general disinfectant and prophylactic formalin proved to be the most effective, and as a remedy for Cyclochaeta potassium permanganate was found very satisfactory.

During the summer the old sluice conveying water from the brook to the fingerling ponds collapsed and was replaced by a wood stave pipe laid about one foot lower than the former sluice thus obtaining a greater volume of water. A screen of pickets was built around the upper end of the pipe to keep out debris. Other repairs and constructions consisted of ten thirteen-foot hatching troughs to replace five 25-foot old ones beyond repair, the installation of an office to the left of the door at the front of the hatchery, the building of two single flue chimneys—one at each end of the hatchery—to replace the double one in the middle of the hatchery, the re-roofing of the watchman's cabin at the ponds, staining and painting the dwelling and filling and regrading a part of the grounds.

A gratifying increase in the number of salmon taken in the Margaree River was observed this year. Trout fishing in the district held up fairly well with a reported improvement in fishing conditions in the New Boston area between Sydney and Louisburg. The Fishery Inspector and Officers of the district co-operated in every way.

MARGAREE SALMON-RETAINING POND

J. P. Chiasson, Superintendent

In accordance with the usual practice, the salmon for the Margaree Salmon-retaining pond were purchased from the Margaree Harbour Salmon Fisheries Association.

As water conditions were good and reasonable numbers of salmon were reported to have ascended into the pools, the Association's net was set on September 22—some nine days earlier than the preceding year. It was fished continuously and 435 were taken from September 23 to November 11. Thirty-nine of this total, one-half of the number taken daily during the first six days were tagged and liberated above the Association's trap and 396 were impounded.

The recapture of four of these tagged salmon was reported, one in the net, and three by anglers up the river in Plaster, Brook and McDaniel pools. The lapse of time and distance travelled by each fish from the time it was tagged until recaptured was:

Tag No.	Tagged and liberated	Date caught	Where caught	No. days lapsed	Distance travelled
K3272	Sept. 24	Oct. 8	Plaster pool	14	10½ miles
K3293	Sept. 27	Oct. 13	Brook pool	16	12 miles
K3294	Sept. 27	Oct. 6	McDaniel pool	9	6 miles

The pond salmon averaged 11 pounds in weight, and at stripping time, November 14 to December 9, some 306 females yielded 3,372,800 eggs, all of which were laid down in the Margaree hatchery. Only one salmon was lost during the retaining period of some two and a half months which is evidence of the careful manner in which the fish were handled and operations conducted. The pipeline to bring water to the hardening and washing tanks was renewed and plugs inserted at low points to drain off the water at the end of the season.

MERSEY RIVER REARING PONDS

C. E. Harding, Officer-in-Charge

Between June 10 and 14 three hundred thousand Atlantic salmon fingerlings were received from Bedford hatchery and on July 4 two thousand speckled trout from Yarmouth. Both species made good growth during the season and in September 251,700 Atlantic salmon and 1,700 speckled trout were distributed in tributaries of the Mersey River below No. 3 Hydro Development. Valuable assistance was given by the Fishery Inspector and Wardens of the district, the Nova Scotia Power Commission, the Mersey Folk Lodge and others interested in the successful operation of the ponds. During the year three feeding troughs were installed and the grounds and living quarters improved.

MIDDLETON HATCHERY, STEVENS PONDS AND NICTAUX REARING STATION

F. M. Millett, Superintendent

Shipments of eggs received at Middleton were: Eyed eggs, 2,100,000 speckled trout from Antigonish on February 13, 100,000 salmon trout from Glenora hatchery, Ontario (an exchange for speckled trout eggs), on March 12; 19,400 rainbow trout from Yarmouth on May 12, and 32,000 of the latter species from Saint John on May 26. Green eggs, 1,003,500 Atlantic salmon from River Philip pond on November 9 and 14, and 1,802,300 speckled trout from Antigonish on November 17 and 20. Outgoing shipments were: 928,500 Atlantic salmon fry to Nictaux on April 14, and 40,900 rainbow trout fingerlings to Coldbrook on July 9 and 10. Distributions for the season were: 294,100 Atlantic salmon, 67,500 salmon trout and 342,200 speckled trout fingerlings, also 100 speckled trout yearlings which were captured from the hatchery brooks and liberated in Zwicker Lake, Annapolis County. Marked fish included in the distributions amounted to 1,200 speckled trout from which the adipose and left ventral fins had been removed.

During the year necessary repairs were made to the dam and plant, and the garage reshingled. The Fish, Forest and Game Associations were much interested in the waters being stocked from this hatchery and the Fishery Inspectors gave valuable assistance in liberating the output. Trout fishing in the lakes in this district was reported good, and salmon fishing in the Nictaux River exceptionally good—being much better than it has been for some years.

The Nictaux rearing station was opened on April 13 and the next day received 928,500 Atlantic salmon fry from Middleton. Between June 12 and 16, 350,000 were transferred to Stevens ponds. The distributions from Nictaux amounting to 247,400 were made between June 21 and July 9. The Avon River power company again co-operated by screening the head of its power canal during the smolt run and as there was a good flow of water over the dam it is felt that the smolt had no difficulty in making their descent this year.

YARMOUTH HATCHERY

H. V. Gates and F. F. Annis, Superintendents

Following Superintendent H. V. Gates' retirement Superintendent F. F. Annis took charge of Yarmouth hatchery on February 1.

Production and receipt of eggs during the year were: From the hatchery ponds, 160,400 speckled trout between October 30 and November 20 and 60,200 rainbow trout March 28 to April 21; from Miramichi hatchery 700,000 Atlantic salmon eyed eggs March 21, from Antigonish hatchery 3,333,100 speckled trout eggs (1,325,000 eyed March 12 and 2,008,100 green November 16-20), and from River Philip pond 819,600 Atlantic salmon green eggs November 13. Outgoing shipments to other establishments were: 30,300 rainbow trout eyed eggs

to Antigonish May 6 and 19,400 of the same species and stage of development to Middleton May 12, 300,000 Atlantic salmon advanced fry and 100,000 speckled trout fingerlings to Kejimkujik in late May and early June, and 2,000 speckled trout fingerlings to Mersey July 4. Distributions were: 223,700 Atlantic salmon, 515,700 speckled trout and 223 rainbow trout, including 1,357 speckled trout yearlings marked by the removal of the adipose and right ventral fins.

With a view to improving the stock 5,000 speckled trout fingerlings were retained for development and further selection.

Conditions at Yarmouth were better this season as regards high water temperatures, and losses as a whole were considerably less than usual. Both salmon and trout fingerlings made good growth, and specimens of the latter picked at random weighed ·64 ounces on December 6.

During the year twenty-seven pond shades of the lattice type were completed. Necessary repairs were made to the hatching room, office and living quarters, feed-room and ponds, two old circular ponds were filled and the grounds improved generally. The Fishery Inspectors of the district were very willing and co-operative when called upon in connection with distributions. A representative series of the fish at the hatchery were shown at the guides' meet at Lake William, N.S., in August in conjunction with the joint booth of the Fish and Game Protective Association and the Provincial Department of Lands and Forests.

CHARLO HATCHERY

R. O. Barrett, Superintendent

In the early part of the year 210,000 speckled trout eyed eggs were received from Antigonish hatchery and in the fall 2,166,400 Atlantic salmon eggs from New Mills salmon retaining pond. Distributions for the season amounted to 1,773,700 Atlantic salmon and 112,500 speckled trout including 10,476 Atlantic salmon marked by the removal of the adipose and right pectoral fins.

During the year the dwelling was given a coat of oil stain, 16 circular ponds reconditioned with sand and clay, and the grounds improved by the planting of a three hundred-foot spruce hedge, shade trees, flowers and shrubs. The largest run of Atlantic salmon in the history of the rivers in the district was reported.

FLORENCEVILLE HATCHERY

George Sutherland, Superintendent

Between September 29 and December 9 the hatchery ponds produced 2,057,100 speckled trout eggs. On February 13 one million four hundred thousand Atlantic salmon eyed eggs were received from Kelly's Pond hatchery and in the fall the following eggs, 1,000,000 Atlantic salmon from Miramichi hatchery and 28,300 sebago salmon from Clinch brook. Distributions of output for the year were: 1,244,900 Atlantic salmon, 1,000 sebago salmon and 1,590,800 speckled trout, of which 10,373 speckled trout, 2 to 6 years old, were marked by the removal of the adipose and left pectoral fins.

In selective breeding the eggs from ten selected pairs from each of the age groups of speckled trout from 2 to 6 years were segregated.

During the year sixteen pond covers were built, the inside woodwork of the main hatchery painted, the troughs in both hatcheries varnished and painted and gyproc ceilings put on the kitchen and living room of the dwelling.

GRAND FALLS HATCHERY

W. A. McCluskey, Superintendent

This establishment received the following eggs: In March and April 1,600,000 Atlantic salmon from Cobequid and 800,000 speckled trout from

Antigonish hatchery; in the autumn 1,239,200 Atlantic salmon from New Mills, 500,000 from Miramichi salmon pond and 470,200 speckled trout from Fraser's pond, Three Brooks. Distributions for the season were: Atlantic salmon 1,490,500 and speckled trout 1,055,300.

