FISHERIES RESEARCH BOARD OF CANADA BIOLOGICAL STATION ST. ANDREWS, N. B.



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FISH CULTURE DEVELOPMENT

A Report of the Fish Culture Development Branch of the Conservation and Development Service



1951

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FISH CULTURE DEVELOPMENT

THE Department, in carrying out its responsibility for conservation, has continued the policy of allowing extensive exploitation of existing fish populations while at the same time assuring their maintenance for the future. This has involved not only protection and control but also development programmes to increase productivity. For these reasons, there are embodied in the Conservation and Development Service two branches. One of these, the Protection Branch, is responsible for the enforcement of the Fisheries Act and its regulations—laws based on experience, observation and scientific investigation and designed to prevent unwise exploitation. The other, the Fish Culture Development Branch, endeavours to implement measures which will lead to increased production of larger stocks.

The Department's fish culture development activities in the fiscal year 1951-52 were concentrated on preserving and extending the Pacific salmon fisheries in British Columbia, on bringing hatchery establishments in the Maritime Provinces to peak efficiency and on improving spawning conditions for Atlantic salmon. Expenditures, including oyster culture, totalled \$752,713.

In British Columbia the engineering-biological unit of the Branch continued to be confronted with major problems resulting from the impact of industrial development on the salmon fisheries. The most serious of these was the damming of the upper Fraser watershed by the Aluminum Company of Canada and the diversion of these waters to the coast at Kemano River. After detailed surveys with the staff of the International Pacific Salmon Fisheries Commission and with close co-operation of the company, remedial measures were designed to provide water by storage in the Cheslatta Basin for transportation and winter cover for the upper Fraser runs. In the final agreement, the Department has accepted a certain amount of risk in line with its policy of endeavouring to co-operate in industrial development yet carrying out its responsibility for protection of fish.

An outstanding example of how water resources can be used for power development without sacrificing fisheries was provided in the case history of the power dam completed in December, 1950, by the Cellulose Company on the Cloyah River near Prince Rupert, B.C. Providing water pressures necessary for the operation of the company's new pulp mill on Watson Island, a few miles outside Prince Rupert, the concrete dam also incorporates facilities to enable Pacific salmon to reach spawning beds above the damsite and to help salmon fry from upstream safely negotiate the obstruction on their journey to the sea. From the blueprint stage of this project, the company co-operated with the Department at every step to provide adequate fishway and by-pass facilities so that the salmon runs would be maintained. This policy of collaboration, which enabled the company to employ the best fishery procedures bears out the Department's contention that industrial expansion is compatible with the maintenance and expansion of the fisheries resource.

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Means have been devised to preserve the spawning grounds in Jones Creek, tributary to the Fraser River, below the new development of the British Columbia Electric Company. The Greater Vancouver and District Water Board has commenced installation of fish protective devices necessitated by the installation of their new dam on the Capilano River. On Cayoosh Creek, by the use of a diversion, spawning grounds, which would have been affected by the construction of a railway bridge, were saved. A temporary fishway was designed for a power dam in the Lewes River, Yukon Territories.

In spite of these heavy commitments which involve much engineeringbiological study, considerable progress was made in the way of overcoming natural obstructions. A fishway was completed at Sproat Falls, Vancouver Island, to enable the large salmon runs to pass up stream at all water levels. Stream clearance was continued by the Department's Protection Officers in many areas by the removal of log jams and small obstructions.

Not only did the unit continue to check the efficacy of installations such as those at Cloyah Creek and at Moricetown Falls but surveys were also carried out to outline priorities and necessity for further work. The salvage of spring salmon below the British Columbia Electric dam at Bridge River was continued. The Blackwater River, tributary to the Fraser, was surveyed to determine whether remedial measures were essential if a power installation was constructed. Of major importance was the examination of the natural falls at Karmutsen on the Nimpkish River for a fishway designed to permit access of the large sockeye runs to the spawning grounds. Additional examination included the Okanagan, Indian, Nadina, Klewnugget, Ingram, and Puntledge rivers.

Of importance was the thorough investigation of the diversion ditches in the Nicola River area with a view to designing and installing screens to keep salmon of all stages from moving out of the main river. Various types of screens are now being tested.

In September, 1951, a great natural calamity to the salmon fisheries occurred when approximately 150,000 cubic yards of rock slid into the Babine River and blocked the migration of salmon. Since this stream and its tributaries provide the spawning grounds for over fifty per cent of the Skeena River sockeye salmon and for sizeable populations of other species, immediate action was taken to rectify the situation. The first necessity was a road for transport of personnel and equipment. Throughout the winter in all types of weather, crews worked unsparingly until, in the early spring, some fifty miles of the sixty-five mile road was complete and the goal was within sight.

In co-operation with the Protection Branch the engineers designed and supervised the construction of six office-residence units for the Fishery Officers at Quatsino, Campbell River, Alert Bay, Bella Bella, Bella Coola and Queen Charlotte City. In addition, a storage warehouse was constructed at New Westminster.

In the Maritimes the engineering staff of the Fish Culture Branch continued to be occupied with a number of projects to bring the Department's hatchery establishments to peak efficiency. Attention was also given to stream improvement programmes to make access easier to the salmon spawning grounds. Extensive repairs were carried out in the St. George Fishway, Magaguadavic River, N.B. In Nova Scotia a new road was constructed to replace a low part of an existing logging road in danger of flooding from the storage dams installed in the Molega Lake system in 1950. An old fishway in Martins River, Lunenburg County, N.S., was repaired. A fishway was designed and constructed at Tom Tigney Dam, Sable River. In addition, surveys were carried out on the St. Marys, Roseway, Nictaux, Gaspereau, Tusket, Sydney, East, Medway and Strathlorne rivers.

In Newfoundland considerable progress was made on the construction of a fishway in the upper falls of the Terra Nova River. The installation was about two-thirds completed and prepared for finalization next year. Some preliminary work was carried out on the lower falls in the same river and at Rocky Falls fishway on Rocky River. The obstruction on the Humber River was almost overcome by the construction of a natural fishway.

The biological staff in the Maritimes completed detailed surveys of twentyrour water areas in Nova Scotia and New Brunswick, including Silver and Memramcook in Westmorland County, N.B.; Mud Lake, Kings County, N.B.; Little, Burntland Brook Lake, Laketon, York County, N.B.; Bog No. 1 and Bog No. 2 in Kent County, N.B.; Mill and Ducker in Cape Breton, N.S.; Fisherman's Harbour, Guysborough, N.S.; Wade Lake, Hants County, N.S.; Keough, Banook, Micmac and Charles lakes in Halifax County, N.S.; Spectacle, Millett, Never-tell, Long and Cranberry lakes, Lunenburg County, N.S.; Tait Lake in Queens County, N.S.; Jessie Lake, Yarmouth County, N.S.; and Mill Pond, Kings County, N.S. The information obtained is to serve as a basis for more efficient planting procedures.

This group continued the co-operative work on the Miramichi River with the Fisheries Research Board in testing the efficacy of bird control on behalf of salmon conservation. Throughout the season parties supervised by Departmental biologists continued to reduce the merganser stocks and tests on the results were made through the salmon counting fences.

Three lakes, namely, Silver Lake, Westmorland County, N.B., and Nelson and Round lakes in Kings County and Saint John County, N.B., were poisoned to eliminate the coarse fish population. Plantings will be made at the appropriate time and the results of these efforts closely checked.

In the Maritimes Area certain pollution problems have arisen as a result of developments in industry. Of particular note is the effect on the lobster population in Barrasois Cove from the pumping of an abandoned colliery shaft. Other areas included the Framboise River in Cape Breton where a mine was in process of development. The water supply was also investigated in Kelly's Pond Hatchery and Macan (Harrison) Lake, N.S.

Fish hatchery operations in the Maritime Provinces were carried on at 13 main hatcheries, seven rearing stations, four salmon retaining ponds and several egg collecting camps. Adjustments to hatchery, field and regional headquarters staffs provided personnel sufficient to complete more work than had been possible heretofore.

In May, transfers of variety "B" smelt eggs were made from Lake Utopia to feeders of Wheaton and Chamcook lakes. About 1,000,000 eggs were laid down

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in each affluent, with a view to maintaining a supply of smelts as forage fish for smallmouthed black bass and landlocked salmon. In September 34 small-mouthed black bass were caught in Darlings Lake and Hammond River, Kings County, N.B., and transferred to Elliott Lake, Annapolis County, N.S. During October, 2,187 mature but stunted speckled trout were transferred from the Upsalquitch Lake spawning grounds, N.B., to Tongue Island, Twelve Mile and Black lakes. All fish transferred were marked by the removal of the left ventral fin. Similar transfers made in 1950 are reported to have yielded excellent results. The transplanted trout increased very materially in weight, many reaching the 10" mark from the 5.9" average length when transferred.

A total of 518 speckled trout were captured in the head waters of the Big Salmon River and transferred to Balls Lake, Saint John County, N.B. These fish, although stunted, averaged $6\frac{1}{2}$ inches in length and were marked by the removal of the adipose fin before liberation.

Eggs of Sebago salmon were collected at Chamcook Lake, N.B., and laid down at the Saint John Hatchery. Heavy freshets damaging the traps permitted the escapement of many parent fish, thus reducing the collection cf eggs to 75,000.

The following collection of eggs was made: Speckled trout (Salvelinus fontinalis) 38,417,000, Arctic charr (Salvelinus alpinus) 2,000, Brown trout (Salmo fario) 86,000, Rainbow trout (Salmo irideus) 160,000, Landlocked salmon (Salmo salar sebago) 120,500 and Atlantic salmon (Salmo salar) 20,395,000, a total of 59,180,500. Out of the total collection of Atlantic salmon eggs, 596,600 were collected from the Restigouche River through the courtesy of the Restigouche Riparian Association and laid down in Charlo Hatchery. In addition to domestic collection the imports of 527,280 Rainbow and 850,000 Brown trout eggs brought the grand total of eggs laid down for incubation to 60,557,780. Distributions for the year were: Speckled trout 13,430,000; Arctic charr, 1,690; Brown trout, 280,300; Rainbow trout, 397,300; Atlantic salmon, 11,695,000, and Landlocked salmon, 270,600, a total of 26,074,890.

