

*West. Lab*

*213*

DEPARTMENT OF FISHERIES

ANNUAL REPORT

ON

FISH CULTURE

1944



OTTAWA  
EDMOND CLOUTIER  
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY  
1946



# ANNUAL REPORT ON FISH CULTURE

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

Fish cultural operations in 1944 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. Thirteen main hatcheries, five rearing stations, six salmon retaining ponds and several egg collecting camps were operated with a total output from these establishments of 18,501,600, over 75 per cent of which were distributed in the fingerling and older stages. The output by species, hatcheries and provinces was:—

STATEMENT BY SPECIES OF THE FISH DISTRIBUTED DURING THE YEAR ENDED  
DECEMBER 31, 1944

Species	Fry	Advanced fry	Fingerlings	Yearlings and older	Total distribution
Salmo salar-Atlantic salmon.....	340,000	3,834,890	9,688,900	84,151	13,947,941
Salmo fario-Brown trout.....			6,460		6,460
Salmo rivularis Kamloops-Kamloops trout.....			15,500		15,500
Salmo irideus-Rainbow trout.....			394,786	3	394,789
Salmo salar sebago-Sebago salmon.....			3,700	19,093	22,793
Salvelinus fontinalis-Speckled trout.....	50,000	307,160	3,659,035	97,996	4,114,191
	390,000	4,142,050	13,768,381	201,243	18,501,674

HATCHERIES AND REARING STATIONS OPERATED, THEIR LOCATION, DATE ESTABLISHED, THE SPECIES AND THE NUMBER OF EACH SPECIES DISTRIBUTED FROM EACH ESTABLISHMENT DURING 1944

Established	Hatchery	Location	Species	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.....		435,000	340,000	55,000	67,700				897,700	
			Speckled trout.....		210,000	1,370,000	157,200	102,600	21,285		13,912	1,874,997	2,772,697
1876	Bedford.....	Bedford, N.S.....	Atlantic salmon.....		71,890	16,270						88,160	
			Brown trout.....				6,460					6,460	
			Speckled trout.....			2,980						2,980	97,600
1937	Cobequid.....	Jackson, N.S.....	Atlantic salmon.....		15,750							15,750	
			Speckled trout.....	24,000		38,250	12,050	1,600				75,900	91,650
1938	Coldbrook (f).....	Coldbrook, N.S.....	Atlantic salmon.....			88,080			3,110			91,190	
			Rainbow trout.....					143,302	3,523			146,825	238,015
1936	Grand Lake (f).....	Wellington Station, N.S.....	Atlantic salmon.....					275,000	70,000			404,169	
			Sebago salmon.....								5,316	5,316	
			Speckled trout.....								39,770	39,770	449,255
1937	Kejimikujik (f).....	New Grafton, N.S.....	Atlantic salmon.....					202,910				202,910	
			Speckled trout.....				330	1,094				1,424	204,334
1912	Lindloff.....	St. Peters, N.S.....	Atlantic salmon.....				710,000		73,000			783,000	
			Speckled trout.....			140,500	185,060	27,430		606	791	354,387	1,137,387
1902	Margaree.....	N.E. Margaree, N.S.....	Atlantic salmon.....	340,000	390,000	550,000	310,000	540,000				2,130,000	
			Speckled trout.....			357,000	230,000	150,000	108,000	34,900	9,195	889,095	3,019,095
1935	Mersey River (f).....	Liverpool, N.S.....	Atlantic salmon.....					168,700				168,700	
			Speckled trout.....						5,220			5,220	173,920
1913	Middleton.....	Middleton, Annapolis County, N.S.....	Atlantic salmon.....					390,000	50,000			440,000	
			Kamloops trout.....			8,000	7,500					15,500	
			Rainbow trout.....					58,067	5,154			63,221	518,721
1929	Yarmouth.....	South Ohio, N.S.....	Atlantic salmon.....			100,000	55,000	85,000	129,500	19,710		389,210	
			Speckled trout.....		73,160						1,679	74,839	464,049
1939	Charlo.....	River Charlo, N.B.....	Atlantic salmon.....			151,800	759,820	47,500				959,120	
			Speckled trout.....			25,000	6,700	5,240				36,940	996,060
1928	Florenceville.....	Florenceville, N.B.....	Atlantic salmon.....			1,320,000	80,000	40,000			24,982	1,464,982	
			Speckled trout.....			170,520					18,467	188,987	1,653,969
1880	Grand Falls.....	Grand Falls, N.B.....	Atlantic salmon.....		400,000	690,000	655,000	196,440				1,941,440	
			Speckled trout.....	20,000		51,490						71,490	2,012,930
1874	Miramichi.....	South Esk, N.B.....	Atlantic salmon.....		2,538,000	680,000	118,090					3,336,090	
			Speckled trout.....			20,000	12,300					32,300	3,368,390
1914	Saint John.....	Saint John, N.B.....	Atlantic salmon.....			314,000				9,040		323,040	
			Rainbow trout.....				45,000	36,500		15,710	3	97,213	
			Sebago salmon.....				3,700				13,777	17,477	
			Speckled trout.....	30,000		3,830	177,500					225,512	663,242
1938	Cardigan (f).....	Cardigan, P.E.I.....	Atlantic salmon.....					69,650				69,650	
			Rainbow trout.....					87,530				87,530	
			Speckled trout.....					134,490				134,490	291,670
1906	Kelly's Pond.....	Southport, P.E.I.....	Atlantic salmon.....			237,000	5,830					242,830	
			Speckled trout.....			39,000	65,265	1,595				105,860	348,690
				390,000	4,142,050	6,729,470	3,657,805	2,832,348	468,792	79,966	201,243	18,501,674	18,501,674

(f) Rearing station.

The fry and fingerlings included in this distribution were from collections in the autumn of 1943 and the spring of 1944.

## HATCHERY OUTPUT, BY PROVINCES, OF FRY, FINGERLINGS, YEARLINGS AND OLDER FISH DURING 1944

	Fry	Advanced fry	Fingerlings					Yearlings and older	Total distribution by species	Total distribution by province
			No. 1	No. 2	No. 3	No. 4	No. 5			
<i>Nova Scotia—</i>										
Atlantic salmon.....	340,000	896,890	1,110,100	1,130,000	1,729,310	325,610	19,710	59,169	5,610,789	.....
Brown trout.....				6,460					6,460	.....
Kamloops trout.....			8,000	7,500					15,500	.....
Rainbow trout.....					201,369	8,677			210,046	.....
Sebago salmon.....								5,316	5,316	.....
Speckled trout.....		307,160	1,908,730	584,640	282,724	134,505	35,506	65,347	3,318,612	.....
	340,000	1,204,050	3,026,830	1,728,600	2,213,403	468,792	55,216	129,832	9,166,723	9,166,723
<i>New Brunswick—</i>										
Atlantic salmon.....		2,938,000	3,155,800	1,612,910	283,940		9,040	24,982	8,024,672	.....
Rainbow trout.....				45,000	36,500		15,710	3	97,213	.....
Sebago salmon.....				3,700				13,777	17,477	.....
Speckled trout.....	50,000		270,840	196,500	5,240			32,649	555,229	.....
	50,000	2,938,000	3,426,640	1,858,110	325,680		24,750	71,411	8,694,591	8,694,591
<i>Prince Edward Island—</i>										
Atlantic salmon.....			237,000	5,830	69,650				312,480	.....
Rainbow trout.....					87,530				87,530	.....
Speckled trout.....			39,000	65,265	136,085				240,350	.....
			276,000	71,095	293,265				640,360	640,360
										18,501,674

## NUTRITIONAL EXPERIMENTS

Nutritional experiments were continued as usual with fingerlings and enlarged to take in greater numbers of parent speckled trout. Rations that proved least efficient last year were discarded and several new ones added. In the experiments with fingerlings 15 different ingredients were used in various compositions and 78 tests made during the year. With parent stock 13 different ingredients were used and 25 tests made. Some of the rations used gave promising results at some hatcheries from the standpoint of survival, growth and cost of ration to produce a pound of fish. Most of the experimental feeding was with speckled trout.

## CHARLOTTE COUNTY LAKES EXPERIMENT

In continuation of the Charlotte County Lakes experiment, a co-operative effort between the Fish Cultural Branch and the Atlantic Biological Station of the Fisheries Research Board, the closures were removed and creel censuses were taken in Crecy, St. Patrick, Gibson and Welch lakes; and St. Patrick and Crecy lakes were stocked respectively with 1,060 and 675 marked speckled trout yearlings.

The creel census returns of 1944 again indicated poor productivity in the lakes with yields per acre of 1.93 pounds in Crecy lake and its outlet pond, 1.39 pounds in Crecy lake only, and less than a pound per acre in St. Patrick, Gibson, and Welch lakes. The extremely low production per acre in all eight lakes, as shown by the following summary, confirms the need of determining means to improve the fertility or productive capacity for trout in these and other lakes of similar type in the Maritime Provinces.

Lakes	Census Year	Yield per acre (pounds)
Limeburner .....	1942	0.4
	1943	0.1 (approximate)
Bonaparte .....	1942	1.1
	1941	0.9
Johnson .....	1942	0.1 (approximate)
	1941	0.4
Kerr .....	1942	0.2
	1943	0.7 (approximate)
St. Patrick .....	1944	0.98 (approximate)
	1943	2.0
Crecy .....	1944	1.93 (approximate)
Crecy and outlet pond.....	1944	0.58
Welch .....	1944	0.76 (approximate)
Gibson .....	1944	

## SELECTIVE BREEDING

Selective breeding of speckled trout was continued to develop such characteristics as increased vitality, high yield, rapid growth, early spawning, colouration and general appearance. Outstanding pairs at the different hatcheries are mated and their progeny segregated. The progeny of the pairs in which survival is highest is retained for brood stock and periodically selected so long as they are profitable egg producers. The eggs of some of the pairs in which survival is highest at the eyed egg stage are exchanged by the several hatcheries. The average yield of the selected pairs and of the general groups are indicated in the reports of the respective hatcheries.

The range of small mouthed black bass in the Maritime Provinces was further extended by the transfers of adults from Lake Utopia, Charlotte County, N.B., to Micmac Lake, Halifax County, N.S., and to Shaw Lake, Saint John County, N.B. Experimental distributions of rainbow trout from four different sources and marked in different ways were made in tributaries of Sherbrooke Lake, N.S., and Big Salmon River, N.B. Smelt eggs collected in Lake Utopia, N.B., were supplied for distribution in Manito Lake, Saskatchewan.

During the year 4,573 Atlantic salmon were impounded. The average yield of eggs per female was 7,994 and for the individual ponds were: Morell 8,331, New Mills 7,461, Miramichi 6,730, River Philip 9,904, Sackville 5,927 and Margaree 9,848.

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

Railway	Total mileage on trip passes	Number of passages	Mileage baggage car permits			Number of cases or cans			Number of permits
			Full	Empty	Total	Full	Empty	Total	
C.N.R. ....	2,189	14	1,568	2,162	3,730	29	50	79	21
C.P.R. ....	1,865	14	890	4,003	4,893	25	26	51	15
D.A.R. ....	1,060	8	313	747	1,060	17	31	48	8
	5,114	36	2,771	6,912	9,683	71	107	178	44

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.

Operations generally at each establishment are referred to in the accompanying reports of supervisors and superintendents. Owing to conditions brought about by the war and a limited appropriation, no major new construction was undertaken and repairs and replacements were confined to essentials.

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

### *Standard Nomenclature and Computation Methods*

The Attorney General's Department, Victoria, B.C., the Department of Lands and Mines, Edmonton, Alta., the Department of Natural Resources, Regina, Sask., the Department of Mines and Natural Resources, Winnipeg, Man., the Department of Game and Fisheries, Toronto, Ont., the Department of Game and Fisheries, Quebec, Que., the Department of Mines and Resources (Federal) Ottawa, and the Department of Fisheries (Federal) Ottawa, which includes all Provincial and Dominion Government Departments now engaged in Fish Cultural operations, have agreed to and adopted the following nomenclature and computation methods for the product of their hatcheries:

#### *Nomenclature*

##### 1. *Egg*:

The general term "egg" covers the period from spawning or stripping until the egg is hatched.

##### *Sub-Divisions—*

##### *Green Eggs—*

Eggs from the time they are spawned or stripped until they have become firm and have ceased to absorb moisture.

##### *Water hardened eggs—*

Eggs that are firm and have ceased to absorb moisture.