Covers of the lattice type were constructed for the wood ponds and minor repairs were made to buildings, ponds and supply well. The Grand Falls, Madawaska, St. Leonard and Ste. Anne Fish and Game Clubs gave valuable assistance in helping to distribute allotments of trout and salmon fry and fingerlings.

MIRAMICHI SALMON-RETAINING POND AND HATCHERY

Frank Burgess, Superintendent

As usual the parent salmon for Miramichi pond this season were purchased by tender and contract, and between September 9 and 15 one thousand six hundred and fifty-six averaging 8·3 pounds in weight were impounded. Some 1,143 females were stripped from October 17 to November 10 and yielded 8,424,800 eggs which were allotted to the following hatcheries: 1,000,000 to Florenceville, 500,000 to Grand Falls, and 6,924,800 to Miramichi.

On March 14, to supplement the quota on hand at the hatchery, 500,000 speckled trout eyed eggs were received from Antigonish, and on October 31 and November 13 some 106,700 eggs of the same species were secured from Tweedie's Meadow brook. Outgoing shipments of Atlantic salmon eyed eggs were: 50,000 to United States Department of the Interior, Fish and Wildlife Service, Washington, D.C., on March 5, and 700,000 to Yarmouth hatchery on March 19. Distributions for the season consisted of Atlantic salmon 3,154,900 and speckled trout 221,900.

During the year, trays, troughs and equipment were varnished or painted and grounds further improved by filling in swamp land.

NEW MILLS SALMON-RETAINING POND

William White, Superintendent

Between May 21 and June 30 five hundred salmon of the early run, purchased from the commercial fishermen of the district, were delivered and impounded at New Mills pond. They averaged 17 pounds in weight, and at stripping time, October 19 to November 13, some 278 females yielded 2,074,400 eggs, all of which were laid down in Charlo hatchery.

A further collection of 334 late run salmon was made between September 4 and October 17 from a trap-net operated at Jacquet River. Their average weight was 8 pounds, and 219 females from October 20 to November 13 yielded 1,331,200 eggs, which were laid down as follows: 92,000 in the Charlo and 1,239,200 in the Grand Falls hatchery.

A new 16 H.P. Acadia engine was installed in the pond launch and the small boat at the pond repaired. A salmon with tag number K2651 attached to its dorsal fin was taken at Jacquet River. This fish had been tagged, stripped and liberated from New Mills pond in 1939, and after a lapse of nearly two years it showed an increase of 10½ pounds in weight and 9½ inches in length.

ST. JOHN HATCHERY AND CHAMCOOK LAKES EGG-COLLECTING STATION

P. B. Stratton, Hatchery Assistant

K. G. Shillington, Superintendent

In May, Assistant P. B. Stratton, who was temporarily in charge at Saint John, was promoted to the position of Superintendent of Cobequid and Superintendent K. G. Shillington transferred from Antigonish to the Saint John hatchery.

A record collection of speckled trout eggs for this hatchery amounting to 3,145,100, being nearly twice the number taken the preceding year, was made between October 18 and December 22 from the hatchery ponds. The ponds also produced 131,200 rainbow trout eggs between April 25 and May 6. In June 3,500 speckled trout yearlings, and in February 650,000 eyed eggs of the same species were received from Antigonish hatchery. In the autumn 134,000 sebago salmon eggs were secured from Chamcook Lakes and 290,900 speckled trout from Spears brook. On February 27, nearly 506,000 speckled trout eyed eggs were shipped to Magog hatchery, and in May 30,000 rainbow trout eyed eggs were sent to Antigonish and 32,000 to Middleton. Distributions for the season were: Atlantic salmon 753,000, rainbow trout 15,400, and speckled trout 1,123,600, including 2,396 speckled trout fingerlings and older fish marked by the removal of the adipose and either the left pectoral or ventral fins. One hundred and fifty-two of the marked fingerlings along with an equal number of unmarked fish and an additional five hundred for Moose Pasture pond were supplied the Atlantic Biological Station at St. Andrews, New Brunswick. Some 1,560 fingerlings were planted in Gibson Lake under the Charlotte County Lakes Management plan, and 684 two, three and four years old were liberated in Lily and No. 1 Artificial Lakes, Rockwood Park, Saint John.

In selective breeding, the eggs from fourteen pairs of selected three-year and twelve pairs of selected two-year speckled trout were segregated. The average egg yield per female in the two- and three-year brood stock showed a marked increase this season. The two-year trout averaged 1,402 as against 585 in 1940, and the three-year 1,756 as against 812 in 1940.

In eighteen of the small ponds, walls, gates and new concrete bottoms were completed. Concrete bottoms were also laid in twenty long ponds with minor repairs made to gates and walls. All branches of the New Brunswick Fish and Game Protective Association within the Saint John hatchery distribution area gave much appreciated assistance with distributions in their respective districts.

Trapping operations at Chamcook Lakes were carried out by Assistant J. G. Annis of the Middleton hatchery, and between October 18 and November 13 one hundred and forty-one sebago salmon, consisting of 69 males and 72 females averaging 3½ pounds in weight, were secured. Stripping operations were carried out by Supervisors F. A. Tingley and A. P. Hills and Assistant J. G. Annis. Between November 7 and 19, 134,000 ova were collected and laid down in the Saint John hatchery. Forty-one of the 141 fish handled in 1941 or 29·1 per cent were hatchery-marked fish.

CARDIGAN REARING PONDS

C. A. Tait, Acting Superintendent

Preparatory work in connection with the ponds was commenced on May 5 to have them in readiness for 50,000 Atlantic salmon, 150,000 rainbow trout and 829,700 speckled trout advanced fry which were received between May 12 and 22 from the Kelly's pond hatchery. The output for the season was 44,800 Atlantic salmon, 143,000 rainbow and 313,700 speckled trout, including 8,000 speckled trout fingerlings marked by removal of the adipose and left pectoral fins.

Assistant C. H. Cooper, who was in charge of the ponds up to May 26, was transferred to the Saint John hatchery and replaced by Assistant C. Sayer on loan from Cobequid hatchery.

Stumps and dead trees around or showing al ove the surface of the supply pond were cut off or uprooted.

KELLY'S POND HATCHERY AND MORELL RIVER SALMON-RETAINING POND

C. A. Tait, Superintendent

Local collections of eggs this season were—speckled trout, 71,800 from hatchery pond and 161,100 from Andrews and York (Watts' stream) ponds; and 662,000 Atlantic salmon from Morell salmon pond. Transfers from February to May were—1,400,000 speckled trout eyed eggs from Antigonish, 424,000 rainbow trout eyed eggs from the American Fish Culture Company, Carolina, Rhode Island (present), 1,400,000 Atlantic salmon eyed eggs to Florenceville and 50,000 Atlantic salmon, 150,000 rainbow trout and 829,700 speckled trout advanced fry to Cardigan rearing ponds. Distributions for the year were—Atlantic salmon 481,100, rainbow trout 147,500, and speckled trout 447,100.

During the summer a combined ice-house, garage, fuel and storeroom was built, the old ice-house removed, and the grounds generally improved by grading and seeding.

At Morell salmon pond, Assistants R. MacDonald and C. Sayer in succession were in charge. Between October 17 and November 19, some 286 salmon averaging 10 pounds in weight were caught in the pound net. All the fish, however, were not available for stripping as some 132 escaped through a hole in the net during the heavy freshet in November. Due to the escapement the collection this year was small as compared with preceding years. However, 662,000 eggs secured from 82 females from November 6 to 28 were taken and laid down in Kelly's pond hatchery.