Introduction of non-native fish continues to constitute the only reasonable medium of assessing the results of stocking. Returns from Mary Pitcher Lake, Saint John County, N.B., came up to expectations. Large numbers of speckled trout (exotic to the lake) averaging $1\frac{1}{2}$ pounds were taken by anglers. These fish had spawned in the fall of 1950 with the resultant parr reaching 4''-5'' in length by mid-July. Satisfactory angling for sea-run Brown trout obtained in the Guysborough River and its harbour. Brown trout were also observed and taken in abundance in the Cornwallis watershed, in Nova Scotia. Crooked Creek and Big Salmon River, N.B., yielded heavy catches of Rainbow trout. Specimens exceeding three pounds were obtained from the latter stream. Catches of small-mouthed black bass in Victoria Lake, Queens County, N.S., proved the establishment of that species in the water.

Experiments with different diets and in selective breeding of Speckled trout were continued. To check movements and survival of planted stock 60,807 fish were marked by removal of one or more fins and 1,050 were tagged; 268 marked Sebago salmon were recaptured—18 with missing fins and 250 with tags.

Major construction and repair projects included: lining with concrete four circular ponds at Cardigan Rearing Ponds; completion of five new circular ponds and lining two others with concrete at Charlo Hatchery; eight circular ponds reconstructed at Cobequid Hatchery; lining with concrete two of the circular ponds at Coldbrook Rearing Ponds; dam and sub-hatchery at Florenceville Hatchery reconditioned; a new dam built and a new transite main pipeline installed at Grand Falls Hatchery; one circular and one long pond lined with concrete at Grand Lake Rearing Ponds; five concrete circular ponds reconstructed at Margaree Hatchery; two new 35-foot concrete circular ponds completed at Kejimkujik Rearing Ponds.

Exhibits of hatchery products were made at Moncton, Campbellton, Fredericton and Sussex, N.B.; at Sherbrooke (Stillwater), Molega Lake, Sydney and Port Morien, N.S., and at Charlottetown, P.E.I. The branches of provincial fish and game associations in the Maritime Provinces made an excellent contribution by assisting in the distribution of hatchery products and by providing funds and labour to assist the projects of re-establishing trout fisheries through predator fish elimination.

Oyster Culture

The Atlantic oyster is found from northern New Brunswick to Mexico. The greatest production is south of New York where the water is warm enough for feeding all or almost all the year, and warm enough for spawning for several months of the year. Coming farther north the water gets colder until near Boston the oysters disappear. There are practically none north of Boston except those in the sheltered waters in the southern part of the Gulf of St. Lawrence and in the salt Bras d'Or "Lakes" in Cape Breton. In the Canadian oyster areas only half the year is warm enough for feeding and only a few weeks for spawning and then only in the most sheltered waters.

As a result the growth of Canadian oysters is slow and the reproduction slow and uncertain. Canadian oysters take much longer than the southern oysters to reach marketable size or to mature. When they have matured, spawning is uncertain and in some years many do not spawn at all, or spawn so late that the spat (newly settled oysters) are too small to survive the winter. The colder waters, however, produce a high quality oyster and this high quality has led to a demand which the slow growth and uncertain reproduction has been unable to supply. Consequently, in spite of restrictions on the fishing season, on the size of oysters to be taken and on the gear to be used, Canadian oysters a few years ago were seriously reduced in numbers and in some places were practically swept clean.

Since the natural production of oysters in Canadian waters is not sufficient to meet the demand, some help must be given and it is here that the oyster farmer finds his place in the scheme. The oyster farmer, guided by advice from scientists, collects spat and plants the young oysters in suitable waters leased by him from the Department. For many years now the Department of Fisheries and the Fisheries Research Board of Canada have co-operated in carrying out investigations to improve the position of the oyster industry. The Board tries to discover new methods of oyster culture through research and the Department provides the facilities for large scale trials. These facilities may range from single overseers to full stations providing full complements of foremen, men and materials whose direction for experiments becomes the Board's responsibility.

The Board's efforts are directed by the St. Andrews Biological Station, St. Andrews, N.B., and the field supervision is exercised from the Board's sub-station at Ellerslie, P.E.I.

Services by the Department to the industry include the examination and survey of new leaseholds, re-location surveys of established ones, and re-location of survey monuments; the provision of seed stock in limited quantities; aid in the prediction of spatfall and advice on methods of culture. The Department also accepts and transmits such revenues as lease rental and money from sales of seed and market oysters. These revenues amounted to \$6,656.80 in 1951-52.

Operations and commercial scale trials of seed rearing techniques during 1951 were seriously curtailed owing to the lack of suitable oyster spat with which to work. This was a result of the poor spat catching season experienced in 1950. Experiments were carried on, however, on a reduced scale, at Malagash, N.S., and Shippigan, N.B., on the growth rate comparison of the Dutch type of fixed tray and the regular or modified type of floating tray presently in use on the Atlantic coast.

A new dyke was completed in a comparatively silt free area at Malagash, and qualitative trials were started in it to test its seed growing and over-winter holding properties. Only the normal seed growing programme was carried on at Orangedale, N.S. The seed oysters thus grown were sold locally and in particular to lessees of Tracadie, N.S., who are attempting to rehabilitate a one-time productive area. At Ellerslie, no programme could be planned because of the scarcity and smallness of the spat. A diversion programme, however, consisted of cleaning the Department's highly productive and quality-bearing Cooper Bed. This was a full time operation.

The reserve at Malagash was opened to supervised oyster picking by lessees both local and distant. About 170 barrels of unculled oysters were picked and planted on leaseholds ranging from Pictou County to Westmorland County, the majority being planted in Colchester and Cumberland Counties.

At the request of interested parties, a survey of the prospects for oyster farming in the Maisonnette area of Caraquet Bay, Gloucester County, N.B., was conducted with satisfactory results. An extension of this survey was also included so that information could be provided to the Department as to the current state of the public beds in this area.

In Kent County, N.B., the Fisheries Research Board assigned an investigator to the Richibucto River and harbour area to attempt to more accurately determine oyster farming prospects there. This action was taken in co-operation with and at the request of the New Brunswick Provincial Department of Industry and Reconstruction.

The year 1952 marks the first twenty years of Federal leasing control on the Maritime coast. The first Federal leases were issued in Prince Edward Island in 1932. Previously leasing jurisdiction was under the control of the various provincial governments and indeed to-day the greater portion of New Brunswick still remains under provincial control. The advantages of a Federal programme have been many, mainly because of the research facilities made available through the Fisheries Research Board. In addition, leasehold surveys have been supplied free of charge, experimental and demonstration stations were furnished at strategic locations, spatfall predictions were made annually and much information of direct or indirect use to those engaged in oyster culture has been passed on to the industry. Uniform grading standards have been co-ordinated throughout the Maritimes for marketing oysters in the shell. Federal authorities have surveyed and made available legislation and facilities whereby natural seed oysters prone to winter killing could be harvested and used for planting stock by the lessees. They have also attempted, where possible, to stimulate an ever-broadening industry to help replace those dwindling natural resources that could not indefinitely withstand the high rates of exploitation which they were destined to undergo.

The leased oyster fishery has been progressive, but much has still to be done and there are hazards. For example, returns are slow to become evident to those engaged in the leased fishery; the encroachment of eelgrass on what was formerly considered good oyster bottom has curtailed operations of late years, and a predominant lack of a cheap source of seed remains a difficult obstacle to overcome. Last, but not least, administration is difficult, involved and in need of constant revision to meet new and changing requirements which at this stage are mainly economic and post-developmental. It might be argued that the past twenty-year period has been one of development and expansion. The major producing areas and leasable areas of the Maritimes are now fairly well under lease but not necessarily producing to anything like capacity. It now must become the task in this next phase to see that there is full exploitation of resources that are under lease. This may and probably will require revised and more workable leasing legislation, better enforcement of this legislation to ensure highest utilization of bottom under lease and possible expansion of the research and information dissemination programme to supply information and aid as required for an expanding and possibly changing industry.

A total of 1215 Federal leases were in operation in the Maritimes, making use of 3,015 acres of bottom. By provinces they were distributed as follows:

Province	No. of leases	Acreage
Prince Edward Island	650	1,626.5
Nova Scotia	238	509.63
New Brunswick	327	879.1
Totals	1.215	3.015.23

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During the year, sixty-four new leases were surveyed and thirty-two old leases were resurveyed. Leasing interest continued strong in most areas and very strong in Gloucester County, where, as in the past, a shortage of good ground existed.

At Maisonnette, Gloucester County, a survey of potential oyster leasing bottom indicated some one hundred acres of quite suitable ground outside the bounds of the existing public fishery. In addition, adjacent tidal seed stocks which could be made

*Federal leases issued in all of Gloucester County, Westmorland County in part only (Shediac Bay area).

available to the fishery for planting purposes were estimated at close to 1,000 barrels of accumulated stock. This was a wholesome situation, particularly since the Caraquet-Maisonnette public beds are in very poor shape as far as oyster stocks are concerned. Plans are being worked out to give the area over to leases.

Shippigan and Malagash, during 1951, were the centres for trials to compare the efficiency for oyster growth of the fixed Dutch type of tray and the standard floating tray or modifications of these trays. The Dutch trays gave superior growth in the very exposed area at Shippigan. The opposite occurred in the more sheltered areas of Malagash and Ellerslie. At the moment, there is no reason to abandon the conventional floating tray in favour of any other.