##### *Eyed eggs—*

Eggs in which the eyes or the dark eye-spots are clearly visible.

**2. Fry:**

Fish from the time they are hatched until the yolk sac is completely absorbed.

**3. Advanced Fry:**

Fish for a period of two weeks following the complete absorption of the yolk sac.

**4. Fingerlings:**

Fish from two weeks after complete absorption of the yolk sac until they are one year old from date of hatch.

Sub-divisions of fish during their first year, when they are classified as fingerlings, is based on age from the date on which they are hatched. While age has been adopted as the primary basis for the sub-division of fingerlings, each Department in addition to age is free to give the size, length or weight of its hatchery product or to describe it in any other way.

**5. Yearlings:**

Fish from one to two years old from date of hatch.

**6. Fish older than yearlings are indicated according to age in years from the date of hatch.**

### *Computation Methods*

**1. Eggs:**

Volumetric measurement in water based on three or more sample counts of the contents of a unit measure.

**2. Fry:**

Computation by estimate checked against the egg measurement with egg losses and visible fry losses deducted.

**3. Advanced Fry:**

In the early stages computation by estimate checked against egg measurement with egg losses and visible fry losses deducted. In the later stages similar computation checked by sample counts.

**4. Fingerlings:**

In the early and medium stages computation by weighing in water based on sample counts. In the later stages with larger fish, computation by weighing in water based on sample counts if the numbers are too large to count, otherwise by actual count.

**5. Yearlings and Older Fish:**

By count.

## MARITIME PROVINCES

*Senior District Supervisor of Fish Culture, James Catt*

In spite of a necessarily limited appropriation and difficulties in obtaining adequate labour and supplies, expansion of the Fish Culture Service was not entirely suspended. Perhaps the most important innovation of the year was the conference of hatchery superintendents at Saint John to discuss their respective problems.

Staff operations included hatchery inspections, examinations of lakes and streams, collection of land-locked salmon, speckled trout and smelt eggs, collection and distribution of small mouthed black bass, selection of waters for

experimental distributions of four strains of rainbow trout, and preliminary surveys of certain salmon and trout streams with a view to future improvement. To obtain a clearer picture of the inland waters certain areas were traversed with Doctor A. W. H. Needler, Director of the Atlantic Biological Station, St. Andrews. Doctor M. W. Smith of the same station in co-operation with Supervisor F. A. Tingley selected three lakes in New Brunswick and four in Nova Scotia for further tests in economic stocking.

At the request of Doctor Needler samples of red and of white fleshed speckled trout were forwarded to Doctor W. S. Hoar, University of N.B., for comparative determination of their riboflavin values. He reported that: "There was very little difference in the Vitamin B<sub>2</sub> content of the two types of muscle. The red flesh contained 2.5 micrograms of riboflavin per gram of dry tissue, while the white flesh contained 3.2 micrograms. This is not so very different, and is of the same general order as values obtained for salmon." The samples, obtained by Supervisor A. P. Hills, included white fleshed wild stock, white fleshed hatchery stock fed artificial diets, and red fleshed stock of hatchery origin liberated in Howe Lake, Saint John, in 1943.

In the latter part of April an inspection of the spawning grounds of Var. "A" smelts, the so-called "lath edgings," of Lake Utopia indicated the run to have been heavier than usual. Further investigation determined the run of Var. "C" smelt to have been relatively small but Var. "B" spawned in greater numbers than observed heretofore. Some of the last named remained on the spawning grounds until early June—considerably later than is customary.

As smelt eggs were required for planting in Manito Lake, Saskatchewan, under the direction of Doctor D. S. Rawson, a brief survey of the Gaspereau River, Hants Co., N.S., was made but the spawning grounds could not be located in the limited time available before the ova became too far advanced for safe shipment; however, on June 3 approximately 2 quarts of eyed eggs, Var. "B" Lake Utopia were obtained and forwarded to Saskatchewan. One quart of eyed eggs of the same variety was again laid down in the main spring feeder affluent to Wheaton (Bocabee) Lake, Charlotte Co., N.B.

The installation and operation of a trap at the mouth of Trout brook, Lake Utopia, from early May to late November produced interesting and valuable results. It served a fourfold purpose—the capture for distribution of small mouthed black bass ascending the brook; the protection from these fish of young trout descending the brook which drains the watershed constituting the main trout nursery for Lake Utopia; the capture of mature speckled trout in the fall for the collection of their ova; and the collection of data in connection with the species of fish running the brook and the periods of their migration.

The trap was so set as to permit the descent of small trout during the earlier part of the year at the same time preventing the ascent of large fish.

At the end of the bass spawning season the intake was closed and not again opened until late September—although following the hurricane of September 15 it was rendered inefficient for several days.

During the spring and fall operations small mouthed black bass were taken and transferred to Micmac Lake near Dartmouth, N.S., and to Shaw Lake watershed near Saint John, N.B. The trap also caught a large number of coarse fish including suckers, cyprinids, yellow perch, sun fish, ells, Var. "A" smelts and ling. In regard to the last named species two specimens were taken in the spring and more than 20 in the fall, a much greater number than had been trapped in Trout brook in any one season in the last two decades. Many of the fall specimens were gravid and some contained large speckled trout in their stomach. The ling may have caught these after entering the trap. In late October and early November an increasing number of trout were spent before

their capture; their partly mended condition was indicative of an undiscovered spawning ground in the lake.

In the Saint John area it is observed that the largest catch of landlocked salmon on record was made in Chamcook Lake watershed in the late spring and early summer. The vast majority of these were marked and definitely a hatchery product. Following the connection of Limeburner to upper Chamcook Lake by means of a dugway or ditch the range of Chamcook salmon has expanded to include the Limeburner Lake watershed in which the capture of the species was for the first time recorded this season. Brown trout continue in abundance in Loch Lomond, Terreo Lake, and other parts of the Mispek watershed as well as in Little River. Distributions of landlocked salmon in Grand Lake, N.S., has resulted in an increased catch by anglers. The weight of these fish taken in 1944 was double that of the preceding year.

Reliable information indicates that a heavy run of Atlantic salmon smolt in 1943 and a smaller run in 1944 descended through Dick's Lake, on the Falls brook branch of Big Salmon River, Saint John and Kings Counties, N.B. These fish were the result of stocking the headwaters of Falls brook. A waterfall below Dick's Lake presents a complete barrier to the ascent of salmon, thus definitely fixing the smolt taken above it as the result of hatchery stocking.

The speckled trout fingerlings liberated in Howe Lake, Saint John County, in 1943 produced unusually fine yearlings. In June they had reached an average weight of 1 pound for 11½ inches of length.

The experimental introduction of four varieties of rainbow trout, including fall spawners and Kamloops, into unscreened and open waters, constitutes a very interesting test. The areas selected are covered by the headwaters of the north branch of the Lahave River, N.S., and by the Main, Reardon, and Falls brook tributaries of the Big Salmon River, N.B. Each of three of these groups was marked by clipping a different fin. The fourth group was left unmarked; thus recaptures should indicate the stock best adapted to the water.

Maritime distributions were smaller than usual. This was the result of the poor quality of trout ova laid down in 1943. The loss in eggs followed a heavy loss in brood stocks which appears to have been caused by the unexpected toxicity of frozen sardines held too long in cold storage.

The quality of the parent stock and the percentage of egg fertility is much higher than it was at the same time last year.

Total distributions for the year were approximately as follows:

	<i>Fry and Fingerlings</i>	<i>Yearlings and Older Fish</i>
Speckled trout.....	4,016,200	98,000
Atlantic salmon.....	13,863,800	84,150
Sebago or land-locked salmon.....	3,700	19,090
Rainbow trout.....	394,800	3
Kamloops trout.....	15,500	—
Brown trout.....	6,460	—
Small mouthed black bass (mature wild fish) .....	—	82

Ova collections were obtained from Atlantic and landlocked (sebago) salmon, speckled trout, rainbow trout, and smelt.

Importations include rainbow, Kamloops and brown trout eggs. Four thousand five hundred and seventy-three wild parent Atlantic salmon held at the Margaree, Miramichi, New Mills, Morell, River Philip and Sackville ponds yielded approximately 23,000,000 green eggs.

Two hundred and sixty-three wild sebago salmon from the watersheds of Grand Lake, N.S., and Chamcook Lakes, N.B., yielded 98,000 eggs.

Nearly 538,000 speckled trout eggs were obtained from wild fish captured in Prince Edward Island, Cape Breton, N.S., Charlotte Co., and Burnt Hill brook near Florenceville, N.B.

Hatchery stocks produced approximately 29,000,000 speckled trout eggs, 87,500 landlocked (sebago) salmon eggs and 6,500 Atlantic salmon eggs. This

last group obtained from six females, four years old, held at Saint John hatchery is the first instance of the species being raised to maturity and reproducing at any Maritime hatchery; possibly it is without parallel anywhere. A careful study of their diet and conditions under which these fish were held may be of importance in obtaining a higher percentage of fertility in landlocked strains reared in artificial ponds.

As the opportunity occurred, some meetings of the branches of the Provincial Fish and Game Protective Associations, including those held at Saint John, Springhill, and Truro, were attended. Generally speaking, the co-operation of these branch associations took a very practical form in assisting in distributions and surveys and supplying needed information. Such assistance is much appreciated. Officers of those Provincial Departments administering the several regulations covering fish and game were kind enough to offer their services where needed and possible. This was particularly so in the Charlotte and Saint John County areas of New Brunswick.

Co-operation between the Administrative and Fish Cultural Officers of this Division was excellent in spite of the increasing duties of the former branch.

An increased degree in the exchange of ideas and information between the Directors and staffs of the Fisheries Research Board's Stations at Halifax and St. Andrews and the Fish Cultural Staff is noted with satisfaction, and has led to joint execution of certain plans and the formulation of others requiring future co-operative effort.

#### *District Supervisor of Fish Culture, F. A. Tingley*

Early in May a trap was set in the mouth of Trout brook, Lake Utopia, to capture small mouthed black bass, and between May 11 and June 6 it took 66. Of these 61 were transferred on the last mentioned date and liberated in good condition in Micmac Lake, one of the Dartmouth waters, Halifax County, N.S. The capture and transfer of this species from Lake Utopia serves a dual purpose, i.e., protection of the yearling speckled trout that descend Trout brook in the spring, and provision of a nucleus of a population of game fish where none such existed in waters unsuited for trout. Twenty-one bass subsequently captured at the same location were transferred to Shaw Lake, Saint John County, N.B.

In July and August, in collaboration with Doctor M. W. Smith, of the Atlantic Biological Station, selection of the following seven lakes for a trout stocking test was made:—in New Brunswick, Loch Lomond and Black near Campbellton, Restigouche County, and Mechanic's or Pollett, Kings County; in Nova Scotia, Sutherland, Cumberland County, Copper, Antigonish County, Grant, Pictou County and O'Law, Inverness County. The proposed tests in these lakes are designed to determine (1) the approximate natural production of the waters by comparison of the numbers of native trout captured against the return from known numbers of marked hatchery stock, (2) the comparative efficiency of stocking with hatchery trout of three size groups and (3) correlation of results obtained from stocking with the characteristics of the different waters involved. Distribution of the first two sized groups has been made in all except Pollett Lake. Assistance was given Supervisor Catt in August in an examination of Point Wolf, Little Salmon and Big Salmon Rivers for selection of a stream in which to make experimental distributions of rainbow trout. The Big Salmon was selected and rainbow distributed.

On August 14 the trap net was reset in the mouth of Trout Brook, Lake Utopia, with a view to obtaining eggs from early spawning speckled trout. Abnormal water conditions damaged the trap temporarily and allowed the early run to ascend to the spawning grounds, but a collection of 119,900 eggs was obtained from the later running trout.

Assistance was also given with the sebago salmon egg collection at Chamcook and Gibson Lakes. In addition to the usual set-up at Chamcook and the trap established at the outlet of Gibson Lake, a picket trap was built in Gibson brook about midway between Gibson and Upper Chamcook Lakes. Two factors that may have reduced the numbers of spawning fish were (1) an exceptionally heavy catch of sebago salmon in Chamcook Lake during the angling season and (2) escapement of salmon to Limeburner Lake through a channel cut into Upper Chamcook Lake in 1942.

The following establishments were inspected:—Antigonish, Margaree, Lindloff, Bedford, Cobequid, Grand Lake, Yarmouth, Middleton, Mersey, Kejimkujik and Coldbrook—two of them twice. Conferences called by the fishery supervisors were attended at Saint John, May 6, St. Stephen, May 19, Kentville, December 14, and the conference of hatchery superintendents at Saint John, May 16 and 17.