Species	Collection area	First and last eggs	Number collected	Disposal—Establishment at	Number	Totals
Atlantic salmon	Margaree pond, N.S.	Nov. 14-Dec. 9...	3,372,825	Margaree	3,372,825	
	River Philip, N.S.	Nov. 5-17	5,804,544	Cobequid	1,414,546	
				Bedford	1,555,798	
				Lindloff	1,011,120	
				Middleton	1,003,460	
				Yarmouth	819,620	
	Sackville River, N.S.	Nov. 4	256,000	Bedford	256,000	
	Miramichi pond, N.B.	Oct. 17-Nov. 10..	8,424,827	Florenceville	1,000,000	
				Grand Falls	500,000	
				Miramichi	6,924,827	
	New Mills pond (Chaleur Bay) N.B.	Oct. 19-Nov. 13..	2,074,439	Charlo	2,074,439	
	New Mills pond (Jacquet River) N.B.	Oct. 20-Nov. 13..	1,331,216	Charlo	91,959	
				Grand Falls	1,239,257	
	Morell River, P.E.I.	Nov. 6-28	662,000	Kelly's pond	662,000	21,925,851
Rainbow trout	Yarmouth hatchery ponds, N.S.	Mar. 28-April 21..	60,199	Yarmouth	60,199	
	St. John hatchery ponds, N.B.	April 25-May 6...	131,186	St. John	131,186	191,385
Sebago salmon	Grand Lake, N.S.	Nov. 8-Dec. 2....	41,000	Grand Lake	41,000	
	Grand Lake rearing ponds, N.S.	Nov. 14	56,000	Grand Lake	56,000	
	Chamcook Lakes, N.B.	Nov. 7-19	134,000	St. John	134,000	
	Clinch brook, York County, N.B.	Oct. 26-Nov. 7...	28,350	Florenceville	28,350	259,350
Sockeye salmon	Anderson Lake, B.C.	Oct. 23-25	1,043,000	Anderson Lake	1,043,000	1,043,000
Speckled trout	Antigonish hatchery ponds, N.S.	Oct. 13-Nov. 19..	24,493,140			
			(a) 2,677,500	Antigonish	21,334,200	
				Bedford	2,026,100	
				Middleton	1,802,270	
				Yarmouth	2,008,070	
	Cobequid hatchery ponds, N.S.	Oct. 21-Dec. 5....	2,507,054			
			(a) 244,249	Cobequid	2,729,799	
				Bedford	21,504	
	Lindloff hatchery ponds, N.S.	Oct. 9-Nov. 26..	1,153,746			
			(a) 1,219,170	Lindloff	2,372,916	
	McRae Lake, Richmond County, N.S.	Oct. 3-11	137,788	Lindloff	137,788	
	Mill Lake, Richmond County, N.S.	Oct. 16	16,947	Lindloff	16,947	
	Margaree hatchery ponds, N.S.	Oct. 20-Dec. 23..	2,306,857			
			(a) 733,850	Margaree	3,040,707	
	Yarmouth hatchery ponds, N.S.	Oct. 30-Nov. 20..	35,940			
			(a) 124,454	Yarmouth	160,394	
	Florenceville hatchery ponds, N.B.	Sept. 29-Dec. 9...	1,905,632			
			(a) 151,466	Florenceville	2,057,098	
	St. John hatchery ponds, N.B.	Oct. 18-Dec. 22..	1,904,780			
			(a) 1,240,342	St. John	3,145,122	
	Spear's brook, Charlotte County, N.B.	Oct. 11-Nov. 19..	290,950	St. John	290,950	
	Tweedie's Meadow brook, Kent County, N.B.	Oct. 31-Nov. 13..	(b) 106,715	Miramichi	106,715	
	Southport (Kelly's pond) hatchery pond, P.E.I.	Nov. 11-Dec. 19..	71,820	Kelly's pond	71,820	41,322,400
						64,741,986

(a) Eggs from yearling fish. (b) Sea run variety.

Speckled trout eyed eggs were purchased, 350,000 from the Donald Fraser Estate, Plaster Rock, N.B., for Grand Falls hatchery, and 152,500 from Harold Watts, York, P.E.I., for Kelly's Pond hatchery.

The Ontario Department of Game and Fisheries through their Glenora hatchery supplied the Middleton hatchery, N.S., on March 12 with 100,000 salmon trout eggs and they received in exchange from the Antigonish hatchery, N.S., on February 18, 150,000 speckled trout eggs. The Quebec Department of Lands and Forests, Game and Fisheries, on February 27, was sent 506,000 speckled trout eggs for their Magog establishment from the Saint John hatchery, N.B., and the United States Department of the Interior, Fish and Wild Life Service, Washington, D.C., 50,000 Atlantic salmon eggs on March 5 for their Craig Brook Fisheries Station at East Orland, Me. The American Fish Culture Company, Carolina, R.I., donated on March 18, 424,000 rainbow trout eggs for the Southport hatchery, P.E.I.

Summary of eggs received: Collections, 64,741,986; purchases, 502,500; donation, 424,000—total 65,668,486.

In the interest of economy and convenience in distribution the following transfers were made in 1941:—

Species	Stage	From	To	Number	Date received
Atlantic salmon..	(c)	(a) Bedford	Antigonish	1,000,000	March. 29, April 4
	(e)	(a) Bedford	Grand Lake	500,025	June 23-July 15
	(e)	(a) Bedford	Mersey	300,000	June 10-14
	(c)	(a) Cobequid	Grand Falls	1,600,000	March 25, April 2
	(d)	(a) Middleton	Nictaux	928,500	April 14
	(e)	(a) Nictaux	Middleton	350,000	June 12-16
	(d)	(a) Yarmouth	Kejimkujik	300,000	May 26-31
	(c)	(a) Miramichi	Yarmouth	700,000	March 21
	(c)	(a) Kelly's Pond	Florenceville	1,400,000	February 13
	(d)	(a) Kelly's Pond	Cardigan	50,000	May 22
Rainbow trout....	(e)	(b) Middleton	Coldbrook	40,900	July 9, 10
	(c)	(b) Yarmouth	Antigonish	30,295	May 7
	(c)	(b) Yarmouth	Middleton	19,440	May 12
	(c)	(b) St. John	Antigonish	30,000	May 25
	(c)	(b) St. John	Middleton	32,000	May 26
	(d)	Kelly's Pond	Cardigan	150,000	May 17-20
Speckled trout....	(c)	(a) Antigonish	Bedford	1,900,000	March 25
	(e)	(a) Antigonish	Grand Lake	40,004	Sept. 30-Oct. 7
	(c)	(a) Antigonish	Lindloff	1,600,000	February 18
	(c)	(a) Antigonish	Middleton	2,100,000	February 13
	(c)	(a) Antigonish	Yarmouth	1,325,000	March 12
	(c)	(a) Antigonish	Charlo	210,000	Feb. 19, March 15
	(c)	(a) Antigonish	Grand Falls	800,000	March 15
	(c)	(a) Antigonish	Miramichi	500,000	March 14
	(c)	(a) Antigonish	St. John	650,000	February 28
	(f)	Antigonish	St. John	3,500	June 10-26
	(c)	(a) Antigonish	Kelly's Pond	1,400,000	February 25
	(d)	(a) Bedford	Coldbrook	311,085	May 29-June 7
	(e)	(a) Yarmouth	Kejimkujik	100,000	June 4, 5
	(e)	(a) Yarmouth	Mersey	2,000	July 4
	(d)	(a) Kelly's Pond	Cardigan	829,660	May 12-17

(*a*) 1940 fall collection.
(*b*) 1941 collection.
(*c*) eyed eggs.
(*d*) fry.
(*e*) fingerlings.
(*f*) yearlings.

THE FOLLOWING TABLE SHOWS THE NUMBERS ON HAND OF EGGS, FRY, FINGERLINGS AND OLDER FISH AT THE END OF CALENDAR YEAR 1941

Hatchery	Species	Eggs	Fry and Advanced fry	Fingerlings	1 year	2 years	3 years	4 years	5 years and Older	Total by species	Total by hatchery
Antigonish	Speckled trout	19,926,530		14,000	9,574	4,938				19,955,042	19,955,042
Bedford	Atlantic salmon	1,664,998								1,664,998	
	Speckled trout	1,811,370								1,811,370	3,476,368
Cobequid	Atlantic salmon	1,343,387					9			1,343,396	
	Speckled trout	2,554,748		363	1,421	5,429	6,092			2,568,053	3,911,449
Grand Lake	Atlantic salmon			70,034						70,034	
	Sebago salmon	80,350		16,087	5,913	581		182	25	103,138	
	Speckled trout			39,813						39,813	212,985
Lindloff	Atlantic salmon	967,529								967,529	
	Speckled trout	2,254,949	95,000	15,109	1,197	184				2,366,439	3,333,968
Margaree	Atlantic salmon	3,223,825					9			3,223,834	
	Speckled trout	2,602,495		10,277	3,076	1,441	600			2,617,889	
	Speckled trout albinos				45					45	5,841,768
Middleton	Atlantic salmon	885,300								885,300	
	Speckled trout	870,900								870,900	1,756,200
Yarmouth	Atlantic salmon	779,663					40			779,703	
	Speckled trout	1,808,144		7,337	483	31		21		1,816,016	2,595,719
Charlo	Atlantic salmon	2,107,588		500						2,108,088	
	Speckled trout			6,155	1,754					7,909	2,115,997
Florenceville	Atlantic salmon	942,455								942,455	
	Sebago salmon	24,757		17,077	922					42,756	
	Speckled trout	1,959,841		9,191	7,206	4,673	1,657	1,816	977	1,985,361	2,970,572
Grand Falls	Atlantic salmon	1,675,599								1,675,599	
	Speckled trout	453,551								453,551	2,129,150
Miramichi	Atlantic salmon	6,656,227								6,656,227	
	Speckled trout	100,797								100,797	6,757,024
St. John	Atlantic salmon				103		6			109	
	Rainbow trout			10,831					119	10,950	
	Sebago salmon	132,615		9,061	4,695					146,371	
	Speckled trout	3,131,694		30,008	4,051	844	443	(a) 571		3,167,611	3,325,041
Kelly's Pond	Atlantic salmon	648,275								648,275	
	Speckled trout	209,340								209,340	857,615
		58,816,927	95,000	255,843	40,440	18,121	8,856	2,590	1,121	59,238,898	59,238,898

(a) Includes 4 years and older.

DISTRIBUTIONS

KEY TO ABBREVIATIONS

Species		*Stage of Development*	
A	Atlantic salmon	a	Green eggs
S	Speckled trout	b	Eyed eggs
R	Rainbow trout	c	Fry
L	Landlocked or Sebago salmon	d	Advanced fry
P	Sockeye salmon	1	No. 1 fingerlings
G	Salmon trout	2	No. 2 fingerlings
		3	No. 3 fingerlings
		4	No. 4 fingerlings
		5	No. 5 fingerlings
		f	Yearlings
		g	Two years
		h	Three years
		k	Older fish

Classification

Advanced fry: Fry that are feeding systematically.