Eelgrass control experiments being conducted at Ellerslie and Shippigan were again observed this year. Control methods employing various means of covering the eelgrass infested bottom continued effective wherever the coverage was effective to start with. Several of these areas have now passed through three full years since treated. In some cases, where sand or gravel has been used, a few seedlings have become established.

Cutting as an immediate but temporary control method was practiced quite successfully again in co-operation with certain oyster farmers.

The 1951 oyster set, like that of 1950, again turned out to be a commercial failure. However, oyster growth appeared normal but extended later into the season. First major spawnings in most areas took place in early July and were sufficiently ample to produce good sets. But few larvae survived and the sets were generally failures.

This is the second consecutive general spatfall failure and the effect on the production of market oysters five or six years hence may well be serious. Not only do growers who set out cultch suffer from this setback but also and probably more so do those lessees who depend upon the natural sets on intertidal zones for stocking purposes and the public fishermen who rely upon sets which must catch on the deeper natural beds.

Demand and market prices for the 1951 crop of oysters was strong, particularly for the better grade of shell stock. Towards the end of the season even the poorer grade oysters found heavy demand for shellstock shipment. A small but brisk market existed for shucked oysters but the canning industry practically went out of existence, possibly because the market price for poor grade shellstock was too high for competition from the canning industry but mainly because the canneries were holding over large inventories from the previous year.

The 1951 Maritime oyster production was down 22 per cent (10,500 barrels) from that of 1950 and has dropped 35 per cent (19,000 barrels) from the 1948 peak of 55,000 barrels. By provinces, the New Brunswick production was down by 7 per cent (1,900 barrels); Prince Edward Island down by 54 per cent (8,700 barrels) and Nova Scotia up by $2\frac{1}{2}$ per cent (100 barrels).

Maritime oyster production, falling as it is at present, will probably face a crisis in four to six years time as a result of two generally poor reproductive years in 1950 and 1951. Markets on the other hand are far from saturated, where better grades are concerned. Just what the solution to this problem will be is uncertain. Public oyster fisheries are protected rigidly by regulation and by strong enforcement of these regulations. Leased fisheries are increasing steadily as seed stocks and economic factors permit, but both fisheries are largely dependent upon nature's co-operation in supplying conditions suitable for spat reproduction and growth.

Oyster culture can be profitable as a venture but the hazards are many, and the returns on investment relatively slow. For these reasons it is not an industry that can be quickly developed or easily adapted to fluctuating market conditions.

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APPENDIX

FISH CULTURE DEVELOPMENT STATEMENTS 1951

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FISH DISTRIBUTED BY SPECIES 1951

Species	Fry	Advanced fry	Fingerlings	Yearlings and older	Total Distribution
Salmo salar—Atlantic salmon	·····	1,090,500	10,534,781	69,317	11,694,598
Salmo fario—Brown trout			280,333		280,333
Salmo irideus—Rainbow trout			397,191	48	397,239
Salmo salar sebago—Sebago salmon			237,645	32,883	270,528
Salvelinus alpinus—Arctic charr			1,688	2	1,690
Salvelinus fontinalis—Speckled trout	130,000	726,486	12,386,326	186,752	13,429,564
	130,000	1,816,986	23,837,964	289,002	26,073,952

FISH TAGGED 1951

Establishment	Species	Number tagged fish distributed	Tag series used	Waters stocked	Age
Grand Lake	Sebago salmon	1,018	0011-11500	Grand Lake, N.S	3 years
Grand Lake	Sebago salmon	28	11352-11379	Grand Lake, N.S	5 years
Grand Lake	Sebago salmon	4	8876-8879	Grand Lake, N.S.	Adults
		1,050		· · · · ·	
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SELECTIVE BREEDING OF SPECKLED TROUT 1951

		Yield	per female
Hatchery	Age in years	. Selects	General groups
Antigonish.	2	2,714	1,492
Antigonish	- 3	3,365	1,631
Margaree	1	1,586	734
St. John	1	3,712	1,020
St. John	2	2,166	1,156
St. John	3	3,422	1,373

FISH MARKED BY FIN CLIPPING 1951

	Number			Di	stributed	
Where marked	fish distributed	Species	Age	Date	Place	Fins removed
Antigonish Hatchery Florenceville Hatchery	2,600 5,000	Speckled trout Sebago salmon	No. 3 fingerlings 1 year	August 14 September 21	Copper Lake, N.S Big Cranberry L., N.B	Adipose and right pelvic Adipose fin
Grand Lake Hatchery	13,347 290 200 3,079 596 200	Sebago salmon Sebago salmon Sebago salmon Atlantic salmon Atlantic salmon Atlantic salmon	2 years 1 year 1 year 2 years 1 year 1 year	June 6, 12 October 24, 25 October 23 June 6 July 7— October 25 October 23	Grand Lake, N.S Rawdon River, N.S Beaver River, N.S Grand Lake, N.S Rawdon River, N.S Beaver River, N.S	Left ventral Left ventral Right ventral Right ventral Right ventral
Margaree Hatchery	1,000	Speckled trout	1 year	October 24	Presqu'Ile Lake, N.S	Left ventral
Saint John Hatchery	$\begin{array}{r} 675 \\ 1,540 \\ 675 \\ 15,400 \\ 13,500 \end{array}$	Speckled trout Speckled trout Speckled trout Speckled trout Speckled trout	1 year 1 year 1 year No. 3 fingerlings No. 3 fingerlings	September 5 November 1, 2 November 2 September 6, 8 September 7, 8	Crecy Lake, N.B Gibson Lake, N.B. Gibson Lake, N.B. Gibson Lake, N.B. Crecy Lake, N.B.	Right pectoral and adipose Left pectoral and adipose Anal and adipose Left ventral and adipose Left ventral and adipose
Big Salmon River	518	Speckled trout	Adults	October 19, 26	Balls Lake, N.B	Adipose fin
Upsalquitch Lake	551 550 564 522	Speckled trout Speckled trout Speckled trout Speckled trout	Adults Adults Adults Adults	October 12 October 12 October 11 October 12	Black Lake, N.B Island Lake, N.B Tongue Lake, N.B Twelve Mile Lake, N.B	Left ventral Left ventral Left ventral Left ventral
Total	60,807					

NOTE:-Recaptures of sebago salmon in connection with Grand Lake Rearing Station-18 with missing left ventral fins; 250 with tags.

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	Species	Collection area	Eggs collected	Number collected	Disposal Establishment at	Eggs received	Number	Totals
	Atlantic salmon	River Philip, N.S	Nov. 14-21	3,971,200	Cobequid J. E. Mason, Maine,	Nov. 15-22	3,967,200	
		Sackville Pond, N.S Miramichi Pond, N.B	Nov. 3-13 Oct. 20-Nov. 14	233,160 14,557,438	Bedford Margaree Florenceville Grand Falls Miramichi	Nov. 3-13. Nov. 1-2. Oct. 25-Nov. 1 Nov. 6-10. Oct. 20-Nov. 14	233,160 2,000,000 2,000,000 2,000,000 7,557,438	
		New Mills Pond, N.B Restigouche River, N.B	Oct. 22-Nov. 9 Oct. 18-Nov. 1	1,035,766 596,600	Charlo	Oct. 22-Nov. 9 Oct. 19-Nov. 1	1,035,766 596,600	20 205 264
_	Arctic Charr Brown Trout Rainbow trout	St. John Hatchery Ponds, N.B Antigonish Hatchery Ponds, N.S Saint John Hatchery Ponds, N.B Grand Lake N.S.	Nov. 19 Oct. 23-Nov. 27 April 9-27	2,000 86,000 159,971	St. John St. John St. John Grand Lake	Nov. 19 Oct. 23-Nov. 27 April 9-27	2,000 86,000 159,971	20,393,304 2,000 86,000 159,971
UN.		Grand Lake Rearing Ponds, N.S. Chamcook Lake, Charlotte Co., N.B Clinch Brook, York County, N.B.	Nov. 6-19 Nov. 8-22 Nov. 7-17	30,900 75,697 13,000	Grand Lake St. John Florenceville	Nov. 6-19 Nov. 8-22 Nov. 7-17	30,900 75,697 13,000	120,497
	Speckled trout	Cobequid Hatchery Ponds, N.S	Nov. 1-26	3,830,400	Antigonish. Bedford. Cobequid. Kelly's.	Nov. 9, 13 Nov. 1-26 Nov. 2-7	9,728,480 1,500,000 1,828,200 2,002,200	
		Kejimkujik Rearing Ponds, N.S Lindloff Hatchery Ponds, N.S Margaree Hatchery Ponds, N.S Yarmouth Hatchery Ponds, N.S Charlo Hatchery Ponds, N.B	Nov. 5-Jan. 2 Nov. 5-Dec. 14 Oct. 23-Nov. 20 Nov. 8-22 Oct. 28-Dec. 10	145,3505,045,0803,314,1611,530,740321,597	Kejimkujik. Lindloff. Margaree Yarmouth Charlo.	Nov. 5-Jan. 2 Nov. 5-Dec. 14 Oct. 23-Nov. 20 Nov. 8-22 Oct. 28-Dec. 10	$145,350 \\ 5,045,080 \\ 3,314,161 \\ 1,530,740 \\ 321,597$	
		Florenceville Hatchery Ponds, N.B Saint John Hatchery Ponds, N.B	Oct. 9-Nov. 19 Nov. 3-20	1,339,089 11,661,996	Florenceville Middleton Varmouth St. John	Oct. 9-Nov. 19 Nov. 16 Nov. 14 Nov. 3-20	1,339,089 1,000,000 1,000,000 9,661,996	38,416,893
								59,180,725