#### *District Supervisor of Fish Culture, A. P. Hills*

During the year the Coldbrook, Middleton, Nictaux, Stevens, Kejimkujik, Mersey, Yarmouth, Florenceville, Grand Falls, Charlo, Miramichi, Kelly's, Cardigan, New Mills, Morell, Margaree, Lindloff, Antigonish and Cobequid establishments—six of them twice—the Margaree salmon retaining pond, Burpee and Tweedie Meadow brooks, were inspected. Stripping operations were partially observed at Antigonish, River Philip and Margaree plants. The annual meeting of the New Brunswick Guides Association at Fredericton, March 29, Fish Cultural Officers' conference at Saint John, May 16 and 17, Fishery Officers' conference at St. Stephen, May 19, a meeting of the local Fish and Game Committee at Middleton, August 28, and of the Springhill Branch of the Nova Scotia Fish and Game Protective Association, November 19, were attended. In April I accompanied the Civil Service representative who held oral examinations for hatchery assistants in New Brunswick and Nova Scotia. In May I assisted the Senior District Supervisor of Fish Culture in examining Annapolis and Nictaux Rivers, Evans brook, Payson's Meadow, Klondyke and Sullivan flowages in connection with stream improvement proposals. A further examination of Annapolis and Round Hill Rivers was made in August. Other waters examined, some superficially, were: Howe, Kelly, and Dark Lakes, New Brunswick; Blooming Point pond, Prince Edward Island; and Hollahan Lake, Salmon River (Truro), Parrsboro Aboiteau, Black and Dry Lakes and tributaries of Sherbrooke Lake, Nova Scotia. I also assisted in the collection and transfer of small mouthed black bass from Lake Utopia to the Dartmouth and Shaw Lake watersheds and with collection and shipment of smelt eggs to Saskatchewan.

Weirs for measuring the flow of water were constructed at Springdale, Calamingo and Teakle's brooks and periodic inspections made of them. The marking and distribution of four different strains of rainbow trout in streams tributary to Sherbrooke Lake, Nova Scotia, was partially supervised and some assistance given in connection with the collection of speckled trout eggs from wild stock at Lake Utopia, New Brunswick.

#### ANTIGONISH HATCHERY

*W. D. Turnbull, Superintendent*

The hatchery ponds produced 10,944,600 speckled trout eggs which were all laid down in Antigonish hatchery. This collection was supplemented by receipt of 1,001,000 Atlantic salmon eggs from Cobequid hatchery March 25 and 5,000 speckled trout eggs (selected stock) from Margaree February 14. In October

35,000 speckled trout No. 4 fingerlings were sent to Grand Lake rearing station. Distributions for the year were 897,700 Atlantic salmon and 1,875,000 speckled trout of which 38,772 trout were marked by fin clipping. In selective breeding 30 pairs of three year old trout averaged 4,040 eggs per female as against 2,662 in the general group of the same age; likewise 17 pairs of 2 year selects averaged 3,206 per female as against 1,945 in the general group. A new plank walk was laid along the longitudinal ponds and the roof of the main hatchery building was repaired and tarred.

#### BEDFORD HATCHERY AND SACKVILLE RIVER SALMON-RETAINING POND

*George Heatley, Superintendent*

On February 18 ten thousand brown trout eggs were received from Normandale hatchery, Ontario, and in October and November 592,700 Atlantic salmon eggs from Sackville pond and 1,040,200, same species, from River Philip pond. Outgoing shipments of Atlantic salmon were: 300,000 eggs to Yarmouth March 20, 308,000 fry to Mersey in May and June and 539,000 to Grand Lake from May to September. Distributions direct from Bedford were 88,200 Atlantic salmon, 3,000 speckled and 6,460 brown trout. A cribwork 95 feet long was built along the river bank to protect the hatchery grounds from freshet conditions and improve their appearance. Thirty-two thousand salmon eggs are being held at the disposal of Doctor Hayes, Dalhousie University. Transfers and distributions to and from Grand Lake rearing station, distributions from Coldbrook ponds and transfer of black bass from Lake Utopia to Lake Micmac were made by the Bedford hatchery staff. A convenient device for weighing fish for transfer or distribution was developed and the inside of the hatchery was cleaned and painted. A general increase in the catch of both salmon and trout was reported in this district.

At the Sackville River pond between October 9 and 25 two hundred and nine Atlantic salmon averaging 8.5 pounds in weight were taken, of which 100 females were stripped, October 31 to November 9, yielding 592,700 eggs. Due to the unusually dry season and low water, a considerable number of fish that were in evidence in Bedford Basin evidently migrated elsewhere instead of ascending the Sackville River.

#### COBEQUID HATCHERY AND RIVER PHILIP SALMON-RETAINING POND

*P. B. Stratton, Superintendent*

In February and March speckled trout eggs were received—269,500 from Lindloff and 165,000 from Margaree, including 5,000 from selected stock; in November 4,339,700 Atlantic salmon eggs were obtained from River Philip pond. Outgoing shipments of Atlantic salmon eggs in March and April were 1,001,000 to Antigonish, 400,400 to Middleton and 76,800 to Saint John hatchery. Distributions for the season were 15,750 Atlantic salmon and 75,900 speckled trout. Gravel and debris that had accumulated in the water supply pond and in the river channel above and below the pond were removed. All pipe lines, tanks, troughs and movable equipment were disinfected with strong solutions of Lo-Bax and the water supply and rearing ponds with copper sulphate. A new chimney was built in the workshop, new retort tanks installed in the cold storage and a concrete walk made at the dwelling. Repairs were made to the chimneys of the hatchery and the dwelling, the driveway at the dam widened three feet and necessary minor repairs were made. The clay lining of five of the circular ponds was removed and replaced with gravel. Assistance was given the Fisheries Research Board in the experimental stocking of Pollett River, Petitcodiac. The hatchery interior, the exterior of the dwelling and wood shed

were painted and the grounds improved generally. Checking the condition of the fish during transit was facilitated by painting white the inside bottoms of the distributing barrels.

The main dam at the River Philip salmon retaining pond, which had been damaged considerably by ice and freshets, was repaired during the low water period of the summer. The caretaker's quarters and spawning shed were painted.

One thousand three hundred and seventy-six salmon averaging 16.75 pounds were taken from October 10 to November 18. From 720 females stripped, November 8 to 22, 7,131,000 eggs were secured and laid down as follows: Cobequid 4,339,700, Bedford 1,040,200, Doctor Hayes, Dalhousie University, in care of Bedford, 4,500, Middleton 1,000,400 and Yarmouth hatchery 746,200. During October the run of salmon was much below the average but improved in the early part of November. In the run that reached the dam, females and males were in the proportion of about 3.5 to 1.

A 21-pound female salmon bearing tag K2125 was caught in the Wallace River, near Pugwash, on May 24, 1943. This salmon was tagged and liberated below the River Philip pond on November 10, 1940, when it weighed 12½ pounds after it was stripped, and was 36 inches long.

#### COLDBROOK REARING PONDS

*E. Barrett, Superintendent*

After opening on May 2, the usual work of regravelling, disinfecting the ponds and connecting the water supply was carried on in preparation for receipt from Middleton of 157,200 rainbow trout, May 18 to July 4, and 100,000 Atlantic salmon May 31 and June 1. With the assistance of the staffs and trucks from Bedford and Middleton hatcheries 91,200 Atlantic salmon and 146,800 rainbow trout were distributed. Sixty-five thousand one hundred and fifty-one of the latter were marked by removal of the adipose and one side fin before being planted in tributaries of Sherbrooke Lake. The painting of the outside of all buildings was completed, a new board walk laid from the front of the dwelling to the lower end of the lawn, one new foot trough built and installed for the outside rearing troughs and a trough built for use while marking fish. Trout fishing in the district is reported to have definitely improved during the last five years. Members of the Kings County Fish and Game Association and Fishery Officers rendered their usual valuable assistance.

#### GRAND LAKE REARING PONDS

*W. H. Cameron, Superintendent*

Bedford hatchery from May to September supplied 539,000 Atlantic salmon and Antigonish in October 35,000 speckled trout. Collecting operations at Rawdon River and Waverley Run in October and November resulted in a catch of 80 sebago salmon, averaging 2 pounds in weight, 46 of which were females yielding 58,100 eggs. Of the 80 caught in the traps 38 or 47.5 per cent bore the Grand Lake pond mark. In addition, 58 marked seabagos were taken by anglers in Grand Lake, 38 in Lake William and 2 in Shubenacadie River. At the hatchery ponds 209 sebago females in November produced 87,600 eggs. Distributions for the season were 39,800 speckled trout, 5,316 sebago salmon which were marked by removal of the adipose and right ventral fins, and 404,200 Atlantic salmon, 4,769 of which were marked by clipping the adipose and left ventral fins. A small percentage hatch was obtained again from eggs of sebago salmon pond stock and as in the two previous years the resultant fry made better growth than the progeny of the wild stock. The

circular and long ponds were repaired, part of the interior and all the exterior of the dwelling and icehouse were painted or stained. A new shelter of dressed lumber was built over the hatching trough and stained. The road from the highway to the ponds was gravelled and the bridge renewed.

#### KEJIMKUJIK REARING PONDS

*T. K. Lydon, Superintendent*

In May and June 15,600 speckled trout fingerlings were supplied by Yarmouth hatchery and 295,000 Atlantic salmon by Middleton. From these 1,424 trout and 202,900 salmon were distributed, 1,094 of the trout being marked by removal of the adipose and left pectoral fins. Six large and four small troughs were used in further tests of water flowage to control white spot disease, a new bridge built across the brook leading to the circular ponds, the water supply dam repaired and deadwood above it removed, four experimental rearing troughs built, site for troughs graded and levelled, some painting and varnishing done, most of the road graded and repaired and grounds improved generally. Trout fishing is reported holding up well in the district.

#### LINDLOFF HATCHERY

*W. T. Owens, Superintendent*

Speckled trout egg collections from the hatchery ponds amounted to 889,700 and from McRae Lake 122,100. Freshet conditions at the latter place interfered with collections; disease and failure of transferred McRae Lake females to produce, all militated against a larger collection from the ponds. During the fall of 1943 female speckled trout from McRae Lake were transferred to the hatchery ponds and fed for a year to ascertain results. Only approximately 20 per cent of these produced eggs in 1944. The spawning period was from October 17 to November 10 as compared to last year's period for the same group from October 6 to 18. The eggs from these fish are pale in colour of poor quality and low fertility, indicating that proper food is an important factor in the production of better quality eggs. However, individuals of this group made a good gain in weight increasing from 2.8 ounces in October 1943 to 8 ounces in October 1944. Their average egg yield also increased from 215 to 394 per female. The crossing of McRae Lake females with large male speckled trout, hatchery stock, during 1943 proved to be a definite advance in fish culture. The resultant fingerlings still on hand are equal in quality to, if not better than, any fingerlings ever produced at this hatchery.

Five thousand speckled trout eggs from selected stock were received from Margaree in February and 1,061,200 Atlantic salmon eggs from Margaree salmon pond in November. In March 269,500 speckled trout eggs were shipped to Cobequid hatchery. Distributions for the season were 783,000 Atlantic salmon and 354,400 speckled trout of which 791 were marked by removal of the adipose and left pectoral fins. In addition 2,641 marked McRae Lake trout were distributed in Lindloff Lake, 1,304 of which had been held in the hatchery ponds for one year. The balance 1,337 was a direct transfer between the two lakes. In selective breeding twenty-one pairs of selected three year old trout averaged 1,927 eggs per female as against 1,345 in the general group of the same age. One hundred and fifty-five McRae Lake wild females held over in hatchery ponds from 1943 were spawned as a group and their eggs fertilized with three year hatchery males. A total of 69,508 eggs so taken are being segregated for selective breeding purposes.

A new concrete floor was laid in the hatchery, 16 large rearing troughs 13' x 24" x 15" and one 50 foot supply trough were installed on a new 55 foot

bench prepared to accommodate them. The hatchery brook was deepened, widened and walled with stone cribbing where required, a 200 foot site for ponds was benched and cribbed with stone opposite the hatchery building. New sills and screen frames were installed in four of the circular ponds, repairs made to concrete centres of these ponds and 24 pond shades made and painted. Painting of the icehouse and garage, commenced last year, was completed and improvements made to grounds and dwelling. Kytes Lake offered excellent early fishing, the River Tillards fished well during July and early August, good catches of speckled trout were reported from Mary Ann's Lake and Catalogne Lake was reported to have offered better than average fishing during the year.