Fingerlings:

No. 1. Feeding from two to eight weeks.

No. 2. Feeding from eight to fourteen weeks.

No. 3. Feeding from fourteen to twenty weeks.

No. 4. Feeding from twenty to twenty-six weeks.

No. 5. Feeding from twenty-six weeks to one year from date of hatch.

NOVA SCOTIA

ANTIGONISH HATCHERY

Antigonish County—

Beaver Meadow River—100,000 S1, 5,000 S3.
Big brook-South River—3,000 S3.
Black River—15,000 Sd, 45,000 S1, 5,000 S2.
Brierly brook—20,000 S1.
Copper Lake—37,317 S1, 5,000 S2, 750 Sg.
Gaspereaux Lake—1,034 Sh.
Glenroy River—30,000 Sd, 52,000 S1, 5,000 S2, 2,850 S4.
James River—70,000 A1.
Maryvale or Malignant brook—20,000 S1.
McLean or James River Lake—20,000 S1. 600 Sf.
McMillan Lake—750 Sg.
Meadow Green River—30,000 Sd, 52,000 S1, 5,000 S2, 3,000 S4.
Middleton Lake—15,000 S2.
North Lake—40,000 S1.
Pinevale Lake—750 Sg.
Polson brook-South River—40,000 S1, 3,000 S4.
Rights River—60,000 A1.
South Lake—40,000 S1.
South River—39,389 A2.
South River Lake—75,000 S1, 5,000 S2, 5,000 S4.
Springfield brook-Glenroy River—15,000 S1.
West River—80,000 S1, 6,000 S2, 4,000 S3, 5,000 S4, 480 Sf, 865 Sg.

Guysborough County—

Canter Lake—10,000 S1.
Cole Harbour Lakes—55,000 S1, 8,000 S3.
Cooee Coffre Lake—30,000 S1.
Country Harbour River—50,000 A1.
Cudahys Lake—25,000 S1.
Cutler Lake—20,000 S2.
Dobson Lake—65,000 S1, 1,300 Sg.
Donahue Lake—100,000 S1, 800 Sf, 600 Sg.
Doyle Lake—20,000 S1.
Ecumsecum River—105,000 S1.
Eight Island Lake—25,000 S1, 5,000 S2.
Fitzgerald Lake—20,000 S1.
Giant Lake—100,000 S1, 5,000 S3.
Glencove Lake—4,000 S3.
Goldboro or Goldbrook Lake—25,000 S1.
Guysborough River—50,000 S1.
Hazel Hill Lake—60,000 S1, 900 Sg.
Hydro dam, Havre Bouche brook—70,000 S1.
Indian Harbour Lake—75,000 S1.
Jellow Lake—50,000 S1, 600 Sf, 600 Sg.
Long Lake-Salmon River—8,000 S3.
McDonald Lake—Guysborough River—10,000 S2.
McInnis (Joe's) Lake—50,000 S1, 3,000 S4.
McKeen Lake—20,000 S2.
McPherson Lake (Port Shoreham)—35,000 S1.
Morrison Lake—25,000 S1.
Narrow Lake—30,000 S1.
Nickerson Lake—20,000 S1.
Porter's Lake—200 S4.
Round Lake (North Ogden)—20,000 S1.
East River St. Mary—100,000 A1, 90,000 A2.
West River St. Mary—100,000 A1, 54,000 A2.
Salmon River—60,000 A1, 50,000 S1.
Seal Harbour Lake—25,000 S1.
Sherbrook Lake—85,000 S1, 1,275 Sf.
Smelt Lake—43,780 R1.
Square Lake-Salmon River—8,000 S3.
Sullivan Lake—50,000 S1, 3,000 S4.
Tracadie River—50,000 A1.
Trout Lake-East River St. Mary—15,000 S2.

ANTIGONISH HATCHERY—*concluded*

Pictou County—

Barney River—90,000 A1.
Big brook-East River—35,000 S1, 5,000 S2, 2,500 S3.
Blue Mountain dam, French River—20,000 S1.
Brora Lake—35,000 S1.
Calder Lake—30,000 S1, 790 Sf, 100 Sg.
Campbell Lake-French River—30,000 S1.
Caribou River—10,000 S1.
Little Caribou River—10,000 S1.
Cummings dam, Brown brook—20,000 S1.
Dewar dam, Barney River—20,000 S1.
East River—75,000 A1, 30,000 S1, 5,000 S2, 2,500 S3.
East River, west branch—15,000 S2, 2,500 S3.
French River—20,000 A1.
French River branch (French River Settlement)—30,000 S1.
Grays dam, East River—10,000 S2.
Lansdowne Lake—30,000 S1, 2,000 S3.
Maple brook—25,000 S1, 5,000 S2, 2,500 S3.
McLellan brook—50,000 S1, 3,000 S3.
McLellan Lake—30,000 S1.
McPherson Lake—45,000 S1, 3,000 S3.
Middle River—20,000 A1.
Sawmill brook—10,000 S1.
Sixmile brook—50,000 S1.
Stewart dam, tributary to Little Harbour—45,000 S1, 1,360 Sg.
Sutherland River—30,000 S1.
West River—160,000 S1.

BEDFORD HATCHERY

Halifax County—

Lily Lake—17,715 S1.
Sackville River—60,900 A3.

COBEQUID HATCHERY

Colchester County—

Chiganois River—10,000 S1.
Debert River—40,000 A1, 7,500 S1.
Economy River—40,000 A1.
Economy Lake—7,500 S1.
Folly River—35,000 Ad.
Folly Lake—20,000 S1.
French River—5,000 S1.
Great Village River—25,000 A1.
Newton Lake—7,500 S1.
North River, near Truro—35,000 A1.
Portapique River—40,000 A1.
Salmon River—30,000 Ad.
Simpson Lake—15,000 S1.
Waughs River—10,000 S1.

Cumberland County—

Apple River—35,000 A1.
East brook-Maccan River—5,000 S1.
Isaac Lake—10,000 S1.
Leak Lake—7,500 S1.
Little Lake-Newfound Lake—5,000 S1.
Maccan River—20,000 Ad, 30,000 A1.
Maccan River, south branch—5,000 S1.
McAloney Lake—10,000 S1.
Mountain brook—10,000 S1.
Newfound Lake—10,000 S1.

Cumberland County—

Parrsboro Aboiteau—10,000 S1.
Poison Lake——5,000 S1.
Pugwash River—15,000 S1.
River Philip—35,000 Ad, 201,000 A1, 95,000 A2, 62,267 A3, 13,553 A4.
River Philip, east branch—5,730 S1.
River Philip, west branch—10,000 S1.
Shinimikas River—20,000 Ad, 20,000 A1.
Sugarloaf brook—10,000 S1.
Sutherland Lake—12,000 S1.
Tidnish River—20,000 A1.
Tillies brook—10,000 S1.
Wallace River—35,000 Ad, 20,000 A1, 40,000 A3, 10,000 S1.
Wallace River, west branch—10,000 S1.
Webb Lake—10,000 S1.

Westmorland County—

Big Lake—20,000 A1.
Calhoun brook-Silver Lake or Morice pond—5,000 S1.
Jenks brook-Tantramar River—5,000 S1.
North brook-Tantramar River—5,000 S1.
North River—140,000 A2.
Robinson brook-Tantramar River—10,000 A1.
Silver Lake or Morice pond—10,000 S1.

COLDBROOK PONDS

Kings County—

Annapolis River—8,000 S3.
Aylesford Lake—10,000 S3.
Burke Lake—10,000 S3.
Cambridge brook-Cornwallis River—2,000 S3.
Cornwallis River—6,000 S3.
Crooked Lake—5,000 S3.
Gaspereau Lake—12,000 S3.
Lake George—22,000 S3.
Lake Paul—5,000 S3.
Lake Torment—10,000 S3.
Mack Lake—5,000 S3.
Murphy Lake—15,500 S3.
Sunken Lake—37,000 R3.
Trout River—5,027 S3.
Turbett Lake—5,000 S3.

GRAND LAKE PONDS

Colchester County—

Stewiacke River, south branch—10,000 A3.

Halifax County—

Chezzetcook River—10,000 A3, 4,000 Af.
Drain Lake—200 Sg.
Eagle Lake-Partridge Run—500 Sg.
Five Island Lake—500 Sg.
Grand (Shubenacadie) Lake—31,250 Lf, 6,705 Lg, 280 Lk.
Hatchet Lake—400 Sg.
Ingram River—5,000 A3, 5,000 A4, 4,000 Af.
Lochaber flowage-Sheet Harbour—600 Sg.
Long or Bennery Lake—400 Sg.