LOCAL COLLECTION AND DISPOSAL OF EGGS BY SPECIES, 1951

INTER-HATCHERY TRANSFERS 1951

Species	Species From To		Eggs		Fry	F	INGERLINGS	Yearlin Old	IGS AND ER	
			Number	Date received	Number	Date received	Number	Date received	Number	Date received
Atlantic salmon	Bedford Cobequid Cobequid Middleton Sackville Yarmouth Charlo Florenceville Grand Falls Miramichi Miramichi Miramichi Kelly's	Grand Lake Bedford Edford Kejimkujik Grand Lake Kejimkujik. St. John Kelly's Grand Falls Haley Brook Middleton Yarmouth Grand Falls Cardigan	902,500 505,400 530,670 751,900 501,420 500,000 750,000 750,000 500,000	Feb. 12 Feb. 20 Feb. 21 Apr. 19 Feb. 19 Mar. 8 Mar. 3 Feb. 24	250,000 360,000 400,000	May 22-25 June 9-16. May 30-June 6	150,000	June 11-20 May 28-June 2	20	Nov. 8
Rainbow trout	Middleton	Coldbrook					170,000	Apr. 30-May 1		
Speckled trout	Saint John Kelly's Antigonish. Antigonish. Antigonish. Bedford. Cobequid. Cobequid. Lindloff. Middleton. Middleton. Middleton. Yarmouth. Yarmouth. Florenceville. Saint John Kelly's	Lindloff. Cardigan. Grand Lake. Lindloff. Grand Falls. Grand Falls. Coldbrook. Bedford. Cardigan. Yarmouth. Mersey. Coldbrook. Kejimkujik. Kejimkujik. Mersey. Grand Falls. Haley Brook. Middleton. Cardigan.	60,000 1,750,000 839,440 1,000,000 2,000,000	May 15 Feb. 8 Jan. 23 Feb. 9 Feb. 13 Jan. 31- Feb. 17	115,175 550,000 525,000 150,000	Apr. 25. Apr. 27-28. May 1-5. May 10-11.	50,000 110,000 15,000 125,000 120,000 19,345 300,000 250,000 40,000	Sept. 22-Oct. 3. May 15-16. May 17. July 14. May 14-17. May 14-17. Sept. 12-Oct. 2 May 18-26. May 26. Apr. 19-24.	5,000	

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OTHER TRANSFERS IN 1951

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Species	From	То	Number	Details	Date
Atlantic salmon	Cobequid Hatchery. Cobequid Hatchery. Cobequid Hatchery. River Philip Pond. Miramichi Hatchery. Florenceville Hatchery. Florenceville Hatchery. Florenceville Hatchery. Saint John Hatchery. Saint John Hatchery.	New York Conservation Department, Warrensburg, N.Y M. Hubbard, St. Johnsbury, Vermont J. E. Mason, Maine, U.S.A. United States Department of the Interior, Fish and Wildlife Service, East Orland, Maine. Atlantic Biological Station (Gibson Lake) Atlantic Biological Station (Presquille River) Atlantic Biological Station (White Marsh Brook) Mr. H. Godfrey (Pollett River) Elliot Lake, Annapolis Co. N.S.	169,670202,1601,8004,000200,0002001165910,00034	Eyed eggs. Eyed eggs. No. 2 fingerlings Green eggs. Eyed eggs. 1 year. 1 year 1 year Eyed eggs Adults.	Feb. 27 Feb. 27 Aug. 20 Nov. 16 Feb. 20 July 17 July 28 July 28 July 29 Apr. 30 Sept. 15
Brown trout	Morgan Hatchery, Vermont, U.S.A Morgan Hatchery, Vermont, U.S.A Lamar, Pennsylvania, U.S.A. (U.S.Federal). Island Pond, Vermont, U.S.A. Lamar, Pennsylvania, U.S.A.	Margaree Hatchery. Middleton Hatchery. Saint John Hatchery. Yarmouth Hatchery.	100,000 100,000 170,031 204,160	Eyed eggs Eyed eggs Eyed eggs Eyed eggs	Dec. 7 Dec. 7 Dec. 31 Jan. 4
Rainbow trout	(U. S. Federal) New York Conservation Department, U.S.A New York Conservation Department	Yarmouth Hatchery. Bedford Hatchery.	275,520 199,280	Eyed eggs	Dec. 31 Feb. 15
Smelt (Variety B)	New York Conservation Department, U.S.A. Lake Utopia. Lake Utopia. Lake Utopia. Yarmouth Hatchery. Florenceville Hatchery. Florenceville Hatchery. Florenceville Hatchery. Florenceville Hatchery. Florenceville Hatchery. Florenceville Hatchery. Florenceville Hatchery. Saint John Hatchery. Saint John Hatchery. Upsalquitch Lake, N.B. Upsalquitch Lake, N.B. Upsalquitch Lake, N.B. Upsalquitch Lake, N.B.	Middleton Hatchery. Kelly's Pond Hatchery. Wheaton Lake. Chamcook Lake. St. Andrews Biological Station. Atlantic Biological Station (Gibson Lake). Atlantic Biological Station (Gibson Lake). Atlantic Biological Station (Gibson Lake). Atlantic Biological Station (Presquille River). Atlantic Biological Station (Presquille River). Atlantic Biological Station (White Marsh Brook). Atlantic Biological Station (White Marsh Brook). Atlantic Biological Station (White Marsh Brook). Atlantic Biological Station (White Marsh Brook). University of New Brunswick. Regional Supervisors' Office. Black Lake, N.B. Island Lake, N.B. Twelve Mile Lake, N.B. Tongue Lake, N.B. Balls Lake, St. John County, N.B.	$193,000\\1,000,000\\1,000,000\\1,000,000\\1,000,000$	Eyed eggs Eggs I year No. 2 fingerlings I year No. 2 fingerlings I year No. 2 fingerlings I year Unfertile eggs I year Adults Adults Adults Adults	Feb. 14 Feb. 15 May 28 Sept. 9 July 17 July 27-28 July 27-28 July 29 July 29 July 29 Nov. 14 May 4 Oct. 12 Oct. 12 Oct. 12 Oct. 11 Oct. 19-26

HATCHERY OUTPUT BY PROVINCES, 1951

Fry, Fingerlings, Yearlings and Older Fish

					FINGERLINGS			Vearlinge	Total	Total
Province	Fry	Advanced fry	No. 1	No. 2	No. 3	No. 4	No. 5	and older	distribution by species	distribution by province
Nova Scotia— Atlantic Salmon Brown Trout Rainbow Trout Sebago Salmon Speckled Trout		345,000 	994,000 113,225 	599,600 	737,054 43,180 1,034,865	38,057 61,000 700,300	86,500 76,426 105,169 	29,345 14,883 131,318	2,829,556 189,651 209,349 14,883 8,576,753	
New BRUNSWICK— Arctic Char Atlantic Salmon Brown Trout Sebago Salmon Rainbow Trout Speckled Trout	120,000	577,000 620,000 494,486 1,114,486	4,672,217 4,803,680 48,000 50,000 2,147,600 7,129,280	2,976,831 2,025,261 132,645 26,224 681,178 2,865,308	1,815,099 746,359 42,682 25,000 441,019 1,255,060	93,270 426,090 519,360	804,142 1,688 222,548 224,236	$ \begin{array}{r} 175,546 \\ 39,972 \\ 18,000 \\ 48 \\ 55,434 \\ 113,456 \\ \end{array} $	$\begin{array}{c} 11,820,192\\ \hline 1,690\\ 8,328,542\\ 90,682\\ 255,645\\ 76,272\\ 4,588,355\\ \hline 13,341,186\end{array}$	<u>11,820,192</u> <u>13,341,186</u>
PRINCE EDWARD ISLAND— Atlantic Salmon Rainbow Trout Speckled Trout	<u> </u>	125,500	36,000 233,000 269,000	<u> </u>	238,000	137,000 3,500 140,500	108,118 8,966 117,084	· · · · · · · · · · · · · · · · · · ·	536,500 111,618 264,456 912,574	912,574 26,073,952

SPECIES DISTRIBUTED FROM HATCHERIES AND REARING STATIONS, 1951

Hatcheries and Rearing Stations Operated, Their Locations, Dates Established, the Species and Numbers of Each Species Distributed from Each Establishment.

Estab-					Advanced		Fingerlings					Total	Total distri-
lished	Hatchery	Location	Species	Fry	Fry	No. 1	No. 2	No. 3	No. 4	No. 5	and older	bution by species	bution by hatcheries
1929	Antigonish	St. Andrews, N.S	Atlantic salmon.		345,000	350,000	115,000	11,300				821,300	2 424 590
1876	Bedford	Bedford, N.S	Atlantic salmon.			1,037,800	98,000	104,954		18,000	14,380	2,003,280	5,424,380
1937	Cobequid	Collingwood, N.S	Atlantic salmon.	••••••••		194,000	211,600					405,600	572,440
1029	Coldbrook (f)	Caldbrook NS	Speckled trout	· · · · · · · · · · ·	222,000	364,800	85,500		24,300	41,420	10,797	707,397	1,154,423
1936	Croud Lake (f)	Wellington Station	Speckled trout.						137,500	80,295		217,795	383,964
1930	Grand Lake (I)	N.S	Atlantic salmon.					96,000			8,875	104,875	
			Speckled trout.	· · · · · · · · · · · ·		· • · · · · · · · · · · · ·	81,460				14,883 49,527	14,883 130,987	250,745
1937	Kejimkujik (t)	New Grafton, N.S	Atlantic salmon. Speckled trout.				15,000 213,050	340,200			20,470 33,803	375,670 246,853	622,523
1912	Lindloff	St. Peters, N.S	Atlantic salmon. Rainbow trout			150,000	120,000	184,600				454,600	
1002	Margaree	Frizzlaton NS	Speckled trout.			500	670,000	477,560	281,000	40,750	7,987	1,477,797	1,975,577
1902	Margaree	F11221et011, 1N.S	Speckled trout.			780,000	61,600		93,000	215,200	12,884	1,162,684	1,352,684
1935 1913	Mersey River (f) Middleton-	Liverpool, N.S Middleton, Annapolis	Speckled trout				300,710	172,705				473,415	473,415
	Nictaux	County, N.S	Atlantic salmon. Speckled trout.	· · · · · · · · ·	10.000	362.840	79.625			86,500		86,500 634 267	720.767
1929	Yarmouth	South Ohio, N.S	Atlantic salmon.			150,000			38,057			188,057	.20,707
			Speckled trout	· · · · · · · · · ·		69,052	345,800	50,000	86,000		1,940	552,792	889,074

(f) Rearing Station. The fry and fingerlings included in this distribution were from collections in the autumn of 1950 and spring of 1951.