#### MARGAREE HATCHERY

*J. W. Heatley, Superintendent*

The hatchery ponds yielded 2,783,400 speckled trout eggs, and 2,474,300 Atlantic salmon eggs were received (November 17-December 7) from Margaree Salmon pond. In February 5,000 speckled trout eggs from selected stock, three year group, were shipped to each of the following: Lindloff, Antigonish, Florenceville, Saint John and Cobequid hatchery. In March 300,000 speckled trout eggs were forwarded to Kelly's pond hatchery and 160,000 to Cobequid. Distributions for the year were, 2,130,000 Atlantic salmon and 889,100 speckled trout of which 19,095 of the latter were marked by fin clipping.

In selective breeding 38 pairs of selected three year old trout averaged 1,925 eggs per female as against 1,026 per female in the general group of the same age. Ten small hatching and four large rearing troughs were made, the lower pond of the "S" series was widened and new dams built at the head and foot, a centre outlet was made in the large pond at the hatchery, corners rounded, and a new six inch pipe line laid to this pond. Some increase was noticed over last year in the number of salmon on the spawning grounds. Good angling was reported in the Margaree area, North River district and various lakes in the New Boston area. The Fishery Supervisor and his officers gave splendid co-operation whenever called upon for assistance.

#### MARGAREE SALMON-RETAINING POND

*J. P. Chiasson, Superintendent*

In accordance with the usual practice, the salmon for this pond were purchased from the Margaree Harbour Salmon Fisheries Association. Preparations for seasonal work began September 13 and consisted of cleaning pond, repairing pontoons, caulking boat and repairing fence around pond and the pond gate. The net was fished continuously from September 26 to November 4 taking 497 salmon averaging 10.3 pounds. Only one fish was lost during the retention period. From 359 females stripped, November 16 to December 6, three million five hundred and thirty-five thousand five hundred eggs were taken and allotted, 2,474,300 to Margaree hatchery and 1,061,200 to Lindloff. An 18 pound female salmon bearing tag number K3062 was caught at White Rock, St. Lawrence Bay, Victoria County, N.S., on June 28, 1943, that was tagged and liberated at the Margaree pond on November 19, 1940 when it weighed 7 pounds after it was stripped and was 31 inches long. Tag number K3124 that also was attached to a stripped salmon liberated at Margaree Harbour in 1940 was reported from Saint John having been found in the nape of a haddock caught on November 1, 1941 in twenty fathoms two miles off Mispek, N.B.

## MERSEY RIVER REARING PONDS

*C. E. Harding, Officer-in-Charge*

After all necessary repairs had been made to the screens and ponds, 11,000 speckled trout fingerlings were received from Yarmouth May 26, and 308,000 Atlantic salmon fry from Bedford May 31 to June 16. The output for the season was 168,700 Atlantic salmon and 5,200 speckled trout. The catch of trout by angling compared favourably with other seasons. The two long ponds received a good coating of gravel on sides which filled all holes and stopped several of the leaks. The platform of the bridge as well as the floor of the camp and porch were painted. Further improvements were made to the grounds and the experimental feeding troughs were moved to a more suitable place where they are in sight of the camp. So long as the trunks were kept white-washed the trees growing along the banks of the ponds were not cut by beavers as they were last year. Valuable assistance was rendered throughout the season by the staffs of the Nova Scotia Power Commission and the Mersey Paper Company, by the local Fisheries Inspectors, Fish Wardens, and Mr. F. Gray of Middle Lahave.

## MIDDLETON HATCHERY, STEVENS PONDS AND NICTAUX REARING STATION

*F. M. Millett, Superintendent*

Eyed eggs received during the season were—Rainbow trout 75,000 January 20 from Bourbon, Missouri, 200,000 April 6 from Cape Cod Trout Company, Wareham, Massachusetts, 69,800 May 23 and 25 from Saint John hatchery (Crooked creek strain) and 150,000 June 30 from Lloyds creek hatchery, B.C. (Kamloops variety)—the rainbow from Bourbon are autumn spawners, the others spring spawners; speckled trout 250,000 March 29 from Saint John; and Atlantic salmon 400,400 April 4 from Cobequid. Green eggs received in November were—speckled trout 1,000,000 from Saint John and Atlantic salmon 1,000,400 from River Philip. Outgoing shipments of young fish May 18 to July 4 were—295,000 Atlantic salmon to Kejimikujik, 100,000 same species and 157,200 rainbow trout to Coldbrook. Distributions consisted of 440,000 Atlantic salmon, 15,500 Kamloops trout and 63,200 rainbow trout of which 30,154 of the last mentioned were marked by removal of the adipose and right pectoral fins and planted in tributaries of Sherbrooke Lake. The new icehouse and feed-room building was completed and given one coat of paint, the old icehouse being converted into a temporary storeroom and work shop, four new hatching troughs were made, part of the interior of the hatchery was painted, the hatchery roadway and the grounds were improved, the dykes between the upper sections of Stevens ponds were gravelled, and new roofing was put on the watchman's quarters. Reports from sportsmen indicate that trout fishing in the district for the past two years has been exceptionally good. The hatchery truck and part of the Middleton staff assisted with the distributions from Coldbrook rearing ponds.

Nictaux rearing station was not operated this season but the buildings were painted, bushes cleared from around the hatchery and an accumulation of debris removed from the vicinity of the intake pipe.

## YARMOUTH HATCHERY

*F. F. Annis, Superintendent*

The yield from the hatchery ponds amounted to 286,800 speckled trout eggs. Eggs received from other points were 300,000 Atlantic salmon from Bedford March 21 and 746,200, same species, from River Philip pond November

15. Outgoing shipments of speckled trout fingerlings in May were—11,000 to Mersey and 15,600 to Kejimikujik. Distributions for the season were—74,800 speckled trout and 389,200 Atlantic salmon; of these 532 trout and 2,710 salmon were marked by removal of the adipose and right ventral fins. In selective breeding six pairs of two year old speckled trout yielded 1,385 eggs per female as against 735 in the general group of the same age. Hatching room, feed room and two halls opening off the hatching room were repainted, repairs made to garage doors and considerable progress was made in the excavation for two circular ponds on the lower hatchery lot. Anglers reported that there was evidence of considerable numbers of trout and that fishing was fairly good in the district.

#### CHARLO HATCHERY

*R. O. Barrett, Superintendent*

The speckled trout from the hatchery ponds produced 670,900 eggs—an increase of 149,000 over the previous year and more than double the collection of 1942. Receipt of eggs from other points were—300,000 Atlantic salmon from Kelly's, March 2 and 1,805,600 Atlantic salmon from New Mills pond, October 26 to November 9. One outgoing shipment of 100,000 speckled trout eggs was made to Miramichi April 25. Output for the season consisted of 959,100 Atlantic salmon and 36,900 speckled trout, of which 6,240 of the latter were marked before being liberated into Black and Loch Lomond Lakes. In selective breeding 18 pairs of three year old speckled trout averaged 2,192 eggs per female as against 1,356 in the general group of the same age. Ten circular ponds were lined with three inches of cement, the brood stock pond was repaired with clay where it had blown out, the woodwork inside of main and sub-hatchery and the verandah of dwelling were painted. A swamp flowage known as Henry's Lake and presumably barren, whose outlet is blocked by a dam, was stocked in 1941 with 200 speckled trout fingerlings. In September, 1943, they measured 16 inches long and weighed up to 2½ pounds. In May, 1944, five fish were taken averaging 2 pounds 10 ounces and the largest 3¼ pounds with lengths up to 18 inches. Exceptionally good salmon angling was again reported on the Restigouche River.

#### FLORENCEVILLE HATCHERY

*J. M. Butler, Superintendent*

The hatchery ponds yielded 552,700 speckled trout eggs this year which were augmented by 10,000 of the same species taken from wild stock captured in Burnt Hill brook. Egg shipments received consisted of 5,000 speckled trout (select stock) February 26 from Margaree, 505,000, same species, March 4 from Saint John, 600,000 Atlantic salmon March 25 from Miramichi hatchery, 836,000, same species, October 27 from Miramichi salmon pond and 2,036,400 speckled trout November 7 and 11 from Saint John. Distributions for the year were 1,465,000 Atlantic salmon and 189,000 speckled trout of which 18,370 trout were marked by removal of the adipose and left pectoral fins. In selective breeding 14 pairs of selected three year speckled trout yielded approximately 1,496 eggs per female as against 874 per female in the general group of the same age.

Twenty-six new long pond shades were made, parts of exteriors of main hatchery, dwelling and garage painted, minor repairs made to ponds and equipment and grounds improved generally. Angling has been reported much improved in Davidson, Brown and Cranberry Lakes, Little Presquile River, Debec, Gibson Mill, Dead, Longs and Burnt Land brooks, Glassville and Johnville Beaver ponds and River des Chutes. A representative of the Fredericton

Fish and Game Association assisted to a considerable extent and accompanied practically all the distributions in York County, the local Fisheries Supervisor went with many of the local distributions and the local fishery wardens helped to locate new distributing grounds and assisted in liberating fish.

#### GRAND FALLS HATCHERY

*W. A. McCluskey, Superintendent*

In March 800,000 Atlantic salmon eggs were received from Miramichi and 1,000,000 speckled trout eggs from Saint John hatchery: In October 937,200 Atlantic salmon eggs also arrived from Miramichi salmon pond. Distributions for the season were 71,500 speckled trout and 1,941,400 Atlantic salmon. This year the exteriors of all hatchery buildings were painted, part of the lawn reseeded and fertilized and the garages recovered with tar roofing. Assistance in making distributions, as in the past, was given by the Grand Falls branch of the Fish and Game Protective Association.

#### MIRAMICHI HATCHERY AND SALMON-RETAINING POND

*Frank Burgess, Superintendent*

In April 100,000 speckled trout eggs were received from Charlo hatchery and in October and November 7,528,300 Atlantic salmon eggs from Miramichi salmon pond. In March Atlantic salmon eyed eggs were transferred: 120,000 to Glenora hatchery, Ontario, 50,000 to Craig Brook hatchery, Maine, 800,000 to Grand Falls and 600,000 to Florenceville hatchery. Distributions for the season were 32,300 speckled trout and 3,336,100 Atlantic salmon. More salmon were reported on the spawning grounds this year than last. Fly fishing was good in all branches of the Miramichi and commercial and set-net fishermen in the district had a good season. The exterior of the spawning building was painted and the garage re-aligned and painted.

The parent salmon for the Miramichi pond as usual were purchased by tender and contract, and from September 9 to 25 one thousand eight hundred and fifty fish averaging 8.3 pounds in weight were impounded. Between October 19 and November 8, one thousand three hundred and eighty-two females were stripped yielding 9,301,500 eggs which were allotted: 7,528,300 to Miramichi, 937,200 to Grand Falls and 836,000 to Florenceville. Two salmon bearing tags numbers K3570 and 1149 (celluloid) that were stripped and liberated at the pond in 1943 were reported in May 1944, one from Sillikers and the other from lower Newcastle, N.B.

#### NEW MILLS SALMON-RETAINING POND

*William White, Superintendent*

Between May 25 and July 19, three hundred and ninety-four Atlantic salmon, averaging 15.3 pounds, purchased from 15 commercial fishing stands of the district, were delivered and impounded at the New Mills pond. At stripping time, October 25 to November 9, two hundred and forty-two females yielded 1,805,600 eggs which were all laid down in the Charlo hatchery. Only six salmon were lost during the retention period from May to November.

#### SAINT JOHN HATCHERY

*K. G. Shillington, Superintendent*

Last year's record collection of speckled trout eggs from the hatchery ponds was again exceeded with a take of 12,954,900 of which 5,764,500 were laid down in Saint John hatchery, 1,000,000 sent to Middleton, 2,036,400 to Florenceville

and the balance, 4,154,000 planted in Spring brook. The ponds also produced 109,100 rainbow trout and 6,500 Atlantic salmon eggs—the latter from four year old pond-reared parents. Receipt of eggs from other points were—77,800 rainbow trout (autumn spawners) January 19 from Bourbon, Missouri, 5,000 speckled trout, selected stock, February 25 from Margaree, 700,000 Atlantic salmon March 1 from Kelly's, 76,800 same species April 14 from Cobequid, 104,000 rainbow April 19 from Wareham, Massachusetts, 119,900 speckled trout October 9 to November 22 from Lake Utopia, 26,000 sebago salmon November 10 to 23 from Chamcook lakes and 14,400 same species, November 11 and 18, from Gibson Lake. Outgoing shipments of speckled trout eggs, besides those mentioned above, were in March 505,000 to Florenceville, 1,000,000 to Grand Falls and 250,000 to Middleton and of rainbow trout eggs in May 69,800 to Middleton. Distributions for the season amounted to 323,000 Atlantic salmon, 17,500 sebago salmon including 13,777 marked, 97,200 rainbow including 8,842 marked, and 4,379,500 speckled trout including 2,735 marked and the 4,154,000 eggs mentioned above. Marking was effected by removal of the adipose and one side fin.