GRAND LAKE PONDS—*concluded*

Halifax County—
Moose River—Headwater of Ship Harbour River—10,000 A3, 10,000 A4, 5,000 Af.
Moser River—11,000 A2.
Musquodoboit River—10,000 A3, 20,000 A4, 10,000 Af.
Ninemile River—12,800 A3, 4,000 Af.
Upper Petpeswick, Long Bridge or Bridge End Lake—500 Sg.
Quoddy River—10,000 A4, 5,000 Af.
Ragged Lake-Prospect Run—400 Sg.
Rawdon River—10,000 A3, 10,000 A4, 5,000 Af.
Rocky Lake (Waverley)—5,180 Af.
Russel Lake—500 Sg.
Sackville River—10,000 A3, 10,000 A4, 5,000 Af.
Salmon River (Port Dufferin)—10,000 A3, 10,000 A4, 4,000 Af.
Salmon River-Echo Lake—20,000 A3, 4,000 Af.
Little Salmon River (Cole Harbour)—10,000 A3, 4,000 Af.
Spider Lake—300 Sg.
Tangier River—20,000 A4, 5,000 Af.
West River Sheet Harbour—10,000 A3, 10,000 A4, 5,000 Af.
William or First Lake—90 Sg.

Hants County—
Cameron Lake—400 Sg.
Kennetcook River—20,000 A3, 5,000 Af.

Lunenburg County—
East River—5,000 A3, 5,000 A4, 4,000 Af.
Gold River—20,000 A3, 5,000 Af.
Middle River—20,000 A3, 5,000 Af.
Spondo Lake—500 Sg.

KEJIMKUJIK PONDS

Kejimkujik Lake—15,600 S2.
Fairy Lake—6,500 S2.
Grafton brook—5,223 S2.
Little River—13,000 S2.
Maitland River—6,500 S2.
Mount Tom brook—3,900 S2.
Westward or West River—11,700 S2.
Medway River and tributaries—230,394 A3.

LINDLOFF HATCHERY

Cape Breton County—
Canoe Lake—25,000 S1, 10,000 S2.
Chain or String Lakes-Mira River—25,000 S1, 10,000 S2.
Cochran Lake—25,000 S1, 11,000 S2.
Dutch Brook Lake—30,000 S2.
Gaspereaux River—50,000 A1, 45,000 A2.
Gillies Lake (East Bay)—25,000 S1, 15,000 S2.
Hardy Lake—25,000 S1, 10,000 S2.
Kelvin Lake—27,000 S1, 11,000 S2.
Loon Lake (Mira bay)—25,000 S1, 11,000 S2.
McCormick Lake—25,000 S1, 10,000 S2.
Meadow brook-Sydney River—70,000 S1.
Otter Lake—7,000 S1.
Salmon River—50,000 A1, 135,000 A2, 80,000 A3.

Richmond County—
Black River—60,000 S1.
Breen Lake—60,000 S1.
Buchanan Lake—60,000 S1.
Chain Lakes (Madame Island)—30,000 S1.
Ferguson brook—18,000 S1.
Ferguson Lake—55,000 S1.
Forest Lake (Madame Island)—644 Sf.
Grand Lake (Madame Island)—15,000 S1, 75,000 S2.
Grand River—100,000 A1, 18,847 A3.
Kytes Lake—30,000 S1, 778 S3.
Lake Abova—25,000 S1.
Loch Lomond—100,000 A1, 220,000 A2, 40,000 A3.
MacLeod brook—30,000 S1.
Mary Ann's Lake—15,000 S1 .
McIsaac Lake—30,000 S1, 9,892 S2, 900 Sf.
McKenzie Lake—25,000 S1, 15,000 S2.
McNab Lake—60,000 S1.
Mill Lake-East River Tillard—4,500 Sf.
Potties Lake (Madame Island)—15,000 S1, 20,000 S2, 450 Sf.
Saint Esprit Lake—25,000 S1.
Seaview Lake—80,000 S1.
Scott brook—60,000 S1.
Shaw Lake (Madame Island)—12,000 S1, 45,455 S2, 637 Sg.
Stratton brook—30,000 S1.
River Tillard, East—30,000 S1.
River Tillard, West—90,000 S1.
Thompson Lake—15,000 S1.
River Tom—30,000 S1.

MARGAREE HATCHERY

Cape Breton County—
Belle Lake—10,000 S4.
Black brook-Mira River—10,000 S3.
Browns Lake-Indian Bay—10,000 S3.
Catalogne Lake—20,000 S3.
Ferguson Lake (New Boston)—5,000 S3.
Forester Lake—10,000 S3.
Giovonetti Lake—10,000 S4.
Grand Lake-Indian bay—20,000 S3.
Grand Lake, near Louisburg—10,000 S4.
Jackson or Johnson Lake—10,000 S4.
Keefe Lake—10,000 S3.
Lily pond—10,000 S4.
McDonald pond—10,000 S4.
McDonald or Widow Lake (New Boston)—5,000 S3.
McInnes Lake—10,000 S4.
McIntyre Lake (New Boston)—10,000 S4.
McMillan Lake—10,000 S5.
McPherson Lake (New Boston)—9,000 S5.
Scotch or Scott Lake—6,420 S5, 2,499 Sf.
Stewart Lake—10,000 S5.
Trout brook-Mira River—10,000 S3.

MARGAREE HATCHERY—*concluded*

Inverness County—

Big Brook-River Denys—50,000 S1.
Captain John's brook—10,000 S1.
Cheticamp River—200,000 A1.
Farm brook—30,000 S1.
Flat Brook—5,000 S2.
Galant River—70,000 S1, 10,000 S5.
Gillis brook—30,000 S1.
Glenbrook-River Denys—30,000 S2.
Glenora brook—5,000 S3.
Graham River—10,000 S1.
Grand Etang brook—30,000 S2.
Horton Lake—20,000 S3.
Little Judique River—10,000 S1.
Mabou River, northeast—49,000 S1.
Mabou River, southwest—60,000 S1.
Margaree River, northeast and tributaries—650,000 A1, 235,000 A2, 14,160 A3.
Big brook—70,000 S1, 5,000 S4.
Egypt brook—50,000 Sd, 25,000 S5.
Forest Glen brook—43,430 Sd, 30,000 S4.
Ingram brook—1,332 Sf.
Lake O'Law brook—25,000 Sd, 30,000 S2, 15,000 S4.
Lake O'Law—30,000 S4.
Fortune brook—35,000 Sd.
McKinnon brook—35,000 Sd.
Lake O'Law, upper—15,000 S3, 5,000 S5.
Levis brook—70,000 Sd, 5,000 S5.
McDonald brook—40,000 S1.
McLeod brook—35,000 S1.
Murphy brook—60,000 S1.
Murray brook—30,000 S1.
Watson brook—40,000 S1.
Margaree River, southwest—100,000 A1.
Captain Allan's brook—60,000 S1.
McDonnell brook—60,000 S1.
Matheson Glen brook—60,000 S1.
McColl brook—20,000 S3.
McPherson brook—River Denys—30,000 S2.
Mull river—50,000 A1.
Pembroke Lake—20,000 S3.
Plaster ponds—332 Sg, 846 Sk.
Plateau brook—60,000 S1.
Skye brook—30,000 S1.
Strathlorne brook—40,000 S1.

Victoria County—

Aspy River, north—30,000 A2.
Aspy River, middle—30,000 A2.
Baddeck Bay brook—30,000 S1.
Baddeck River—100,000 A1.
Farquar Angus or McDonald brook—30,000 S2.
Gillis brook—60,000 S1.
Peter brook—60,000 S1.
Barasois brook—30,000 S2.
Big Harbour brook—10,000 S2.
Dalem Lake (Boularderie Island)—15,000 S3.
Giffin Lake—7,500 S3.
Ingonish River—30,000 A2.
McKinnon Harbour brook-Bras d'Or Lake—10,000 S2.
McNeil brook-Bras d'Or Lake—10,000 S2.
McPhies brook—Bras d'Or Lake—10,000 S2.
Morrison Lake—7,500 S3.
Middle River—100,000 A1.
Beaver brook—50,000 S1.
Black brook—40,000 S1.
Cold brook—20,000 S1.
Indian brook—70,000 S1.
McDonald brook—35,000 S1.
North River—200,000 A1.
Church brook—20,000 S2.
Tarbot Lake—15,000 S2.
Washabuck River—30,000 S2.

MERSEY RIVER PONDS

Mersey River and tributaries—251,700 A3.
Upper Great brook—1,697 S3.

MIDDLETON HATCHERY

Annapolis County—

Annapolis River—30,000 A3.
Barnes Lake—4,000 S3.
Boot Lake—8,000 S2.
Crisp brook—7,000 S2.
Elliott Lake—10,000 S2.
Fishers Lake—7,000 S2.
Lake LaRose—5,000 S3.
Lake Pleasant—10,000 S2.
Little River—Annapolis River—8,000 S2.
McGill Lake—15,000 S2.
Morton brook—5,000 S3.
Mulgrave Lake—400 S3.
Nictaux River—195,000 A3, 5,000 S3.
Paradise Lake—10,000 S2.
Sand Lake—6,000 S3.
Sandy Bottom Lake—10,000 S3.
Shannon River—6,000 S3.
Slocomb brook—5,000 S2.
Thirty Lake—10,000 S3.
Trout Lake—12,000 S3.
Walker brook—6,000 S2.
Waterloo Lake—10,000 S2.
Wiswell brook—4,000 S2.
Zwicker Lake—6,000 S3, 100 Sf.