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SPECIES DISTRIBUTED FROM HATCHERIES AND REARING STATIONS, 1951-Conc.

Hatcheries and Rearing Stations Operated, Their Locations, Dates Established, the Species and Numbers of Each Species Distributed from Each Establishment-Conc.

Estab- lished	Hatchery	Location	Species	Fry	Advanced			FINGERLING	s		Year- lings and	Total distri- bution by	Total distri- bution by
						No. 1	No. 2	No. 3	No. 4	No. 5	older	species	hatcheries
1939	Charlo	Charlo, N.B	Atlantic salmon.			373,680	984,777	381,200	15 000		2 857	1,739,657	1 771 514
192\$\$	Florenceville	Florenceville, N.B	Atlantic salmon. Sebago salmon.		620,000	510,000	50,000	20,000	13,000		39,972	1,239,972	1,771,514
1880	Grand Falls	Grand Falls, N.B	Speckled trout Atlantic salmon.		380,000	496,000 640,000	20,000 349,975	6,000	36,190	20,000	15,447	973,637 989,975	2,274,609
1951	Haley Brook (f).	Plaster Rock, N.B	Atlantic salmon.	120,000	3,080	40,000	140,000	120,000	93,270	•••••	4,300	243,564	1,233,539
1874	Miramichi	South Esk, N.B	Atlantic salmon.		104 400	2,630,000	480,000	225,159				3,335,159	390,270
1914	Saint John	Saint John, N.B	Atlantic salmon.			650,000	20,509			1 688		670,509	3,132,018
	-		Brown trout			48,000	114 645	42,682				90,682	
		-	Rainbow trout.		7.000	50,000	26,224	320.500	338 900	202 548	48	76,272	3 918 576
1938	Cardigan (f)	Cardigan, P.E.I	Atlantic salmon.					238,000	137,000	108,118		375,000	0,510,010
1906	Kelly's Pond	Southport, P.E.I	Speckled trout Atlantic salmon.		125.500	36.000				8,966		8,966	495,584
			Speckled trout	10,000		233,000	12,490					255,490	416,990
				130,000	1,816,986	12,070,497	5,854,629	3,308,159	1,459,217	1,145,462	289,002	26,073,952	26,073,952

011950

(f) Rearing Station. The fry and fingerlings included in this distribution were from collections in the autumn and spring of 1951.

EXHIBITIONS OF FISH 1951

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Exhibition held at	Species	Age	Number of fish	Establishment or Source	Dates of exhibition
Sherbrooke, N.S.	Speckled trout	No. 2 Fingerlings	100	Antigonish	July 20-21
Sherbrooke, N.S.	Speckled trout	3 years	15	Antigonish	July 20-21
Molega Lake, N.S.	Sebago salmon	5 years	11	Grand Lake	Aug. 16-23
Molega Lake, N.S	Speckled trout	2 years	12	Kejimkujik	Aug. 16-23
Molega Lake, N.S	Speckled trout	1 year	10	Kejimkujik	Aug. 16-23
Sydney, N.S.	Speckled trout	2 and 3 years	9	Lindloff	July 18-20
Sydney, N.S	Speckled trout	3 years	6	Margaree	July 18-20
Port Morien, N.S	Speckled trout	3 years	8	Margaree	July 25
Campbellton, N.B	Speckled trout	3 years	4	Charlo	Sept. 26-29
Fredericton, N.B	Speckled trout	1, 2, 4, 6 years	34	Florenceville	Sept. 3-8
Sussex, N.B	Rainbow trout	5-6 years	4	Saint John	Oct. 1-6
Sussex, N.B	Speckled trout	3 years	6	Saint John	Oct. 1-6
Moncton, N.B	Rainbow trout	5-6 years	5	Saint John	Sept. 17-22
Moncton, N.B	Speckled trout	3 years	7	Saint John	Sept. 17-22
Charlottetown, P.E.I.	Speckled trout	No. 3 fingerlings	25	Cardigan	Sept. 11-15
Charlottetown, P.E.I.	Rainbow trout	No. 3 fingerlings	25	Cardigan	Sept. 11-15
Charlottetown, P.E.I.	Atlantic salmon	smolt	15	Cardigan River	Sept. 11-15
Charlottetown, P.E.I.	Speckled trout	yearlings	15	Stevenson's Pond	Sept. 11-15

EGGS, FRY, FINGERLINGS AND OLDER FISH ON HAND, DEC. 29, 1951

Establishment	Species	Eggs	Fry	Fingerlings	1 year	2 years	3 years	4 years	5 years and older	Total by species	Total by hatchery
Antigonish	Brown trout	74,405		23,655	7,137	95 4.386				74,500 8,820,778	8 895 278
Bedford	Atlantic salmon	223,616								223,616	1 336 278
Cobequid	Atlantic salmon Speckled trout.	3,753,680		49.952	7.432	5.350				3,753,680	5.545.741
Grand Lake	Atlantic salmon Sebago salmon	23.835		15,650 9,612	291 1,000	1,497		225	28	15,969	0,010,011
Kejimkujik	Speckled trout Atlantic salmon			49,744 22,919						49,744 22,919	102,103
Lindloff	Speckled trout Rainbow trout	74,554		26,805 1,900	956	121	17			102,453 1,900	125,372
Margaree	Speckled trout Atlantic salmon	783,535			12,192	6,539	594	· · · · · · · · · · · · · ·		802,860 1,857,821	804,760
	Brown trout	98,827 2,847,248		28,754	13,718	4,232	1,293			98,827 2,895,245	4,851,893
Middleton	Brown trout	98,555 850,945						· · · · · · · · · · · · ·		98,555 850,945	949,500
Yarmouth	Speckled trout	1,710,411	• • • • • • • • • • • • • • • • • • •	10,755 12,136	8,234					10,755 1,730,781	1,741,536
Charlo	Speckled trout	1,542,756 312,425	• • • • • • • • • • • • • • • • • • •	6,089	1,486					1,542,756	1,862,756
Florenceville	Landlocked salmon	1,912,300	· · · · · · · · · · · · · ·	28,320						1,940,620	2 265 621
Grand Falls	Atlantic salmon	1,947,475		48,175	1,900	2,239	2,209	2,135		1,947,475	3,205,021
Saint John	Arctic charr	857			258					1,115	7,200,724
	Landlocked salmon	74,562							108	74,562	
Kelly's	Speckled trout	9,290,162		25,233	4,079	4,332				9,323,806	9,400,624
	Speckled trout	1,853,330								1,853,330	2,725,430
		50,340,236		379,674	58,683	28,960	4,409	2,360	769	50,815,091	50,815,091

DISTRIBUTIONS

Key to Abbreviations

Species

- A Atlantic salmon
- B Brown trout
- C Arctic charr
- L Landlocked or sebago salmon
- R Rainbow trout
- 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

Classifications

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

Fingerlings:

No. 1 From two to eight weeks after complete absorption of the yolk sac.

No. 2 From eight to fourteen weeks after complete absorption of the yolk sac.

No. 3 From fourteen to twenty weeks after complete absorption of the yolk sac.

No. 4 From twenty to twenty-six weeks after complete absorption of the yolk sac.

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

NOVA SCOTIA

Antigonish Hatchery

Antigonish County-Afton River-30,000 S1. Beaver Meadow River-55,000 S1. Big Brook-30,000 S1. Black River-40,000 S1. Brierly Brook—20,000 SI. Cameron Lake—South River—600 Sf. Copper Lake—2,600 S3. Delhanty Lake—50,000 S1. Gaspereaux Lake—40,000 S1, 750 Sf. Glenroy River-40,000 S1, 4,000 S5. James River—40,000 Ad, 20,000 A1 Linwood Lake—10,000 S1. MacDonald Lake-25,000 S1, 500 Sf, 325 Sg. MacInnis Lake-15,000 S3. MacMillan Lake-10,000 S1 Meadow Green River-25,000 S1. Middleton Lake-15,000 S1. North River-2,000 S4. Pinevale Brook-10,000 S1. Pinevale Brook—10,000 S1. Pinevale Lake—20,000 S1, 300 Sh, 175 Sk. Polson Brook—35,000 S1. South River—50,000 Ad, 30,000 A1, 6,300 A3, 150,000 S1, 25,000 S2, 20,000 S3, 1,500 S4, 2,500 Sf, 500 Sh. South River Lake—5,000 S5, 3,250 Sf. St. Local Lake—50,000 S5, 3,250 Sf. St. Joseph Lake-30,000 S2. Springfield Brook-10,000 S1. West River—150,000 S1, 45,000 S2, 6,000 S4, 700 Sf, 500 Sh. Wright's River-30,000 Ad. Guysborough County-

Archie Lake-2,000 S4. Beaver Dam Lake-10,000 S2. Big Gaspereaux Lake-5,000 A3, 10,000 S4. Black Lake-20,000 S2. Canter Lake-20,000 S3. Cooee Coffre Lake-30,000 S1, 6.000 S4. Country Harbour River-30,000 A2. Cudahy Lake-25,000 S1. Desbarres Lake-15,000 S2. Dobson Lake—50,000 S1, 4,000 S4. Donahue Lake—90,000 S1, 10,000 S3, 750 Sf. Doyles Lake-15,000 S2. East River St. Mary-80,000 Ad. 105,000 A1, 25,000 A2. Ecum Secum River—40,000 S1. Eight Island Lake—20,000 S1. Fitzgerald Lake—15,000 S1. Giant's Lake—80,000 S1, 20,000 S2, 3,000 S4, 2,000 S5. Gegoggan Lake—10,000 S2. Glencove Lake—15,000 S3. Glencross Lake—2,000 S4. Goldbrook Lake—15,000 S3. Goose Harbour Lake-20,000 S2. Goshen Lake-10,000 S1.