In selective breeding 58 pairs of three year old speckled trout were used with an average yield of 3,314 eggs per female as against a yield of 2,708 in the general group of the same age.

The water was very low and warm during the summer making it necessary to supplement the supply obtainable from the reservoir by pumping water from the brook. Encouraging reports of improved fishing were received from all districts. Sixty-three of the best speckled trout early spawners were paired in the fall of 1943 and the eggs from each pair segregated until they were eyed. Segregation of the groups in which survival was highest was continued into the fry and fingerling stages. It was found that some of the groups with the lowest percentage losses to the eyed egg stage had the heaviest losses during the fry and fingerling stages but with other groups the reverse was the case.

It has been noted on two occasions that if a tray of trout eggs received a slight jar about the first or second time the eggs were picked that this would kill a few of them at the time but the remainder would continue to die until the time of hatching when the total loss might run to 90 or 95 per cent. That is, the detrimental effect of a jar to the eggs may not show up immediately but may continue and cause loss until the eggs are hatched.

Two eight inch wood pipes were laid to within 40 feet of the hatchery and the intakes extended into the reservoir to a point where they should supply cooler water during the summer and possibly slightly warmer water during the winter. The hatchery, dwelling and front of garage were painted, the outlet moved from the end to the centre of the large pond, the roof of the storage shed was coated with tar and sand, stripping shelter covered with canvas and the road and grounds improved generally.

The Moncton, Sussex, St. Stephen, Fredericton Junction, McAdam and Saint John branches of the Fish and Game Protective Association as well as interested citizens assisted in distributing hatchery fish in their respective districts.

Operations at Chamcook and Gibson Lakes were carried on with the assistance of the district supervisors of fish culture and under their general supervision. At Chamcook between October 24 and November 19 one hundred and eight sebago salmon averaging a little over 2 pounds each were taken, 35 females of which yielded 26,000 eggs. At Gibson between October 22 and November 16 seventy-five sebagos averaging one pound each were captured, 20 females of which produced 14,400 eggs. Eggs from both camps were transferred to Saint John hatchery for incubation. Of the 75 fish caught in Gibson Lake 36 or 48.0 per cent bore the hatchery markings.

## CARDIGAN REARING PONDS

*C. Sayer, Superintendent*

The ponds were in operation from May 8 to October 5 this season. From May 20 to 26 the hatchery at Southport supplied 100,000 Atlantic salmon, 92,200 rainbow and 193,900 speckled trout advanced fry. The output for the year was 69,600 Atlantic salmon, 87,500 rainbow and 134,500 speckled trout of which 1,565 of the last mentioned were marked by removal of the adipose and left pectoral fins and planted in Watts' stream, Winter River. Four new pond frames were made, a 30-foot flag pole erected, two ponds resodded, pond shades, refrigerator room and woodshed painted, some varnishing and painting done in the dwelling and grounds improved generally. Angling was reported to have been good.

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

*C. A. Tait, Superintendent*

A collection of 218,300 speckled trout eggs, more than twice the number taken last year at this place, was made from the hatchery pond and 65,300 from Simpson's pond at Hope River. Other eggs received were 300,000 speckled trout from Margaree March 16, 100,000 rainbow trout from Cape Cod Trout Company, Wareham, Mass., April 13 and 1,033,100 Atlantic salmon from Morell salmon pond November 9 to 25. Outgoing shipments on February 29 were 700,000 Atlantic salmon eggs to Saint John and 300,000 to Charlo hatchery; and in May, 193,900 speckled trout, 100,000 Atlantic salmon and 92,200 rainbow trout advanced fry to Cardigan rearing station. Distributions for the year were 242,800 salmon and 105,900 trout of which 1,595 of the latter were marked by removal of adipose and left pectoral fins. Six outside rearing tanks were made, portions of the hatchery interior painted, a hardwood floor laid in the dining room of the dwelling, two new sills placed under the garage and some grading done to the grounds.

Assistant C. H. Cooper was in charge of Morell pond where 247 salmon averaging 9.5 pounds in weight were impounded between October 13 and November 16; 1,033,100 eggs were obtained from 124 of these fish, November 9 to 25, and transferred to the Kelly's pond hatchery. Although the run of salmon was slightly smaller than last year, the average size and yield of the fish was larger. One of these fish bore tag number K.3601 which was attached at the pond in November, 1943. A second salmon, tag number 1279, celluloid, which was also attached in 1943, was recaptured on July 17, 1944, on the west side of Burnt Cape at the entrance of Pistolet Bay, Newfoundland. A new boat was built and the dam on Dunphy's brook, which is the source of the fresh water supply for washing and hardening the eggs, was repaired.

## STATEMENT BY SPECIES OF LOCAL COLLECTION AND DISPOSAL OF EGGS DURING 1944

Species	Collection Area	Eggs collected	Number collected	Disposal— Establishment at	Eggs received	Number	Totals	
Atlantic salmon.....	Margaree pond, N.S.....	Nov. 16-Dec. 6..	3,535,520	Lindloff.....	Nov. 21.....	1,061,180		
				Margaree.....	Nov. 17-Dec. 7..	2,474,340		
	River Philip, NS.....	Nov. 8-22.....	7,131,000	Bedford.....	Nov. 9.....	1,040,200		
				Cobequid.....	Nov. 9-22.....	4,339,700		
				Middleton.....	Nov. 14, 17.....	1,000,400		
				Yarmouth.....	Nov. 15.....	746,200		
				Dalhousie Univer- sity, Halifax, N.S.....	Nov. 10.....	4,500		
				Bedford.....	Oct. 31-Nov. 9..	592,720		
	Sackville River, N.S.....	Oct. 31-Nov. 9..	592,720					
	Miramichi pond, N.B.....	Oct. 19-Nov. 8..	9,301,480	Florenceville.....	Oct. 27.....	836,000		
			Grand Falls.....	Oct. 27.....	937,200			
			Miramichi.....	Oct. 20-Nov. 9..	7,528,280			
			Charlo.....	Oct. 26-Nov. 9..	1,805,620			
			Saint John.....	Nov. 13.....	6,500			
			Kelly's Pond.....	Nov. 9-25.....	1,033,100	23,405,940		
Rainbow trout.....	Saint John hatchery ponds, N.B.....	Apr. 19-May 12..	109,100	Saint John.....	Apr. 19-May 12..	109,100	109,100	
Sebago salmon.....	Grand Lake, N.S.....	Oct. 30-Nov. 25..	58,140	Grand Lake.....	Oct. 30-Nov. 25..	58,140		
	Grand Lake rearing ponds, N.S.....	Nov. 3-28.....	87,560	Grand Lake.....	Nov. 3-28.....	87,560		
	Chamcook Lakes, N.B.....	Nov. 10-23.....	26,050	Saint John.....	Nov. 10-23.....	26,050		
	Gibson Lake, N.B.....	Nov. 11, 17.....	14,430	Saint John.....	Nov. 11, 18.....	14,430	186,180	
Speckled trout.....	Antigonish hatchery ponds, N.S.....	Nov. 1-30.....	5,334,310					
				Nov. 9-Dec. 7.. (a) 5,610,250	Antigonish.....	Nov. 1-Dec. 7..	10,944,560	
			Oct. 17-Nov. 25..	447,810				
			Oct. 31-Nov. 25.. (a) 441,940	Lindloff.....	Oct. 17-Nov. 25..	889,750		
			Oct. 7-13.....	122,060	Lindloff.....	Oct. 7-13.....	122,060	
	McRae Lake, Richmond County, N.S.....	Oct. 26-Dec. 5..	2,077,010					
	Margaree hatchery ponds, N.S.....	Nov. 15-Dec. 5.. (a) 706,400		Margaree.....	Oct. 26-Dec. 5..	2,783,410		
		Nov. 8-Dec. 6..	218,680					
		Nov. 21-Dec. 6.. (a) 68,120		Yarmouth.....	Nov. 8-Dec. 6..	286,800		
	Charlo hatchery ponds, N.B.....	Oct. 25-Nov. 23..	670,850	Charlo.....	Oct. 25-Nov. 23..	670,850		
	Florenceville hatchery ponds, N.B.....	Oct. 18-Nov. 14..	552,700	Florenceville.....	Oct. 18-Nov. 14..	552,700		
	Burnt Hill brook, Carleton Co., N.B.....	Oct. 12, 21.....	10,000	Florenceville.....	Oct. 12, 21.....	10,000		
	Saint John hatchery ponds, N.B.....	Nov. 5-20.....	5,980,020					
		Nov. 13-Dec. 11. (a) 6,974,880		Florenceville.....	Nov. 7, 11.....	2,036,360		
				Middleton.....	Nov. 9.....	1,000,000		
				Saint John.....	Nov. 5-Dec. 11..	9,918,540		
				Saint John.....	Oct. 9-Nov. 22..	119,880		
Trout brook, Charlotte County, N.B.....	Oct. 9-Nov. 22..	119,880						
Southport (Kelly's Pond) hatchery pond, P.E.I.....	Nov. 6-Dec. 23..	218,270	Kelly's Pond.....	Nov. 6-Dec. 23..	218,270	29,553,180		
						53,254,400		

(a) eggs from yearling fish.

The receipt of 150,000 rainbow trout eggs (autumn spawning strain) from the Fish and Wildlife Service, Washington, D.C.; the same number of the similar eggs (Paul lake, Kamloops strain) from the British Columbia Game Commission and 10,000 brown trout from the Ontario Department of Game and Fisheries are gratefully acknowledged. Return shipments comprised, respectively, 50,000 and 120,000 Atlantic salmon eggs to the Fish and Wildlife Service and 120,000 to the Ontario Department. Four hundred and four thousand rainbow trout eggs were purchased from the Cape Cod Trout Co., Wareham, Mass., and 65,300 speckled trout eggs from Nelson Simpson, Bay View Mills, P.E.I.

In the interest of economy and convenience in distribution the following transfers were made in 1944:—

Species	Stage	From	To	Number	Date received	
Atlantic salmon...	(c)	(a) Bedford.....	Yarmouth.....	300,000	March 21	
	(d)	(a) Bedford.....	Grand Lake.....	414,000	May 28-June 20	
	(e)	(a) Bedford.....	Grand Lake.....	125,040	June 27, 29, Sept. 12	
	(d)	(a) Bedford.....	Mersey.....	308,000	May 31-June 16	
	(c)	(a) Cobequid.....	Antigonish.....	1,001,000	March 25	
	(c)	(a) Cobequid.....	Middleton.....	400,400	April 4	
	(c)	(a) Cobequid.....	Saint John.....	76,800	April 14	
	(e)	(a) Middleton.....	Kejimkujik.....	295,000	May 30-June 13	
	(e)	(a) Middleton.....	Coldbrook.....	100,000	May 31, June 1	
	(c)	(a) Miramichi.....	Florenceville.....	600,000	March 25	
	(c)	(a) Miramichi.....	Grand Falls.....	800,000	March 18	
	(c)	(a) Kelly's Pond...	Charlo.....	300,000	March 2	
	(c)	(a) Kelly's Pond...	Saint John.....	700,000	March 1	
	(d)	(a) Kelly's Pond...	Cardigan.....	100,000	May 20	
	Rainbow trout....	(d)	(a) Middleton.....	Coldbrook.....	37,500	May 18, 19
		(d)	(b) Middleton.....	Coldbrook.....	84,000	May 25, 26
(e)		(b) Middleton.....	Coldbrook.....	35,700	July 3, 4	
(c)		(b) Saint John.....	Middleton.....	69,800	May 23, 25	
(d)		(b) Kelly's Pond...	Cardigan.....	92,200	May 25, 26	
Speckled trout....		(e)	(a) Antigonish.....	Grand Lake.....	35,000	Oct. 12-19
	(c)	(a) Lindloff.....	Cobequid.....	269,480	March 10	
	(c)	(a) Margaree.....	Antigonish.....	5,000	February 14	
	(c)	(a) Margaree.....	Cobequid.....	165,000	February 25, Mar. 15	
	(c)	(a) Margaree.....	Lindloff.....	5,000	February 14	
	(c)	(a) Margaree.....	Florenceville.....	5,000	February 26	
	(c)	(a) Margaree.....	Saint John.....	5,000	February 25	
	(c)	(a) Margaree.....	Kelly's Pond.....	300,000	March 16	
	(e)	(a) Yarmouth.....	Kejimkujik.....	15,580	May 29	
	(e)	(a) Yarmouth.....	Mersey.....	11,000	May 26	
	(c)	(a) Charlo.....	Miramichi.....	100,000	April 25	
	(c)	(a) Saint John.....	Florenceville.....	505,000	March 4	
	(c)	(a) Saint John.....	Grand Falls.....	1,000,000	March 8, 30	
	(c)	(a) Saint John.....	Middleton.....	250,000	March 29	
	(d)	(a) Kelly's Pond...	Cardigan.....	193,900	May 22-24	

(a) 1943 fall collection, (b) 1944 collection, (c) eyed eggs, (d) fry, (e) fingerlings.