Digby County—

Mallette Lake—3,000 S3.
Porter or Mistake Lake—4,825 S3.
Round Lake—1,000 S3.

Hants County—

Cameron Lake—8,000 S2.
Lakeland Lake—7,000 S2.
Lebreau brook—6,000 S3.
Maple brook—6,000 S3.
Mockingigh Lake—10,000 S2.
Murphy Lake—5,000 S2.
Zwicker Lake—5,000 S3.

Kings County—

Gaspereau River—9,100 A2.

Lunenburg County—

Canoe Lake, north—10,000 S3.
Holbert Lake—10,000 S2.
Indian Lake-Gold River—8,000 S3.
Lahave River—20,000 A3.
Lake William—6,000 S3.
Lewis Lake—7,000 S3.
Maligeak or Malaga Lake—15,000 S2.
Middle River—20,000 A3.

MIDDLETON HATCHERY—*concluded*

Lunenburg County—concluded
New Germany Lake—10,000 S1.
Ninevah Lake—4,000 S3.
Oakland Lake—5,000 S3.
Pernette Lake—6,000 S3.
Petite River—20,000 A3.
Sherbrooke Lake—50,000 G1, 17,550 G2.
Spectacle Lake-Maligeak Lake—6,000 S3.
Whetstone Lake—10,000 S2.

Queens County—
Harmony brook—8,000 S2.
Medway River—7,000 S2.
Redwater Lake—5,000 S3.

NICTAUX FALLS REARING STATION

Annapolis County—
Annapolis River—17,400 A1.
Butler brook-Nictaux River—30,000 A1.
Fales River—30,000 A1.
Lequille River—30,000 A1.

Hants County—
Avon River, south branch—25,000 A1.

Lunenburg County—
Gold River—55,000 A1.
Lahave River—60,000 A1.

YARMOUTH HATCHERY

Digby County—
Babine Meadows—34,374 S1.
Belliveau River—36,660 Sd.
Carleton River—8,350 S2.
Dean brook—38,374 S1, 11 Sk.
Grosses Coques River—34,374 S1.
Joe-a-re Lake—215 Sf.
Meteghan River—107,258 S1.
Salmon River—42,180 A1, 42,850 A2, 45,136 A3, 6,000 A4, 30,000 S2.
Salmon-river Lake—10,000 S2.
Seven Pence Ha'Penny River—2,100 S5.
Wentworth Lake—25,000 S2.

Lunenburg County—
Lake William—12 Rh, 124 S3, 30 Sf, 15 Sg.

Queens County—
Medway River—2,492 Af.
First Tupper Lake—111 Rk.

Shelburne County—
Barrington River—6,612 A3, 2,000 S3.
Big brook—3,200 S3.
Clyde River—24,605 A1, 30,000 A3, 23,824 A4.
Jordan River—1,500 S5.
Lake George—2,191 S5.
Roseway River—15,000 S3.
Tigney River—1,500 S5.

Yarmouth County—
Argyle River—15,000 S2.
Burrell brook—10,000 S2.
Carleton River—22,900 S1, 15,000 S2.
Crawley Lake—400 Sf.
Ellenwood Lake—10,000 S2.
Jesse Lake—112 Rk.
Kegeshook Lake—2,000 S5.
Mink Lake—195 Sf.
Moulson Lake—2,020 S4.
Reynard bridge—Tusket River—5,000 S2.
Rodney Lake—342 Sf.
Ryerson brook—10,000 S2.
Salmon River, Gardner brook—1,551 Sf.
Sloan Lake—400 Sf.
Stillwater brook (Pubnico Harbour)—1,120 S3.
Sunday Lake—2,020 S4.
Tusket River—34,322 S2.
East Branch Tusket River—30,000 S2.
Welches brook (Pubnico Harbour)—1,120 S3.

NEW BRUNSWICK

CHARLO HATCHERY

Belledune River—10,000 S3.
Charlo River, north branch—20,000 S3.
Christopher brook—15,000 S3.
Black brook—2,500 S3.
Eel River—15,000 S3.
Jacquet River—45,000 A1, 52,000 A2.
Lamontagne Lake—20,000 Sc.
Loch Lomond—4,000 Sc.
Louison creek—5,000 S3.
Louison brook—10,000 Sc.
Middle River—45,000 A1.
Nash creek—5,000 S3.
Nipisiguit River—135,000 A1, 64,000 A2.
Restigouche River—74,000 A1, 502,434 A2.
Kedgwick River—121,000 A2.
Little Main River—192,000 A2.
Matapedia River—117,000 A1, 204,000 A2.
Upsalquitch River—23,310 A1, 139,000 A2, 60,000 A3.
Walker brook—4,000 S3.
Salmon Lake, Matapedia County, P.Q.—2,000 S1.

FLORENCEVILLE HATCHERY

Carleton County—
Becaguimec River—70,000 A1, 54,000 A2.
Bubby brook-St. John River—8,000 S1.
Bulls creek-St. John River—54,375 S1, 676 Sk.
Bull creek-Eel River—65,850 S1.
Burntland brook-Becaguimec River—16,312 S1.
Burpee brook-Presquile River—25,000 S1.
Colton brook-Shiktahawk River—10,000 S1.
Day brook-Becaguimec River—21,750 S1.
Debec brook-St. John River—32,262 S1.
Gallivan brook-St. John River—8,600 S1, 200 Sk.
Gin brook-Becaguimec River—10,875 S1.
Guisiguit River—65,250 S1, 324 Sk.
Little Guisiguit River—65,250 S1, 324 Sk.
Hagerman brook-St. John River—21,750 S1, 285 Sk.

FLORENCEVILLE HATCHERY—*concluded*

Carleton County- -concluded

Hardwood brook-St. John River—10,000 S1, 125 Sk.
Second Howard brook-Becaguimec River—10,875 S1.
Lanes creek-St. John River—5,000 S1.
Lily brook-St. John River—21,750 S1.
Mallory brook-St. John River—25,000 S1.
Maynes brook-Little Presquile River—27,287 S1.
McLeary brook-Lakeville pond—27,287 S1, 560 Sk.
Meduxnekeag River—70,000 A1, 54,000 A2.
Miramichi River, southwest and tributaries—75,000 A1, 217,000 A2.
Monquart River—25,000 A2.
Presquile River—50,000 A1, 25,000 A2.
Little Presqu'ile River—36,899 A2.
River de Chute—54,375 S1, 522 Sk.
Shiktahawk River—20,000 A2.
Little Shiktahawk River—25,000 A2.
Tweedie brook-St. John River—3,000 S1.

York County—

Brown Lake—20,000 S1, 350 Sh.
Clinch brook-Little Magaguadavic Lake—500 Lf.
Cranberry Lake—602 Sk.
Cross creek-Nashwaak River—97,875 S1, 720 Sh.
Davidson Lake—87,000 S1, 652 Sh.
Dunbar brook-Nashwaak River—16,312 S1.
Second Eel Lake—81,562 S1, 360 Sk.
Keswick River—50,000 A1, 25,000 A2.
Kingsley brook-Nashwaakis River—16,312 S1.
Limekiln brook-Nashwaak River—31,377 S1, 360 Sh.
Longs creek-St. John River—30,000 S1.
Mactaquac River—45,000 A1, 25,000 A2.
Manzer Mill stream-Nashwaak River—16,312 S1, 400 Sg.
McBean brook-Nashwaak River—21,750 S1.
McCallums brook-Nashwaak River—20,000 S1.
McIntosh brook—St. John River—10,000 S1.
Middle brook-Nashwaak River—35,000 S1, 360 Sh.
Nackawic River—50,000 A1, 27,000 A2.
Nackawic River, northeast—400 Sg.
Nashwaak River—60,000 A1, 112,000 A2.
Nashwaakis River—135,937 S1, 378 Sk.
Pidgeon brook-Nashwaak River—15,000 S1.
Pokiok River—70,000 S1, 504 Sh.
Risteen Lake—35,000 S1.
Rusagonis River—50,000 S1, 400 Sg, 216 Sh.
Shogomoc River—97,875 S1, 900 Sg.
Skiff Lake—129,000 A2, 500 Lf.
Taffa Lake—48,937 S1.
Tay River—43,500 S1, 355 Sh.
Tinkettle brook-Nashwaak River—10,875 S1, 400 Sg.

GRAND FALLS HATCHERY

Victoria County—

Saint John River and tributaries—225,000 Ad, 588,300 A1, 3,667 A3.
Boutout brook—5,000 S1.
Hatchery brook, below falls—10,000 Sc, 4,732 S3.
Hatchery brook, above falls—4,000 S1.
Little River—195,000 Sc, 45,000 S1.
Headwaters—15,000 S3.
Ryan brook—20,000 Sc, 15,000 S1, 20,000 S3.
Salmon River and tributaries—100,000 Ac, 282,800 A1, 76,000 A2, 45,000 A3.
Foley brook—20,000 S3.
Little Salmon River—26,500 A1.
Mooney brook—10,000 S1.
Outlet brook—5,000 S1.
Sutherland brook—50,000 Sc.
Tobique River and tributaries—25,000 Ad, 43,200 A1, 60,000 A2, 15,000 A3.
Pokiok brook—50,000 S1.
Trout brook—5,570 S3.