Guysborough River-40,000 S1.

Hazel Hill Lake-15,000 S2. Indian Harbour Lake-25,000 S1, 10,000 S2. Jellows Lake-80,000 S1, 20,000 S3, 750 Sf. ones Lake—10,000 S3. Kennedy Lake—10,000 S1. Long Lake—7,000 S3. MacInnis Lake (Joe's)-22,800 S1. MacPherson Lake—40,000 S2. Mannassetts Lake—40,000 S2. Morrison Lake—25,000 S1, 5,000 S2, 5,000 S3. Narrow Lake—30,000 S1, 2,000 S5. Porter River—25,000 S1. Pringle Lake-25,000 S1. Quirk's Lake-20,000 S3. Round Lake-15,000 S3. Salmon River—40,000 A1, 35,000 S1. Saint Francis or Goose Harbour River— 10,000 A2. Seal Harbour Lake—15,000 S3. Sherbrooke Lake—60,000 S1, 10,000 S2. Shepard Lake—20,000 S3. Spider Lake—15,000 S3. Square Lake-10,000 S4. Succor Lake-5,000 S4. Sullivan Lake—15,000 S1. Taylor Lake—10,000 S1. Three Mile Lake—20,000 S2. Tracadie River—15,000 Ad. Trout Lake—E. R. St. Marys—10,000 S3. Trout Lake—Country Hbr. R.—5,000 S3. Two Mile Lake—25,000 S1, 750 Sf, 500 Sh. Wests Lake—10,000 S3. West River St. Mary—80,000 Ad, 100,000

Pictou County-Barneys River—30,000 A1, 25,000 S1. Barrow Lake—20,000 S3. Bezanson Lake-750 Sf. Brora Lake-30,000 S2. Calder Lake-20,000 S2, 750 Sf. Cameron Lake—2,500 S4. Campbell Lake—15,000 S3 East River-50,000 Ad, 10,000 A2, 60,000 S1, 5,000 S3, 4,000 S4, 5,000 S5. Eden Lake—10,000 S1. French River—25,000 A1. Gairloch Lake—4,000 S4. Little Cariboo River-5,000 S4. MacKinnon Lake—6,000 S4. MacLellan Brook—30,000 S2. MacLean's Lake-2,500 S4. MacPherson Lake—15,000 S3. Norman's Lake—3,000 S4. Six Mile Brook—5,000 S3. Sutherland River-30,000 S2 West Branch Brook-5,000 S3. West Branch Lake-10,000 S3. West River-50,000 S2, 10,000 S3.

A1, 40,000 A2.

Bedford Hatchery

Colchester County— Stewiacke River—23,000 A2

Halifax County— Bear Lake—20,000 S1. Big Salmon River—33,454 A3. Charlotte Lake—20,000 S1. College Lake—20,000 S1. Crooked Lake—20,000 S1. Fox Pond—20,000 S1. Grand Lake—20,000 S1. Halfway Brook—20,000 S1. Ingram River—19,500 A3. Reardons Lake—25,000 S1. Scraggy Lake—20,000 S1. Sloan's Lake—19,486 S2. Little Salmon River—25,000 A2. Nine Mile River—25,000 A2. Hants County— Herbert River—20,000 S1. Piggot Lake—20,000 S1.

Lunenburg County— Clarke Lake—20,000 S1. East River—19,000 A3. Gold River—33,000 A3. Langile Lake—20,000 S1. Middle River—25,000 A2. Mill or Dauphinee Lake—20,000 S1. Pigeon Lake—20,000 S1. Savity Pond—20,000 S1. Spondo Lake—25,000 S1.

Cobequid Hatchery

Albert County— Pollett River—1,800 A2.

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Colchester County-Bass River-25,000 S1, 4,600 S4. Bass River of Five Islands-16,000 S1. Beaver Brook at Five Islands-5,000 S1. Big Lake-North River-300 Sf. Chain Lake Brook—4,000 S2. Chiganois River—25,000 Sd. Debert River-25,000 S1. East River at Five Islands--7,500 S1. Economy Lake—1,800 S4. Economy River—25,000 A2. Folly Lake-500 Sh. French River—9,000 S2. Gamble Lake—9,000 S2. Irving Lake-500 Sf. Newton Lake—15,000 S1. North River—20,000 A1. Portapique River-13,000 A1. Rocky Lake-6,500 S2. Salmon River—63,000 A2. Shatter Lake—500 Sf. Silica Lake-10.000 S1. Simpson Lake—750 Sf. Waughs River—9,000 S2, 500 Sf. West Lake-5,000 S1.

Cumberland County— Amherst Reservoir (Nappan River)—9,500 S1. Apple River—27,000 A1. Atkinson Brook—River Hebert—7,000 S2. Atkinson Pond—Polly River—3,500 S2. Barbour Lake—500 Sf. Brownell Brook—8,500 Sd. Dewar Lake—750 Sh. Fordyce Brook (Maccan River)—8,500 S1. Fountain Lake—12,500 S1, 500 Sf. Fox River—15,000 Sd. Gilbert Lake—10,000 S1.

Harrison Lake-41,426 B5, 500 Sh. Isaac Lake-12,500 Sd, 750 Sf. Lawrence Brook (Maccan River)-10,000 Sl. Little Lake-6,000 Sd. Maccan River-22,000 A1, 42,500 A2, 30,000 Sd, 16,500 S1. Mountain Brook—5,000 S1. McAloney Lake—5,000 Sd, 500 Sf. McLellan's Brook-10,000 S2 Newfound Lake-12,500 Sd, 750 Sf. Otter Lake-2,500 S2. Parrsboro Aboiteau-500 Sf. Partsono Aboltzad-500 Sl. Pugwash River-10,000 Sd, 1,800 S4. Ramshead Lake-7,000 S2, 500 Sf. River Hebert, West Branch-20,000 S1. River Philip-49,000 A1, 45,000 A2, 200 Sh. River Philip-East Branch-23,000 A1, 22,300 A2, 10,000 S1, 235 Sh. River Philip-West Branch-15,000 Sd. Shinimicas River—12,000 A2, 10,000 Sd. South Brook (Maccan River)—27,000 S1. Stewarts Brook-15,000 S1. Sutherland Lake—15,000 Sd, 10,000 S1, 8,000 S2, 4,600 S4, 1,000 Sf, 500 sh. Tillies Creek—10,000 Sd, 2,300 S4. Two Rivers—6,000 S2. Wallace River-26,000 A1, 25,000 Sd. 52,000 S1, 4,600 S4, 300 Sh. Wallace River-West Branch-15,000 S1, 4,600 S4. Webb Lake (Pugwash River)-4,000 S1, 250 Sh. Welton Lake-11,500 S1. Westmorland County-Calhouns Brook-7,500 S1. Carters Brook-3,800 S1. Bulmer Pond (Private)-4,000 S2. Gaspereau River-14,000 A1. Jenks Brook—7,500 Sd. North Brook—5,000 Sd. Robinson Brook-10,000 Sd. Walter Spence Brook-8,500 S1.

Coldbrook Ponds

Annapolis County— Lower Sixty Lake—9,000 S4. Rumsey (Ramsey) Lake—15,000 R4. Zwicker Lake—34,000 R4, 16,000 R5.

Hants County— Valley Lake—5,000 S4. Zwicker Lake—6,000 S4, 6,000 S5.

Kings County-

Annapolis River—35,000 S4, 3,295 S5. Burke Lake—5,000 S4. Canard River—25,000 S4. Crooked Lake—5,000 S5. Farm Brook—Cornwallis River—1,500 S5. Gaspereau River—10,000 S5. Habitant River—20,000 S4, 5,000 S5. Hamilton Lake—9,000 S5.

Halifax County-Beaver River-Rawdon River-200 Af, 200 Lf. Bell Lake-2,000 Sf. Black Point Lake-2,000 Sf. Caribou Lake-Musquodoboit River-2,000 Sf. Chezzetcook River—11,000 A3. Cole Harbour Lake—1,000 Sf. Cook Lake-Mill Brook (Ship Harbour)-1,000 Sf. Cranberry Lake-Loon Lake-1,000 Sf. Drain Lake-1,000 Sf. Frog Lake—500 Sf. Gay River—15,000 S2. Grand Lake (Musquodoboit River)-1,000 Sf. Grand Lake (Shubenacadie River)—3,079 Ag, 13,347 Lg, 1,045 Lh. Granite Lake—1,400 Sf. Halfmile Lake—1,000 Sf. Hatchet Lake—2,000 Sf. Keough Lake-Third Lake-1,000 Sf. Kieley Lake—1,000 Sf. Lake Eagle—2,000 Sf. Lake William-1,027 Sf. Lewis Lake—1,000 Sf. Long Lake—2,000 Sf. Lindsay Lake-Musquodoboit River-2,000 Sf. Milne Lake-15,000 S2. Mimie Lake-10,000 S2.