## EGGS, FRY, FINGERLINGS AND OLDER FISH ON HAND END OF CALENDAR YEAR 1944

Establishment	Species	Eggs	Fry	Fingerlings	1 year	2 year	3 year	4 year	5 year and older	Total by specie	Total by hatchery
Antigonish.....	Atlantic salmon.....						9			9	10,344,912
	Speckled trout.....	10,324,020		9,800	8,992	2,100				10,344,912	
Bedford.....	Atlantic salmon.....	1,380,490								1,380,490	1,380,490
Cobequid.....	Atlantic salmon.....	4,290,150								4,290,150	4,290,150
Grand Lake.....	Atlantic salmon.....			61,756						61,756	224,088
	Sebago salmon.....	91,950		27,151	4,692	3,327	271	17	38	127,446	
	Speckled trout.....			34,886						34,886	
Lindloff.....	Atlantic salmon.....	1,056,680								1,056,680	1,797,823
	Speckled trout.....	642,030	80,000	17,793	1,320					741,143	
Margaree.....	Atlantic salmon.....	2,432,990								2,432,990	4,470,151
	Speckled trout.....	2,008,960		16,917	8,494	2,790				2,037,161	
Middleton.....	Atlantic salmon.....	977,100								977,100	1,553,000
	Speckled trout.....	575,900								575,900	
Yarmouth.....	Atlantic salmon.....	720,160								720,160	870,992
	Speckled trout.....	147,130		2,357	548	581	196	20		150,832	
Charlo.....	Atlantic salmon.....	1,712,390								1,712,390	2,305,767
	Speckled trout.....	589,850		2,688			582	257		593,377	
Florenceville.....	Atlantic salmon.....	804,410		41,455						845,865	3,209,397
	Sebago salmon.....							54		54	
	Speckled trout.....	2,319,000		33,920	9,250	629	596	83		2,363,478	
Grand Falls.....	Atlantic salmon.....	919,250								919,250	919,250
Miramichi.....	Atlantic salmon.....	7,363,640								7,363,640	7,363,640
Saint John.....	Atlantic salmon.....	5,650		20				30		5,700	5,304,191
	Rainbow trout.....			1,733			53		8	1,794	
	Sebago salmon.....	39,640		3,922	3,663					47,225	
	Speckled trout.....	5,183,070		40,881	23,227	2,294				5,249,472	
Kelly's Pond.....	Atlantic salmon.....	980,230								980,230	1,233,440
	Speckled trout.....	253,210								253,210	
		44,817,900	80,000	295,279	60,186	11,730	1,698	461	46	45,267,300	45,267,300

## DISTRIBUTIONS

## KEY TO ABBREVIATIONS

*Species*

- A. Atlantic salmon.  
 B. Brown trout.  
 K. Kamloops trout.  
 R. Rainbow trout.  
 L. Landlocked or Sebago salmon.  
 S. Speckled trout.

*Stages of Development*

- a. Green eggs.  
 b. Eyed eggs.  
 c. Fry.  
 d. Advanced fry.  
 1. No. 1 Fingerlings.  
 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—*

- Afton River—20,000 S1.  
 Beaver Meadow River—30,000 Sd, 7,635 S3.  
 Big brook—South River—30,000 Sd, 2,000 S3.  
 Black River—20,000 S1, 2,000 S4.  
 Briery brook—20,000 S1.  
 Cameron Lake (Loch Katrine)—600 Sf.  
 Copper Lake—2,600 S2, 520 S4.  
 Delhanty Lake—10,000 S1.  
 Gaspereaux Lake—5,000 S3, 500 Sf.  
 Glenroy River—20,000 S1, 2,500 S3, 2,000 S4.  
 James River—50,000 Ad, 20,000 A1, 15,000 A3.  
 MacDonald Lake—600 Sg.  
 MacGillivray Lake—South River—550 Sg.  
 Maryvale or Malignant brook—20,000 S1.  
 McMillan Lake—700 Sf.  
 Meadow Green River—30,000 S1, 3,000 S3, 2,000 S4.  
 Middleton Lake—35,000 S1.  
 North Lake—35,000 S1.  
 North River—5,000 S1.  
 Pinevale brook—10,000 Sd.  
 Pinevale Lake—10,000 Sd.  
 Polson brook—South River—20,000 Sd, 2,000 S3.  
 Rights River—50,000 Ad, 10,000 A1.  
 St. Joseph Lake—1,765 S3, 735 S4, 700 Sg.  
 South River—15,000 A3, 4,000 S3, 3,490 S4, 1,700 Sf.  
 South River Lake—50,000 Sd, 700 Sg.  
 South Lake—40,000 S1.  
 Springfield brook—Glenroy River—20,000 S1, 2,000 S3, 1,000 S4.

West River—60,000 Sd, 20,000 S3, 3,000 S4, 1,300 Sf.

*Cumberland County—*

Sutherland Lake—13,000 S3, 2,500 S4.

*Guysborough County—*

- Big Brook Lake—1,500 S3.  
 Canter Lake—30,000 S1.  
 Cocee Coffre Lake—40,000 S1.  
 Country Harbour River—50,000 Ad.  
 Cudahys Lake—15,000 S1.  
 Dobson Lake—70,000 S1, 500 Sf.  
 Donahue Lake—50,000 S1, 12,000 S2, 500 Sf.  
 Doyle Lake—10,000 S1.  
 Ecumsecum River—40,000 S1.  
 Fitzgerald Lake—15,000 S1.  
 Giant Lake—50,000 S1, 10,000 S3, 3,000 S4.  
 Goldboro or Goldbrook Lake—30,000 S1.  
 Goshen Lake—10,000 S2, 700 Sf, 700 Sg.  
 Guysborough River—15,000 S1.  
 Hazel Hill Lake—50,000 S1.  
 Hydro dam, Havre Bouche River—50,000 S1.  
 Indian Harbour Lake—30,000 S1.  
 Jellow Lake—60,000 S1, 5,000 S2, 600 Sf.  
 Kennedy Lake—20,000 S1, 2,500 S3.  
 Mannassette Lake—40,000 S1.  
 McInnis (Joe's) Lake—20,000 S1, 2,500 S3.  
 McPherson Lake (Port Shoreham)—50,000 S1.  
 Morrison Lake—15,000 S2.  
 Narrow Lake—35,000 S1, 3,000 S3.  
 Porter River—35,000 S1.  
 Pringle Lake—500 Sg, 1,262 Sh.

*Guysborough County—Con.*

East River St. Mary—100,000 Ad, 50,000 A1, 20,000 A2, 15,000 A3.  
 West River St. Mary—100,000 Ad, 100,000 A1, 20,000 A2, 17,700 A3.  
 Salmon River—50,000 Ad, 30,000 S1.  
 Seal Harbour Lake—20,000 S1.  
 Sherbrook Lake—50,000 S1, 600 Sf.  
 Sullivan Lake—30,000 S1, 2,500 S3.  
 Taylor Lake—East River St. Mary—10,000 S2.  
 Three Mile Lake—30,000 S1.  
 Tracadie River—15,000 A2.  
 Two-mile Lake—East River St. Mary—15,000 S2, 700 Sf.

*Pictou County—*

Barney River—35,000 Ad, 20,000 A1, 5,000 A3, 20,000 S1.  
 Big brook—East River—10,000 S2.

Blue Mountain dam, French River—4,600 S2.  
 Brora Lake—13,000 S2.  
 Calder Lake—20,000 S2.  
 Campbell Lake—French River—15,000 S2.  
 East River—80,000 A1, 40,000 S1.  
 French River—30,000 A1.  
 French River branch (French River Settlement)—10,000 S1.  
 Grant Lake—East River—5,200 S3, 1,040 S4.  
 Lansdowne Lake—10,000 S2.  
 Little Caribou River—5,000 S3.  
 McLellan brook—15,000 S1.  
 McPherson Lake—15,000 S2.  
 Middle River—30,000 A1.  
 Sixmile brook—20,000 S1.  
 Sutherland River—15,000 S1.  
 Taylor Lake—East River—7,500 S3.  
 West Branch brook—East River—20,000 S1, 500 Sf.  
 West River—40,000 S1.

## BEDFORD HATCHERY

*Halifax County—*

Kearney Lake—2,980 S1.  
 Little Sackville River—16,270 A1.  
 Little Salmon River—Cole Harbour—71,890 Ad.  
 Round Pond (Smith Settlement)—6,460 B2.

## COBEQUID HATCHERY

*Colchester County*

Economy Lake—4,000 S1.  
 Gamble Lake—2,500 S2.  
 Newton Lake—4,000 S1.  
 Simpson Lake—10,000 Sd.  
 Snare Lake—3,500 S1.  
 West Branch Lake—River Philip—2,050 S2, 350 S3.

*Cumberland County—*

Amherst pond (Reservoir) and tributaries  
 Nappan River—3,500 S2.  
 Atkinson brook—River Herbert—2,500 S1.  
 Cumberland Railway Reservoir (Springhill)—Maccan River—2,000 S1.  
 Doherty brook—1,250 S3.

Gilbert Lake—1,500 S2.  
 Isaac Lake—2,000 S1.  
 Newfound Lake—2,500 S1.  
 Otter Lake—Portapique River—1,500 S1.  
 Parrsboro Aboiteau—2,500 S2.  
 Poison Lake—2,000 Sd.  
 River Philip—15,750 A1.  
 Shulie River—4,000 S1.  
 Smith's pond—Polly brook—2,000 S1.  
 Wallace River—12,000 S1.

*Westmorland County—*

North brook—Musquash Lake—4,750 S1.  
 Robinson brook—Tantramar River—5,500 S1.

## COLDBROOK PONDS

*Annapolis County—*

Ramsey (Rumsey) Lake—25,000 R3.

*Kings County—*

Gaspereau River—66,080 A1, 3,110 A4.  
 Sunken Lake—56,674 R3.

*Lunenburg County—*

Forty creek—Sherbrooke Lake—12,000 R3.  
 Franey or Butler brook—Sherbrooke Lake—13,400 R3.  
 Gold River—22,000 A1.  
 Gully River—Sherbrooke Lake—13,000 R3.  
 Sherbrooke River—23,228 R3, 3,523 R4.

## GRAND LAKE PONDS

*Colchester County—*

Stewiacke River—20,000 A3, 4,400 Af.

*Halifax County—*

Beaverbank River—1,074 Af, 1,074 Lf.

Black Point Lake—2,000 Sf.  
 Chezzetcook River—20,000 A3.  
 Eagle Lake—Partridge River—2,000 Sf.  
 Five Island Lake—3,000 Sf.  
 Goose Lake—Porter Lake—2,000 Sf.

*Halifax County—Con.*

Hatchet Lake—1,000 Sf.  
 Heffler Lake—1,200 Sf.  
 Henry Lake—1,000 Sf.  
 Ingram River—20,000 A3, 8,000 Af.  
 Kieley Lake—1,000 Sf.  
 Long Lake-Little Salmon River—2,000 Sf.  
 Little Salmon River-Cole Harbour—20,000 A3.  
 McGrath Lake—1,000 Sf.  
 Miller Lake—1,070 Sf.  
 Moody Lake—2,000 Sf.  
 Moose Lake—1,000 Sf.  
 Musquodoboit River—30,000 A3, 5,000 Af.  
 Ninemile River—20,000 A3, 8,000 Af.  
 Pace Lake—3,500 Sf.  
 Perry Lake—1,000 Sf.  
 Pockwock Lake—2,000 Sf.  
 Rawdon River—20,000 A4, 10,695 Af, 3,695 Lf.  
 Sackville River—20,000 A4, 5,000 Af.  
 Salmon River—Echo Lake—20,000 A3, 5,000 Af.