Madawaska County—

Baker brook—13,000 S2.
Baker Lake—40,000 S2, 20,000 S3.
Caron Lake—135,000 S3.
Grand River—50,000 S1, 10,000 S3.
Big Forks—10,000 S3.
Black brook—5,000 S3.
McCoil brook—5,000 S3.
Green River—38,000 S3.
Lynch brook—2,000 S3.
Iroquois River—15,000 S2, 30,000 S3.
Ledges pond—10,000 S2.
Nine Mile brook—5,000 S1.
Quisibis River—50,000 S1, 15,000 S3.
Siegas River—50,000 S1.
Trout brook—28,000 S2.
Unique Lake—50,000 S2.

MIRAMICHI HATCHERY

Bartibog River—20,000 Sd, 37,500 S1.
Black River—17,500 Sd, 48,000 S1.
Middle River—20,800 A1, 20,800 A2.
Miramichi River, northwest and tributaries—1,087,500 Ad, 187,562 A2.
Miramichi River, southwest and tributaries—330,000 Ad, 464,200 A1, 104,000 A2.
Miramichi River, little southwest—429,000 Ad, 291,000 A1.
Napan River—10,000 Sd, 10,000 S1.
North River-Petitcodiac River—108,000 A2.
Pokemouche River—20,000 S1.
Pokemouche River, south branch—10,000 S1.
Tabusintac River—28,000 Ad, 45,000 A1, 18,200 A2.
Eskedellic River—17,500 Sd.
Tetagouche River—20,800 A1.
Little Tracadie River—7,500 S1.
Tweedie's Meadow brook—20,000 Sd, 3,900 S1.

Atlantic Biological Station, St. Andrews, New Brunswick—500 S1, 304 S5.

Albert County—

Little or Coverdale River—15,000 S1, 750 S2.
McFadden Lake—5,000 S1.
Mill creek—2,500 S3.
North River-Shepody River—7,690 R2.
Pollett River—15,000 S1, 1,000 S2, 6,000 S3.
Prosser brook-Little River—15,000 S1.
Turtle creek—15,000 S1, 500 S2, 2,500 S3.
Turtle creek, east branch—2,500 S3.
Weldon brook-Petitcodiac River—2,500 S3.
West River-Shepody River—7,690 R2, 15,000 S1, 1,000 S2.

Charlotte County—

Bartlett brook—4,000 S1.
Bartlett Lake—1,000 S3.
Berry brook-Waweig River—250 S2.
Bog brook-Digdeguash River—1,000 S2.
Bonny River—500 S2.
Burns brook-Digdeguash River—4,000 S1.
Campbells brook-Digdeguash River—750 S2.
Clarence brook-Magaguadavic River—15,000 S1.
Cox brook-Magaguadavic River—750 S3.
Craig brook-Digdeguash River—8,000 S1.
Deadwater brook-Magaguadavic River—750 S3.
Digdeguash River—25,000 S1, 2,500 S2.
Digdeguash River, N.W. branch—1,000 S2, 1,500 S3.
Digdeguash Lake—2,000 S2, 2,000 S3.
Disappointment or Mistake Lake—20,000 Sd.
Douglas Lake—500 S3.
Falls brook-Digdeguash River—1,000 S2.
Gallop stream (Oak bay)—500 S3.
Gibson Lake—1,560 S5.
Little Goad brook-Canoose River—250 S3.
Goad brook-Canoose River—500 S3.
Goat brook-St. Croix River—8,000 S1.
Green brown brook-Canoose River—8,000 S1, 500 S3.
Haddock Lake—500 S3.
Hubble brook-South Oromocto River—4,000 S1.
Jones brook-Digdeguash River—250 S2.
Lilly Lake—1,000 S3.
Lintons Meadow brook-Magaguadavic River —20,000 Ad.
Long Lake-Waweig Inlet—1,000 S3.
Magaguadavic River—70,000 Ad, 80,000 A1.
Magaguadavic River, at Flume ridge—250 S3.
McCarlies brook-Waweig River—8,000 S1, 500 S2.
McDougall Lake—16,000 S1, 3,000 S3.
McGuires brook-Waweig River—500 S2.
Meadow brook (Oak bay)—500 S2.
Mohannas creek—1,250 S3.
Murchie brook-Denny stream—8,000 S1, 500 S3.
New River—12,000 S1.
Oromocto Lake, south—2,250 S2.
Piskahegan River—85,000 A1.
Red Rock Lake—12,000 S1.
Rigley brook-Digdeguash River—250 S2.
Robinson Cold brook and tributaries flowing into stillwater joining West Long and Victoria Lakes—3,750 S2.
Roix Lake—10,000 S1.
Sam Halls brook-Digdeguash River—500 S2.
Sandy brook-Canoose River—250 S3.
Scoullar or Schoolar brook-South Oromocto River—4,000 S1.
Snipe brook-Mohannas creek—250 S3.
Soap brook-Mohannas creek—250 S3.
Sparks Lake—3,000 S3.
Stein Lake—10,000 S1.
Twin Lake—1,500 S3.
Utopia Lake—44,000 S1.
Welch Lake—6.000 S2.
Wren Lake—500 S3.

Kent County—

Buctouche River—1,000 S3.
Canaan River—1,000 S3.
Cocagne River—1,000 S3.

Kings County—

Anderson brook-Big Salmon River—1,250 S2.
Cedar camp stream-Trout creek—8,000 S1, 2,000 S2.
Chestnut brook-Smith creek—750 S2
Chisholm Lake—1,000 S2.
Crawford Lake—4,000 S1.
Dee brook-Smith creek—4,000 S1, 500 S2.
Drury brook-Kennebecasis River—2,500 S2, 750 S3.
Hammond River—16,000 Sd, 4,000 S2.
Hammond River, headwater—3,000 S3.
Holmes brook-Sharp brook—750 S2.
Jack Lake—5,000 S1.
Jolliff or Jolly brook-Pascobac creek—250 S2.
Kennebec brook-Studholm brook or Millstream—1,750 S3.
Kennebecasis River—120,000 Ad, 46,353 A1, 10,000 S1, 750 S2.
Kennebecasis River, headwaters—8,000 S1, 6,000 S3.
Kennebecasis River, south branch—23,000 S1, 750 S2.
Kirk brook-Trout creek—2,500 S2.
Little Salmon River—15,000 Ad.
McAffee brook-Studholm brook or Millstream—750 S3.
McGregor creek-Smith creek—8,000 S1.
McLeod brook-Penobsquis River—750 S3.
Mechanics Lake-Trout creek—6,000 S3.
Moosehorn brook and tributary (Finn Campbell brook)—1,750 S3.
Moss Glen Lake—5.000 S3.
Nigger brook-South branch Kennebecasis River—1,500 S3.
O'Neil brook—500 S2.
Parlee brook-Trout creek—4,000 S2.
Pickett Lake—15,000 S1.
Portage brook-Kennebecasis River—2,000 S3.
Prices brook—11,000 S1, 1,000 S2.
Sally brook-Smith creek—4,000 S1.
Seacord brook-Trout creek—750 S3.
Sharp brook-Studholm brook or Millstream —500 S2.
Smith creek-Kennebecasis River—12,000 S1.
Studholm brook or Millstream—12,000 S1.
Tait brook-Raredon Lake—1,250 S2.
Trout creek-Kennebecasis River—20,000 Ad, 20,000 A1, 2,686 A3.
Ward creek, upper-Kennebecasis River— 3,000 S3.
Windgap brook-Smith creek—750 S2.

SAINT JOHN HATCHERY—*concluded*

Queens County—

Canaan River, Forks stream—15,000 S1, 750 S2.
Lake George or Long Lake—30,000 S1.
Newcastle creek—15,000 S2.
O'Neil Lake—5,000 Sd.
Salmon River—126,000 A1.

Saint John County—

Back dam-St. John River—6,000 S1.
Beaver brook-Mispek River—40,000 S1.
Big Salmon River—60,000 Ad.
Blacks Lake-Moose creek—8,000 S1.
Black River—4,000 Sd.
Boaz Lake—4,000 S1, 5,000 S4.
Brandy brook—5,000 S1.
Clear Lake—6,500 A1.
Dolan Lake—11,200 S1.
Douglas Lake—8,000 S1, 3,000 S4.
Elderly brook-Little River—4,000 S1
Germaine brook—8,000 Sd, 2,000 S2.
Graham Lake—5,000 S1.
Grassy Lake-Black River—20,000 S1.
Hanford brook—8,000 Sd, 2,000 S2.
Hanson River—8,000 S1.
Henry Lake—16,000 Sd, 5,000 S2.
Hopey Lake—10,000 S1.
Kelly Lake-St. John River—10,000 S1.
Lake Retreat—20,000 Sd.
Lands or Quinn Lake—4,000 S1.
Lily and No. 1 Artificial Lakes—Rockwood Park—5,000 S1, 432 Sg, 193 Sh, 59 Sk.
Little River—8,000 S1, 18 Sf, 4 Sg, 27 Sh, 92 Sk.
Little Salmon River, headwater—2,000 S2.
Loch Lomond—28,000 S1, 7,000 S2.
Martin Head brook—1,250 S2.
McCracken Lake—8,000 S1, 10,000 S4.
Mechanic's Rest pond—4,000 Sd.
Millican Lake—5,000 S1.
Mispek River—2,000 S3, 3,000 S4.
Robinson Lake—1,000 S2.
Southern Lake, lower—5,000 S1.
Treadwell Lake—8,000 Sd, 5,000 S4.
Tynemouth or Ten Mile creek—20,000 Ad, 15,000 Al.
Wilmot stream-Loch Lomond—12,000 Sd, 3,000 S2.