Lake Paul—3,000 S4, 7,000 S5. Lake Paul Brook—4,500 R5. McGee Lake—10,000 S4. Murphy Lake—4,000 S4. Silver Lake—3,000 S4. Sunken Lake—15,000 R5. Upper Chain Lake—9,000 S5.

Lunenburg County-

Butler Lake—12,000 R4. Dauphinee Mill Lake—7,500 S4, 7,500 S5. Forties Brook—4,669 R5. Franey Brook—3,000 R5. Franey Lake—19,000 R5. Gully Brook—3,500 R5. Harris Lake—8,000 S5. How Lake—36,000 R5. Sherbrooke River—3,500 R5.

Grand Lake Ponds

Morris Lake-1,000 Sf. Murphy or Scott Lake-Blind Bay-2,000 Sf. Musquodoboit River-15,000 A3. Old Harbour Road Lake-600 Sf. Penhorn Lake-1,000 Sf. Power Lake-1,000 Sf. Ragged Lake—2,000 Sf. Rawdon River—15,000 A3, 596 Af, 290 Lf. Russell Lake-2,000 Sf. Sackville River-15,000 A3. Salmon River (Port Dufferin)-10,000 A3. Sand Lake-Marsh Lake-2,000 Sf. Sheehan Lake-1,000 Sf. Sheldrake Lake-1,000 Sf. Ship Harbour River-10,000 A3. Spider Lake-2,000 Sf. Stillwater Lake-2,000 Sf. Tangier River-10,000 A3. Third Lake-2,000 Sf. Tully Lake—15,000 S2. Welsh Lake—1,000 S2. West River Sheet Harbour-10,000 A3. Winder Lake-Little Salmon River-11,460 S2. Williams Lake-2,000 Sf.

Hants County— Grants Brook—15,000 S2. Withrow Lake—1,000 Sf.

Lunenburg County— Sherbrooke River—5,000 Af.

Kejimkujik Ponds

LaHave River and Tributaries—135,000 A3, 7,000 Af. Dexter Brook—2,000 A2. Indian or Haley Lake—300 Sf. Pernette Lake—500 Sf. Rocky or West Lake—200 Sf. Wiles Lake—200 Sf. Medway River and Tributaries—205,200 A3, 13,470 Af, 23,000 S2, 2073 Sf. Christopher Lake—19,000 S2, 1,000 Sf. Collins Lake—500 Sf. Crooked Lake—500 Sf. Dolliver Lake (Harmony Mills)—500 Sf. Harmony Lake—10,000 S2, 1,000 Sf.

Kejimkujik Ponds-Conc.

Medway River and Tributaries—Conc. Island Lake—500 Sf. Kempt Lake—2,000 S2. Long Lake—500 Sf. Malaga or Maligeak Lake—15,000 S2, 3,000 Sf. Martin Lake—1,000 S2. McGowan Lake—10,000 S2, 1,000 Sf. Medway Lake—1,000 Sf. Mount Merit Brook—6,000 S2. Pleasant River—16,300 S2, 1,000 Sf. Pretty Mary Lake—2,000 S2, 500 Sf. Spectacle Lake—200 Sf. Tupper Lake—6,000 S2, 1,000 Sf. Whiteburn Brook—5,000 S2.

Mersey River—8,000 S2, 1,000 Sf. Boot Lake—1,000 Sf. Fishers Lake—9,800 S2, 2,000 Sf. Grafton Brook—3 Sg, 17 Sh. Grafton Lake—17,250 S2, 800 Sf, 10 Sh. Kejimkujik Lake—17,600 S2, 2,000 Sf. Little River—8,000 S2, 1,000 Sf. Liverpool Head Lake—1,000 Sf. Minard Brook—4,000 S2, 500 Sf. Mount Tom Brook—3,000 S2, 300 Sf. Peskowesk Brook—1,000 Sf. Rodger Brook—2,000 S2, 500 Sf. Sweeney Brook—4,000 S2. Turtle Lake—1,000 Sf. Upper Mersey River—11,800 S2, 500 Sf. Westward or West River—8,000 S2, 1,000 Sf

Petite River— Branch Lake—500 Sf. Minamkeak Lake—3,000 Sf. Newcombe Lake—200 Sf. Oakhill Lake—500 Sf. Wallace Lake—500 Sf.

Sherbrooke River—11,000 A2. Ramsey Lake—2,000 A2.

Lindloff Hatchery

Cape Breton County-Blackett Lake-20,000 S2, 10,000 S3, 8,000 S4, 1,000 Sf. Canoe Lake-15,000 S3. Catalogne Lake-30,000 S2, 15,000 S4, 1,200 Sf. Chain or String Lakes-15,000 S3. Cochran Lake-15,000 S3. Cotterell Pond-500 S1. Dutch Brook Lake-15,000 S4. Gabarus Lake-30,000 S4, 9,000 S5. Gaspereaux River—40,000 A2, 55,000 A3. Gillies Lake East Bay—15,000 S2, 10,000 S4. Grand Lake, near Louisburg—20,000 S3, 15,000 S4, 1,200 Sf. Hardy Lake—15,000 S4. Kelvin Lake—15,000 S4. Kilkenny Lake—15,000 S4. Lever Lake—43,180 R 3. Loon Lake—Mira Bay—18,000 S3. McAdam Lake—15,000 S3. McCormick Lake-20,000 S3. McInnes Lake-15,000 S4. Meadow Brook-Sydney River-80,000 S2. MacDonald Lake-20,000 S3. Pottle Lake—15,000 S4. Salmon River-80,000 A2, 64,600 A3. Stewart Lake-15,000 S2. Inverness County-Brawley Lake—15,000 S4. Horton Lake—15,000 S4. McIntyre Lakes (Grantville)-20,000 S3. North West Arm Brook-20,000 S3. Pleasant Hill Lake—15,000 S3. Richmond County-

Barren Hill Lake—20,000 S3. Black River—90,000 S2. Breen Lake—25,000 S2, 9,000 S5. Buchanan Lake—15,000 S2. Cameron Lake—10,000 S4.

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Doyle Lake—10,000 S4, 2,750 S5. Falls Bay Brook—10,000 S2. Ferguson Brook—5,000 S3. Ferguson Lake—20,000 S3, 10,000 S4, 9,000 S5. Grand River—150,000 A1, 65,000 A3. Richmond County— Indian Lake—20,000 S2. Kytes Lake—15,000 S3.

Lynches River-891 Sh. Lindloff or Hatchery Lake-35,000 S3, 20,000 S4, 1,296 Sg. Loch Lomond Lake—40,000 S2, 10,000 S3, 8,000 S4, 1,200 Sf. MacLeod Brook-6,000 S3. Mary Ann's Lake-20,000 S2. MacIsaac Lake-20,000 S3. MacKenzie Lake-20,000 S2. MacNab Lake-15,000 S3. Mill Lake-East River Tillard—20,000 S3. River Tillard, East—30,000 S2, 10,000 S3. River Tillard, West—40,000 S2, 10,000 S3. River Tom-30,000 S2 Rockdale Lake-15,000 S3 Saint Esprit Lake—7,560 S3. Sampson Lake—15,000 S3. Scott Brook—30,000 S2. Straughton Brook-6,000 S3. Thompson Lake-20,000 S2. Madame Island-Babine Lake—10,000 S4. Chain Lake—15,000 S2. D'Escousse Lake-2,000 S5. D Lecouse Lake—2,000 80. Forest Lake—15,000 82. Grand Lake—30,000 82, 15,000 83, 1,200 Sf. Latimore Lake—15,000 84. Monette Lake—10,000 83. Noels Lake-15,000 S2. Potties Lake-20,000 S2, 10,000 S3. Shaw Lake-25,000 S2, 10,000 S3, 9,000 S5.

Margaree Hatchery

Cape Breton County-Dokers Lake-8 Sh. Forester Lake-20,000 S5, 1,000 Sf. Jackson or Johnson Lake-20,000 S4, 800 Sf. Pottles Lake-40,000 S1. Scotch Lake-20,000 S5. Sydney River-6 Sh. Inverness County-Big Brook-River Denys-50,000 S1. Brigend Brook or Skye Brook—20,000 S5. Cheticamp River—25,000 A1. Galant River-40,000 S1, 300 Sf. Glen Brook-River Denys-20,000 S5. Glenora Brook-20,000 S1. Grand Etang Brook-20,000 S1. Lac Du Rosseau—40,000 S1. Margaree River, Northeast and Tributaries— Big Brook—30,000 S1. Egypt Brook—30,000 S1. Forest Glen Brook—20,000 S1, 300 Sf. Ingram (Ingraham) Brook-20,000 S5, 500 Sf, 300 Sg. Lake O'Law-35,000 S1, 10,000 S5, 1,000 Sf, 100 Sg. Lake O'Law Brook-30,000 S5. Lake O'Law, Upper—35,000 S1, 10,000 S5, 1,000 Sf, 100 Sg. Levis Brook—10,000 S4, 300 Sf, 300 Sg. Mancini Pond-200 S5. McLeod Brook—15,000 S1, 200 Sf. Murray Brook—5,000 S5. Salt Brook—300 Sf. Watson Brook-10,000 S4, 300 Sf. Margaree River, Southwest-Captain Allans Brook-30,000 S1, 500 Sf. McDonnell Brook—15,000 S2. McLellan Ponds—300 Sf. McColl Brook-15,000 S5. McKenzie River-Pleasant Bay-25,000 A1.