Salmon River (Port Dufferin)—15,000 A3.  
 Sluice Lake—1,000 Sf.  
 Ship Harbour River—20,000 A3.  
 Shubenacadie (Grand) Lake—482 Lh, 65 Lk.  
 Tangier River—15,000 A4.  
 Upper Petpeswick, Long Bridge or Bridge End Lake—4,000 Sf.  
 West River Sheet Harbour—15,000 A4.  
 Weaver Lakes—1,000 Sf.  
 Williams Lake (North West Arm)—2,000 Sf.

*Hants County—*

Cameron Lake—1,000 Sf.  
 Kennetcook River—30,000 A3, 4,000 Af.  
 Lewis Lake—1,000 Sf.  
 Walton River—1,000 Sf.

*Lunenburg County—*

East River—20,000 A3, 8,000 Af.  
 Gold River—20,000 A3.  
 Middle River—20,000 A3.  
 Spondo Lake—2,000 Sf.

## KEJIMKUJIK PONDS

Lahave River—52,200 A3.  
 Medway River and tributaries—150,710 A3.

Mersey River—  
 Grafton brook—330 S2.  
 Kejimikujik Lake—1,094 S3.

## LINDLOFF HATCHERY

*Cape Breton County—*

Belfry Lake—5,000 S1, 10,000 S2.  
 Canoe Lake—4,000 S1.  
 Catalogne Lake—8,000 S3.  
 Chain or String Lakes—Mira River—5,000 S1.  
 Cochran Lake—10,000 S2.  
 Dutch Brook Lake—5,000 S1, 606 S5.  
 Gabarus Lake—5,000 S1, 6,060 S2.  
 Gaspereaux River—50,000 A2, 36,000 A4.  
 Gillies Lake-East Bay—10,000 S2, 500 Sf.  
 Grand Lake, near Louisburg—8,000 S3.  
 Hardy Lake—5,000 S1.  
 Loon Lake-Mira Bay—10,000 S2.  
 McCormick Lake—9,000 S2.  
 Meadow Brook-Sydney River—9,000 S1.  
 Mullcuish Lake—5,000 S1, 10,000 S2.  
 Salmon River—180,000 A2, 19,000 A4.  
 Stewart Lake—8,000 S3.

*Inverness County—*

Brawley Lake—5,000 S2.  
 Horton Lake—5,000 S2.  
 McIntyre Lake (Grantville)—5,000 S2.  
 Pleasant Hill Lake—5,000 S2.

*Richmond County—*

Black River—10,000 S1.  
 Breen Lake—5,000 S2.

Falls Bay brook—3,000 S1.  
 Ferguson Lake—15,000 S2.  
 Ferguson brook—5,000 S1.  
 Framboise River—120,000 A2.  
 Grand River—140,000 A2.  
 Indian Lake—5,000 S1.  
 Kytes Lake—291 Sh.  
 Loch Lomond—220,000 A2, 18,000 A4.  
 MacLeod brook—5,000 S1.  
 Mary Ann's Lake—5,000 S1.  
 McIsaac Lake—5,000 S2.  
 McKenzie Lake—5,000 S2, 3430 S3.  
 McNab Lake—10,000 S2.  
 Mill Lake-East River Tillard—5,000 S2.  
 River Tillard, West—10,000 S1.  
 River Tillard, East—5,000 S1.  
 River Tom—10,000 S1.  
 Saint Esprit Lake—7,000 S1.  
 Straughton brook—5,000 S1.  
 Thompson Lake—5,000 S1.  
 Madame Island—

Babins Lake—5,000 S1.  
 Chain Lake—12,000 S2.  
 Forest Lake—5,000 S1.  
 Grand Lake—5,000 S1, 15,000 S2.  
 Latimore Lake—4,000 S2.  
 Noels Lake—5,000 S1.  
 Potties Lake—12,000 S2.  
 Shaw Lake—2,500 S1, 12,000 S2.

## MARGAREE HATCHERY

*Cape Breton County—*

Belle Lake—10,000 S2.  
 Black brook-Mira River—10,000 S3, 5,000 S4.  
 Ferguson Lake (New Boston)—5,000 S2.

Forester Lake—15,000 S3.  
 Giovonetti Lake—10,000 S2, 5,000 S4.  
 Grand Lake-Indian Bay—10,000 S3.  
 Jackson or Johnson Lake—10,000 S3, 1,000 Sf.

*Cape Breton County—Con.*

Kilkenny Lake—15,000 S5, 1,000 Sf.  
 McDonald or Widow Lake (New Boston)  
 —10,000 S3.  
 McInnes Lake—10,000 S1.  
 McIntyre Lake (New Boston)—10,000 S2,  
 5,000 S4.  
 McMillan Lake—10,000 S3.  
 McPherson Lake (New Boston)—10,000  
 S3.  
 Scotch or Scott Lake—15,000 S4.  
 Trout brook-Mira River—10,000 S1, 5,000  
 S4.

*Inverness County—*

Big brook-River Denys—20,000 S1.  
 Broad Cove River or Strathlorne brook—  
 500 Sg.  
 Cheticamp River—50,000 Ac, 100,000 A1,  
 100,000 A2.  
 Farm brook—10,000 S3.  
 Galant River—25,000 S1, 250 Sf.  
 Glen brook-River Denys—10,000 S1, 300  
 Sf.  
 Glenora brook—10,000 S1, 2,900 S5.  
 Grand Etang brook—10,000 S1.  
 Margaree River, northeast and tributaries  
 —90,000 Ac, 240,000 Ad, 50,000 A1,  
 50,000 A2, 460,000 A3.  
 Egypt brook—20,000 S1, 500 Sg.  
 Forest Glen brook—50,000 S1.  
 Ingram (Ingraham) brook—400 Sg.  
 Lake O'Law brook—3,000 S4.  
 Lake O'Law—10,000 S3, 2,000 S5.  
 Levis brook—25,000 S1.  
 Watson brook—10,000 S1.  
 Margaree River, southwest—50,000 Ac.  
 100,000 Ad, 150,000 A1, 60,000 A2.  
 Captain Allan's brook—30,000 S1.  
 Matheson Glen brook—25,000 S1.  
 McDonnell brook—10,000 S1.  
 McLellan ponds, 2,000 S1.  
 McColl brook—20,000 S2.

McKenzie brook-River Denys—25,000 S2,  
 244 Sf.  
 McPherson brook-River Denys—20,000 S2.  
 Mull River—50,000 Ac, 50,000 A1.  
 Plaster ponds—644 Sg, 1,557 Sh.  
 Plateau brook—30,000 S1, 250 Sf.  
 Rough brook-River Inhabitants—20,000  
 S2, 300 Sf.  
 Skye brook—20,000 S1, 250 Sf.  
 Smith's ponds—Glendyer brook—500 S3.

*Victoria County—*

Aspy River, north—50,000 A2.  
 Aspy River, middle—50,000 A3.  
 Baddeck reservoir—375 Sf.  
 Baddeck River—50,000 Ac, 50,000 A1.  
 Farquar Angus or McDonald brook—  
 500 Sf.  
 Gillis brook—30,000 S2.  
 Harris Brook—375 Sf.  
 Peter brook—30,000 S2.  
 Barasois brook—40,000 S1.  
 Campbell brook (Estmere)—10,000 S4.  
 Carey Lake—4,500 S3.  
 Dalem Lake (Boularderie Island)—10,000  
 S4.  
 Giffin Lake—7,500 S3.  
 Ingonish River—30,000 A3.  
 McKinnon Harbour brook—10,000 S4.  
 McLean brook (Ottawa brook)—5,000 S4.  
 McPhie brook (Southside Boularderie)—  
 5,000 S4.  
 Middle River—50,000 Ac, 50,000 A1.  
 Black brook—25,000 S4.  
 Cold brook—20,000 S3, 750 Sf.  
 Indian brook—15,000 S5.  
 McDonald brook—25,000 S2.  
 Morrison Lake—7,500 S3.  
 North River—50,000 Ad, 100,000 A1,  
 50,000 A2.  
 Church brook—10,000 S3.  
 Tarbot Lake—5,000 S3.  
 Washabuck River—25,000 S2, 5,000 S4.

## MERSEY PONDS

Feener Lake—1,720 S4.  
 Fort Point Lily pond—1,500 S4.

Mersey River and tributaries—168,700 A3.  
 Lower Great brook—1,000 S4.  
 Upper Great brook—1,000 S4.

## MIDDLETON HATCHERY

*Annapolis County—*

Annapolis River—40,000 A3.  
 Lequille River—25,000 A3.  
 Nictaux River—115,000 A3, 50,000 A4.  
 Ramsey (Rumsey) Lake—33,067 R3.  
 Round Hill River—25,000 A3.

*Hants County—*

Avon River—25,000 A3.  
 Panuke Lake—40,000 A3.

*Lunenburg County—*

Gold River—45,000 A3.  
 Lahave River—50,000 A3.  
 Petite River—25,000 A3.  
 Sherbrooke River and tributaries—8,000  
 K1, 7,500 K2, 25,000 R3, 5,154 R4.

## YARMOUTH HATCHERY

*Digby County—*

Briar Lake—36,580 Sd.  
 Carleton River—35,000 A3, 12,500 A4,  
 2,710 A5.  
 Salmon River—50,000 A1, 15,000 A4.

*Shelburne County—*

Clyde River—25,000 A3, 39,000 A4.  
 Jordon River—27,500 A4, 17,000 A5.  
 Roseway River—25,000 A3, 35,500 A4.

*Yarmouth County—*

Carleton River and tributaries—50,000 A1,  
47,000 A2.

Crawley Lake—257 Sh, 15 Sk.  
Rushy Lake—1,407 Sf.  
Trefry Lake—36,580 Sd.  
Tusket River, east branch—8,000 A2.

## NEW BRUNSWICK

## CHARLO HATCHERY

Black Lake—Walker brook—2,600 S2, 520  
S3.  
Christopher brook—1,000 S2.  
Eel River—500 S3.  
Hariman Lake—25,000 S1.  
Henry's Lake—Charlo River—2,400 S3.  
Jacquet River—50,595 A2.  
Juniper Lake—1,000 S3.  
Loch Lomond—2,600 S2, 520 S3.

Nash creek—300 S3.  
Nipisiguit River—167,000 A2.  
Restigouche River—297,275 A2, 47,500 A3.  
Kedgwick River—37,950 A1, 24,150 A2.  
Matapedia River—75,900 A1, 62,100 A2.  
Upsalquitch River—37,950 A1, 158,700  
A2.  
Walker brook—500 S2.

## FLORENCEVILLE HATCHERY

*Carleton County—*

Acker brook—Saint John River—400 Sf.  
Ash brook—Fewer Lake—400 Sf.  
Becaguimec River—130,000 A1.  
Bennett Lake—400 Sf.  
Bubar brook—Saint John River—10,000 S1.  
Bull creek—Eel River—10,000 S1, 400 Sf.  
Bulls creek—Saint John River—10,000 S1,  
500 Sf.  
Burnt Land brook—Becaguimec River—  
10,000 S1, 400 Sf.  
Burpee brook—Presquile River—400 Sf.  
Cold stream—Becaguimec River—1,000 Sf.  
Day brook—Becaguimec River—10,000 S1.  
Debec brook—Sherwood Lake—400 Sf.  
Dingee brook—Presquile River—3,000 S1.  
Gallivan brook—Little Presquile River—  
5,000 S1.  
Gibson Mill brook—Saint John River—800  
Sf.  
Gin brook—Becaguimec River—5,000 S1.  
Glassville Beaver pond—Cold stream—400  
Sf.  
Guisiguit River—5,000 S1, 400 Sf, 160 Sh.  
Hagerman brook—Meduxnekeag River—  
400 Sf.  
Hatfield brook—Saint John River—10,000  
S1.  
Johnville Beaver pond—Shiktahawk River  
—600 Sf.  
Little Guisiguit River—5,000 S1, 400 Sf,  
160 Sh.  
Little Presquile River—1,000 Sf.  
Little Shiktahawk River—25,000 A1.  
McLeary brook—Lakeville pond—5,000 S1.  
Meduxnekeag River—150,000 A1.