Sunbury County—

Bailey or Scribner brook-South Oromocto River—1,000 S3.
Dan's brook-South Oromocto River—3,000 S3.
Douglas pond-South Oromocto River—4,000 S1.
Fritz creek-South Oromocto River—4,000 S1.
Hardwood creek-Northwest Oromocto River—4,000 S1.
Morency brook-Northwest Oromocto River—4,000 S1.
Oromocto River—20,000 A1, 2,500 A3.
Otter brook-Northwest Oromocto River—4,000 S1.
Peat brook-South Oromocto River—4,000 S1, 1,000 S3.
Pleasant brook—7,000 S2.
Shin creek-South Oromocto River—4,000 S1.
Spring brook-South Oromocto River—2,500 S2.
Three Tree creek-Oromocto River—4,000 S1, 2,500 S2.

Westmorland County—

Anagance River—8,000 S1, 500 S2.
Bulmer's pond—4,000 S2.
Hall creek-Petitcodiac River—4,000 S2.
Hayward brook-Anagance River—11,000 S1, 500 S2.
North River—8,000 S1, 1,000 S2, 1,000 S3.
Petitcodiac River—20,000 Ad.
Rearing pond, Moncton Fish and Game Protective Association—1,000 S2.
Scoudouc River—1,000 S2.
Tait brook-Memramcook River—7,000 S1, 500 S2.

York County—

Big Cranberry or Harvey Lake—20,000 S1.
George Lake—20,000 S1, 1,500 S2.
Lyon brook-Northwest Oromocto River—4,000 S1.
Mink Lake—8,000 S1.
Mink Lake stream-Magaguadavic River—750 S2.
Oliver Lake—1,250 S2.
Spring brook (James Vail)-Magaguadavic River—4,000 A2.
Yoho brook-Northwest Oromocto River—4,000 S1.

PRINCE EDWARD ISLAND

CARDIGAN PONDS

Kings County—

Bear River—5,000 S3.
Big brook-Fortune River—8,000 S3.
Big pond (Hermanville)—6,000 S3.
Brudenell River—6,000 S3.
Cardigan River—3,673 S4.
Creed's pond-Sturgeon River—8,000 S3.
Finlayson's pond-Greek River—8,000 S3.
Goose River—5,000 S3.
Hay River—5,000 S3.
Jenkin's pond-Greek River—4,000 S3.
Leard's pond-Morell River—8,000 S3.
MacLeod's pond-Murray River—6,000 S3.
McLeod's pond-Midgell River—6,000 S3.
McPherson's pond-Montague River—6,000 S3.
McRae's pond-Montague River—5,000 S3.
Montague River (below McRae's pond)—3,000 S3.
Montague pond (Electric Power)—6,000 S3.
Mooney's pond-Morell River—5,000 S3.
Morell River—10,000 A1, 18,000 A2, 16,845 A3.
Munn's brook-Brudenell River—4,000 S3.
Naufrage River—6,000 S3.
Priest pond (Bayfield)—6,000 S3.
Quigley's pond—6,000 S3.
Sturgeon River—6,000 S3.
Webster's pond-Marie River—6,000 S3.

CARDIGAN PONDS—*concluded*

Prince County—

Barbara Weit River—6,000 S3.
Cain's stream-Mill River—6,000 S3.
Clark's pond-Wilmot River—8,000 S3.
Enmore River—6,000 S3.
Gard's pond-Mill River—6,000 S3.
McArthur's pond-Foxley River—4,000 S3.
Old Wool Mill pond-Tryon River—4,000 S3.
St. Nicholas pond (Sunbury Cove)—6,000 S3.
Scales pond-Dunk River—81,000 R3.
Sheen's pond-Trout River (Tyne Valley)—4,000 S3.
Sheep River—8,000 S3.
Tuplin's pond-Indian River—6,000 S3.
Wright Leard's pond-Dunk River—6,000 S3.

Queens County—

Andrews' pond-Hunter River—4,000 S3.
Belle River—9,000 S3.
Cook's pond-Newton River—4,000 S3.
Head of East or Hillsborough River—35,000 R3, 7,000 R4.
Glenfinnan Lake—10,000 R1.
Hardy's pond-Winter River—6,000 S3.
Hope River—7,500 S3.
Lane's brook-Vernon River—4,000 S3.
Leard's pond-Pisquid River—6,000 S3.
McPherson's pond-Flat River—6,000 S3.
McPherson's pond-Pinette River—6,000 S3.
Parson's pond-Glynde River—7,500 S3.
Pisquid or O'Keefe's Lake—10,000 R1.
Ross' pond-Vernon River—4,000 S3.
Simpson's pond-Hope River—5,000 S3.
Southwest River (Margate)—5,000 S3.
Stevenson's pond (Rustico Harbour)—4,000 S3.
Watt's stream-Winter River—8,000 S4.
West River—12,000 S3.
Winter River—8,000 S3.

KELLY'S POND HATCHERY

Kings County—

Big brook-Fortune River—10,000 S1.
Crane's pond-Morell River—8,000 S1.
Dingwell's pond-Fortune River—12,000 S1.
East or Hillsborough River—5,000 S1.
Fitzpatrick's pond-Seal River—6,000 S1.
Graystone creek-Boughton River—8,000 S1.
Hodgson's stream-Boughton River—5,000 S1.
Hooper's pond-St. Peter's Lake—6,000 S1.
Larkin's pond-Naufrage River—10,000 S1.
Leard's pond—Morell River—12,000 S1.
MacDonald's pond-Fortune River—5,000 S1.
McRae's pond-Montague River—10,000 S1.
Marie River—40,000 A1.
Midgell River—50,000 A1.
Montague pond (Electric Power)—10,000 S1.
Morell River—200,000 Ad, 141,080 A1.
Narrow creek-Boughton River—5,000 S1.
Naufrage River—12,000 S1.
Ross' pond-Boughton River—15,000 S1.
Head of St. Peter bay, below Quigley's pond—50,000 Ad.
Warren's pond-Head of East or Hillsborough River—8,000 S1.

Prince County—

Bain creek (Ascension)—5,000 S1.
Barlow pond-Grand River—5,000 S1.
Bell's stream-Mill River—8,000 S1.
Bell's stream (Cape Traverse)—5,000 S2.
Brae River—5,000 S1.
Cannon's pond-Smelt River—4,000 S1.
Carr's stream-Malpeque bay—5,000 S1.
Conroy's pond (Cape Kildare)—5,000 S1.
Currie's pond-Little Pierre Jacques River—10,000 S1.
Fitzgerald's pond-Grand River—4,000 S1.
Gordon's pond-Kildare River—10,000 S1.
Leard's pond-Trout River tributary to Lot 10 River—5,000 S1.
McAusland's pond-Mill River—10,000 S1.
McNally's pond-Jacques River—5,000 S1.
Marchbank's pond-Trout River (Tyne Valley)—6,000 S1.
Rix's pond-Kildare River—10,000 S1.
Round pond (Cape Kildare)—5,000 S1.
Waddell's pond (Cape Traverse)—5,000 S2.
Webster's pond (Augustine Cove)—5,000 S2.

Queens County—

Andrews' pond-East River—8,000 S1.
Bagnall's pond-Hunter River—10,000 S1.
Black River-Tracadie bay—8,000 S1.
Black River-Covehead bay—6,000 S1.
Brander's pond (Seaview)—4,000 S1.
Callaghan's pond-East River—5,000 S1.
Clark's stream-East River—15,000 S1.
Coles' pond-North River—10,000 S1.
Cousins pond (Seaview)—5,000 S1.
Craswell's pond-Hunter River—8,000 S1.
Crooked creek-Wheatley River—5,000 S2.
Dixon's pond-De Sable River—15,000 S1.
Found's pond-Stanley River—5,000 S1.
Gates' pond-North River—5,000 S1.
Glenfinnan Lake—77,485 R1.
Holms' pond-De Sable River—5,000 S1.
Johnston River—10,000 S1.
Kelly's or Hatchery pond—3,100 S2.
Leard's pond-Crapaud River—15,000 S1.
MacCormack's stream (Deroche point)—5,000 S1.
McAulay's stream-Tracadie bay—6,000 S1.
McLean Brothers pond-West River—10,000 S1.
Pisquid or O'Keefe's Lake—70,000 R1.
Rackham's pond-Wheatley River—12,000 S1.
Stordy's pond-Crapaud River—8,000 S1.

BRITISH COLUMBIA

ANDERSON LAKE HATCHERY

Hillier creek-Maggie Lake—1,030,296 Pb.