Miramichi River, southwest and tribu-  
taries—280,000 A1, 25,000 A2, 24,982  
Af.  
Monquart River—125,000 A1.  
Presquile River—150,000 A1.  
River des Chutes—600 Sf.  
Saint John River—35,000 A1, 29,520 S1,  
227 Sk.  
Second or Upper Howard brook—Becagui-  
mec River—10,000 S1.  
Shiktahawk River—100,000 A1.

*Sunbury County—*

Burpee brook—French Lake—600 Sf.

*York County—*

Brown Lake—500 Sf.  
Cranberry or Harvey Lake—1,000 Sf.  
Davidson Lake—400 Sf.  
Dead creek—Eel River—10,000 S1, 600 Sf.  
Frog Lake—400 Sf.  
George Lake—560 Sf.  
Green Hill Lake—Keswick River—300 Sf.  
Joslin or Waterloo Lake—400 Sf.  
Keswick River—85,000 A1.  
Longs creek—Saint John River—10,000 S1,  
600 Sf.  
Mactaquac River—70,000 A1.  
Nackawic River—100,000 A1.  
Nashwaak River—40,000 A1, 55,000 A2,  
40,000 A3.  
Nashwaakis River—600 Sf.  
Penniac brook—Nashwaak River—600 Sf.  
Pokiok River—10,000 S1, 560 Sf.  
Risten brook—Eel River—3,000 S1, 400 Sf.  
Shogomoc River—10,000 S1, 700 Sf.  
Skiff Lake—30,000 A1.  
Tay River—800 Sf.

## GRAND FALLS HATCHERY

*Victoria County—*

Saint John River and tributaries—200,000  
Ad, 265,000 A1, 335,000 A2, 124,440  
A3.  
Little River—26,490 S1.

Salmon River and tributaries—175,000  
Ad, 400,000 A1, 160,000 A2, 72,000  
A3.  
Sutherland brook—20,000 Sc, 25,000 S1.  
Tobique River and tributaries—25,000  
Ad, 25,000 A1, 160,000 A2.

## MIRAMICHI HATCHERY

Bartibog River—7,000 S1.  
 Black River—1,100 S2.  
 Grand Aldouane River—5,600 S2.  
 Miramichi River, northwest and tributaries—1,086,000 Ad, 78,890 A2.  
 Miramichi River, southwest and tributaries—816,000 Ad, 320,000 A1, 19,200 A2.

Miramichi River, little southwest—540,000 Ad, 360,000 A1.  
 Napan River—5,000 S1.  
 Pokemouche River—5,600 S2.  
 Pollett River—20,000 A2.  
 Tabusintac River—96,000 Ad.  
 Eskedellic River—8,000 S1.

## SAINT JOHN HATCHERY

*Albert County—*

Petitcodiac River—4,000 A1.  
 Silver Moon Lake—1,000 S2.  
 Stannard Lake—4,000 Sc.  
 Turtle creek—1,200 Sf.

*Charlotte County—*

Bartlett Lake—1,430 S2.  
 Chamcook Lake—3,700 L2, 13,205 Lf, 572 Lg.  
 Clarence brook-Digdeguash Lake—4,277 S2.  
 Clear brook-McDougall Lake—3,575 S2.  
 Cox brook-Magaguadavic River—1,430 S2.  
 Crecy Lake—675 Sf.  
 Digdeguash River—20,278 S2, 1,200 Sf.  
 Digdeguash River, N.W.—3,575 S2.  
 Goat brook-Canoose River—1,430 S2.  
 McCarlies brook-Waweig River—2,860 S2.  
 Murchie brook-Denny stream—715 S2.  
 New River—3,000 S2.  
 St. Patrick Lake—1,060 Sf.  
 Sandy brook-Canoose River—1,430 S2.  
 Spear's brook-Trout Lake—3,000 S2.

*Kent County—*

Buctouche River—3,800 S2.  
 Coal Branch River—5,240 S2.  
 Cocagne River—3,800 S2.  
 Cocagne River, northwest branch—1,000 Sf.  
 Kouchibouguac River—1,520 S2.  
 Mahalawodiak River or McKee Mills stream—1,520 S2.  
 St. Nicholas River—3,040 S2.  
 Salmon River—3,040 S2.

*Kings County—*

Bacon or Island Lake—4,000 Sc.  
 Big Salmon River—19,250 R3.  
 Crow brook—9,250 R3, 6,242 R5.  
 Dick's Lake—8,000 R3, 9,468 R5.  
 Hammond River—5,000 S2.  
 Island Lake (Oak Pt.)—6,000 Sc.  
 Kennebecasis watershed—150,000 A1.  
 Chestnut brook—3,000 S2.  
 McGregor brook—3,000 S2.  
 McLeod brook—4,200 S2.  
 Oldfield brook—2,700 S2.  
 Portage brook—4,000 S2.  
 Salmon River—4,000 S2.  
 Sanction brook—1,000 S2.  
 Smith creek—3,000 S2.

Studholm brook or Millstream—4,000 S2.

Ward creek—4,200 S2.  
 Ox Shoe Lake—1,000 S1.  
 Terreo Lake—1,000 Sf.  
 Whittaker Lake—4,000 Sc.

*Queens County—*

Fish Lake-Saint John River—4,000 Sc.  
 Mud Lake-Nerepis River—2,400 S2.  
 Salmon River—110,000 A1.

*Saint John County—*

Beaver Lake—4,000 Sc.  
 Blindman Lake—705 Sf, 600 Sh.  
 Boaz Lake—1,000 S2.  
 Dead brook-Loch Lomond—8,000 S2.  
 Dolan Lake—647 Sh.  
 Douglas Lake—1,100 Sf.  
 Germaine brook—5,000 S2.  
 Hanford brook—3,000 S2.  
 Henry Lake—5,000 S2.  
 Howe Lake—1,000 S2.  
 Lily Lake-Rockwood Park—350 Sf, 279 Sg and Sh.  
 Limestone Lake (Brookville)—4,000 Sc, 1,000 S1.  
 Little River—45,000 R2, 3 Rh, 298 Sf, 159 Sg, 409 Sh.  
 Mispek River—1,830 S1.  
 Nelson Lake—500 Sf.  
 Second Lake—Loch Lomond—5,000 S2.  
 Third Lake—Loch Lomond—5,000 S2.  
 Treadwell Lake—400 Sf.  
 Tynemouth or Ten Mile creek—50,000 A1.

*Sunbury County—*

Mersereau brook - Oromocto River—12,000 S2.  
 Oromocto Lake—7,000 S2.  
 Oromocto River—1,000 Sf.  
 Oromocto River, northwest—9,040 A5.  
 Three Tree creek-Oromocto River—12,000 S2.

*Westmorland County—*

Hall creek-Petitcodiac River—200 Sf.  
 Prices brook-Canaan River—1,520 S2.  
 Tait brook-Memramcook River—1,520 S2.

*York County—*

Cranberry or Harvey Lake—1,400 Sf.

## PRINCE EDWARD ISLAND

## CARDIGAN PONDS

*Kings County—*

Bear River—3,000 S3.  
 Big brook-Fortune River—3,500 S3.  
 Big pond (Hermanville)—5,000 S3.  
 Brudenell River—3,000 S3.  
 Buell's brook—Murray River—2,400 S3.  
 Cardigan River—3,425 S3.  
 Crane's pond—Morell River—3,000 S3.  
 Creed's pond-Sturgeon River—3,500 S3.  
 Finlayson's pond-Greek River—4,000 S3.  
 Fox River—1,200 S3.  
 Hay River—3,000 S3.  
 Jenkin's pond-Greek River—1,200 S3.  
 Leard's pond-Morell River—3,000 S3.  
 McKinnon stream-Morell River—4,000 S3.  
 McLeod's pond-Midgell River—3,000 S3.  
 Montague pond (Electric Power)—4,000 S3.  
 Mooney's pond-Morell River—2,400 S3.  
 Morell River—69,650 A3.  
 Munn's brook-Brudenell River—1,500 S3.  
 Poole's pond-Montague River—1,200 S3.  
 Priest pond (Bayfield)—3,000 S3.  
 Sturgeon River—1,800 S3.  
 Webster's pond-Marie River—3,000 S3.

*Prince County—*

Cain's stream-Mill River—3,000 S3.  
 Dunk River—4,500 S3.  
 Gard's pond-Mill River—3,000 S3.  
 McWilliam's pond-Pierre Jacques River—3,000 S3.

Myrick's pond-Little Tignish River—1,500 S3.  
 Old Woollen Mills pond—Tryon River—2,400 S3.  
 St. Nicholas pond-Sunbury Cove—3,000 S3.  
 Sheen's pond-Trout River (Tyne Valley)—1,800 S3.  
 Sheep River—2,400 S3.  
 Tignish River—3,000 S3.  
 Tuplin's pond-Indian River—1,800 S3.  
 Wright Leard's pond-Dunk River—3,000 S3.

*Queens County—*

Ballem's stream-Pownall Bay—1,200 S3.  
 Beer's pond-Clyde River—3,000 S3.  
 Belle River—3,000 S3.  
 Cook's pond-Newton River—1,500 S3.  
 Glenfinnan Lake—43,765 R3.  
 Hope River—4,000 S3.  
 Lane's brook-Vernon River—1,200 S3.  
 McMillan's pond-Vernon River—2,500 S3.  
 McMillan's pond (Wood Islands)—3,000 S3.  
 McPherson's pond-Pinette River—3,000 S3.  
 O'Keefe's or Pisquid Lake—43,765 R3.  
 Parson's pond-Glynde River—4,000 S3.  
 Ross' pond-Vernon River—3,000 S3.  
 Simpson's pond-Hope River—3,000 S3.  
 Watt's stream-Winter River—1,565 S3.  
 West River—5,000 S3.

## KELLY'S POND HATCHERY

*Kings County—*

Big brook-Fortune River—4,000 S2.  
 Big pond (Hermanville)—3,000 S2.  
 Dingwell's stream-Fortune River—1,500 S2.  
 East or Hillsborough River—1,500 S2.  
 Finlayson's pond-Greek River—2,000 S1.  
 Goose or Cow River—2,000 S2.  
 Leard's pond-Morell River—3,000 S2.  
 MacLeod's pond-Murray River—3,000 S1.  
 Marie River—10,000 A1.  
 McRae's pond—Montague River—3,000 S1.  
 Midgell River—37,000 A1.  
 Morell River—165,000 A1, 5,830 A2.  
 Naufrage River—3,000 S2.  
 Ross' pond-Boughton River—1,500 S2.  
 St. Peter Bay, head of—25,000 A1.  
 Warren's pond-Head of East or Hillsborough River—2,000 S1.

*Prince County—*

Barlow pond-Grand River—2,000 S2.  
 Bell's stream-Prevost Cove—1,500 S2.  
 Black pond (Horse Head)—1,500 S2.  
 Brae River—2,000 S2.  
 Carr's stream-Malpeque Bay—1,500 S2.  
 Clark's pond-Wilmot River—4,000 S1.  
 Currie's pond-Lit. Pierre Jacques River—3,000 S2.

Dunk River—5,605 S2.  
 Ives' pond-Tryon River—1,500 S2.  
 Leard's pond-Trout River tributary to Lot 10 River—2,000 S2.  
 Marchbank's pond-Trout River (Tyne Valley)—2,000 S2.  
 McAusland's pond-Mill River—2,000 S2.  
 Rix's pond-Kildare River—2,300 S2.  
 Waddells pond-Traverse Cove—1,500 S2.  
 Wright Leard's pond-Dunk River—1,500 S2.

*Queens County—*

Bagnall's pond-Hunter River—2,000 S1.  
 Black River-Tracadie Bay—2,000 S1.  
 Clark's stream-East River—3,000 S1.  
 Coles' pond-North River—3,000 S1.  
 Craswell's pond-Hunter River—3,000 S1.  
 Crooked creek-Wheatley River—2,000 S1.  
 Dixon's pond-De Sable River—4,000 S2.  
 Gates' pond-North River—2,000 S1.  
 Glenfinnan River—780 S2.  
 Holms' pond-De Sable River—2,080 S2.  
 Leard's pond-Crapaud River—2,500 S2.  
 McLean Brothers pond-West River—1,500 S2.  
 Rackham's pond-Wheatley River—4,000 S1.  
 Watt's stream-Winter River—1,595 S3.  
 West River—5,000 S2.  
 Winter River—4,000 S1