McPherson Brook-River Denys-15,000 S5. Mull River-25,000 A1. Murphy Lake-1,500 S2. Pembroke Lake-15,000 A2 Plaster Ponds—320 Sh, 560 Sk. Plateau Brook—40,000 S1. Presqu'Ile Lake—1,000 Sf. Red River-Pleasant Bay-20,000 S1. Rough Brook-River Inhabitants-20,000 S5. Skye Brook-40,000 S1. Strathlorne Brook-20,000 S1. Victoria County-Aspy River, North-20,000 A2. Aspy River, Middle-20,000 A2. Baddeck River-25,000 A2. Farquhar Angus or McDonald Brook-20,000 S4, 600 Sf. Gillis Brook-40,000 S1. Baddeck Reservoir-600 Sf. Barasois River-50,000 S1, 800 Sf. Dalem Lake (Boularderie Island)-25,000 S2. Garry Lake-3,000 S4. Giffin Lake-5,000 S5. MacLeod Pond-100 S2. Matheson Lake-5,000 S4. McPhie Brook-5,000 S2. Middle River-25,000 A1. Beaver Brook-30,000 S1. Black Brook-30,000 S1, 390 Sf. Cold Brook-20,000 S4, 600 Sf. Indian Brook-40,000 S1, 400 Sf. Morrison Lake-5,000 S5. North River-25,000 A1. Church Brook-15,000 S1. Tarbot Lake-5,000 S4. Washabuck River-50,000 S1.

Mersey Ponds

Queens County-Beaver Dam Brook-5,000 S2. Broad River-12,210 S2. Christopher Lakes—15,000 S2. Deans Brook—5,000 S2. Deep Brook Headpond—40,000 S2. Five Rivers—20,000 S2. Halfway Brook-Beach Meadow Lake-10,000 S2. Herring Cove Lake-15,000 S3. Indian Harbour Brook-8,500 S3. Labelle Brook-10,000 S3 Little Robertson Lake-12,500 S2. Malaga Lake—30,000 S2. Medway River—12,500 S2. Salters Brook—10,000 S3. Two Inch Brook—10,000 S3. Wentworth Brook—10,000 S2. Menchan Lake-3,500 S3. Mention Lake-3,500 S3.

Mersey River-17,205 S3. Below No. 3 Development-10,000 S3. Fifteen Mile Brook-15,000 S2. Kempton Brook-10,000 S3. Lower Great Brook—15,000 S3. Ten Mile Lake—20,000 S3. Upper Great Brook--15,000 S3. Path Lake-15,000 S2. Round Lake-7,500 S3. Seven Mile Lake-10,000 S3. Wagoners Lake—12,500 S2-Wartons Pond—7,500 S3. Wildcat River-15,000 S2. Shelburne County-Birchtown Brook-22,500 S2. Black Brook-(Shelburne Harbour)-12,000 S2. Johnston Lake-12,500 S2. Jordan Bay-Ogdens Brook No. 1-12,000 S2. Ogdens Brook No. 2-12,000 S2.

Middleton-Nictaux Hatchery

Annabolis County-Annapolis River—15,500 A4. Bloody Brook—5,520 S1. Boot Lake-27,600 S1. Connel Lake-16,560 S1. Fed Lake-2,440 S5. Fishers Lake—11,700 S2. Grand Lake—12,675 S2. Lamb Lake—16,560 S1. Lake LaRose-22,080 S1. Lake Pleasant-4,270 S5. Lequille Brook-11,040 S1. Little River—9,560 Sl. Lynch Lake—22,080 S1. McGill Lake—8,540 S5. Mickey Hill Brook-13,800 S1. Morton Brook-22,080 S1, 2,440 S5. Nictaux River-35,500 A4. Parker Brook—3,660 S5. Private Brook—5,520 S1. Private Lake—11,040 S1. Quilty Brook—13,800 S1. Round Hill River-15,500 S1. Sand Lake-8,540 S5. Sandy Bottom Lake-4,880 S5. Shannon Lake—19,320 S1. Slocomb Brook—16,560 S1, 2,440 S5. Spectacle Lake-27,600 S1. Stony Lake—1,500 S2. Sundown Lake—3,050 S5. Ten Mile Brook—24,840 S1. Thirty Lake—8,540 S5. Trout Brook—16,560 S1. Trout Lake-16,560 S1, 24,375 S2. Upper Mink Lake—3,050 S5. Walker Brook—16,560 S1, 3,660 S5. Waterloo Lake—4,270 S5. Wiswell or Wiswal Brook-13,800 S1, 2,440 S5.

Digby County— Haines Lake—6,825 S2. Mallett Lake—7,800 S2. Mistake Brook—3,900 S2. Mistake Lake—5,850 S2.

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Lunenburg County— Bezanson Lake—1,760 S5. Bezanson cr Corkum Lake—2,440 S5.

Digby County— Belliveau River—5,400 S2. Briar Lake Brook—8,000 S2. Payson Brook—1,200 S4. Seven Pence Ha'Penny River (Wentworth Brook)—1,800 S4. Grosses Coques River—13,000 S2. Harris Lake—300 Sf. Klondyke River-Wentworth Brook—2,000 S4. Long Island Brook—9,000 S4. Margo River—5,400 S2. Meteghan Lake—2,000 S4. Meteghan River—9,000 S1, 26,200 S2, 10,000 S4. At Meteghan (Victor's) Mill—8,200 S2.

Blystner Lake—5,030 S5. Borgel Lake—220 S5. Bridgewater Park Pond-610 S5. Canoe Lake (North)-2,200 S5. Cards Lake—5,900 S5. Church Lake—4,270 S5. Collander or Newton Lake-6,100 S5. Covey Lake-2,450 S5. Cranberry Lake-4,000 S5. Crouse Lake-3,000 S5. Crouse or Beck Lake-4,270 S5. Dead Brook-1,220 S5. Drain Lake-150 S5. First Grand Lake-4,000 S5. Gold River-20,000 A4. Harris Lake—3,880 S5. Hyson Lake—2,500 S5. Indian Lake-1,540 S5. Isnor Lake-1,100 S5. Lake William—4,270 S5. Lewis Lake—1,540 S5. Little Whiteford Lake--5,000 S5. Long Lake—1,600 S5. Mill Lake—6,100 S5. Millett Lake-1,760 S5. Mushamush Lake-2,450 S5. New Germany Lake-1,540 S5. Nine Mile Lake-2,288 S5. Oakland Lake-1,960 S5. Peter Veinot Stillwater—3,660 S5. Second Mill Cove Lake—1,600 S5. Seffernville Lake-500 S5. Pigeon or Hoop-Pole Lake-1,320 S5. Sherbrooke Lake-4,880 S5. Sherbrooke River-3,660 S5. Spectacle Lake-4,000 S5. Sucker Lake-1,100 S5. Trails End Ranch Ponds-10,000 Sd, 5,000 S2. Wallaback Lake-1,540 S5. Wentzells Lake-1,540 S5. Whetstone Lake-4,270 S5. Hants County-Bills Lake-880 S5.

Panuke Lake—2,464 S5. Shay Lake—660 S5. Zwicker Lake—2,360 S5.

Yarmouth Hatchery

Bear Lake—600 S4. Blackadar Brook—18,000 S2. Cabin Brook—5,400 S2. Long Lake—1,200 S4. Stony Brook—5,400 S2. Thibeault Brook—18,000 S2. Mallette Lake—5,000 S4. Mistake or Porter Lake (Sissiboo River)— 5,000 S4. Salmon River—50,000 A1, 18,057 A4. Felix Mill Brook—16,000 S1. Sissiboo River— Amirault Lake—3,000 S4. Provost Lake—1,200 S4. Wallace River—3,000 S4. Wrights Lake—3,000 S4.

Yarmouth Hatchery-Conc.

Shelburne County-Barrington River—11,000 S2, 4,500 S4. Cleamons Pond-Goose Creek—2,400 S4. Clyde River-50,000 A1, 5,000 A4, 14,000 S2. Boyds Brook—5,000 S2. Dirty Creek—5,000 A4, 18,000 S2. Hamilton Creek—5,000 A4. Hemlock Creek—5,000 A4, 18,000 S2. Downey Brook—5,000 S2, 1,500 S4. Fresh Brook—2,000 S2, 600 S4. Jess Crowells Pond-2,000 S1. Roseway River-Beaver Creek—19,400 S2, 10,000 S4. Logging Creek—23,400 S2, 10,000 S4. Shag Harbour Brook-6,000 S2. Yarmouth County-Annis River System-113,225 B1, 30,000 B5. Carleton River-Bullerwell Brook—8,000 S2. Hicks Brook-3,000 S2. Nickersons Run—6,000 S2. Robichaud Falls—8,000 S2. Ryerson Brook-6,000 S2. Sweeneys Run-6,000 S2.

Clearwater Lake-250 Sf. Chegoggin Lake-10,000 S3. Chegoggin River-10,000 S3. Coggins Lake-15,000 S2. Darlings Lake—14,000 S2. French Lake-20,000 S1. Long Lake—250 Sf. Popes Lake—15,625 S1. Robbins Lake-10,000 S3. Snarl Lake Brook-5,000 B5. Trout Brook-6,427 S1. Tusket River—50,000 A1. Big Meadow Brook—22,500 S2. Braddies Meadow Brook-6,000 S3. Canoe Lake-3,000 S4. Coldstream River-3,000 S4. Ebeneezer Brook-3.000 S4. George Meadow Brook-8,000 S3. Greys Brook-6,000 S2. Kegshook Lake-400 Sf. Little Meadow Brook-16,500 S2. Putty Road Brook-2,000 S3. Rushy Lake-400 Sf. Whistler Lake-4,000 S3, 40 Sf.

NEW BRUNSWICK Charlo Hatchery

Antinori Lake—2,000 S4, 2857 Sf. Black Brook-Christopher Brook-1,000 S4. Charlo River, North Branch-28,250 A3, 3,000 S3. Charlo River, South Branch-3,000 S4.

Christopher Brook—3,000 S4. Eel River—3,000 S4.

Sd.

Eight Mile Lake-1,000 S4. Five Fingers Brook-2,000 S3.

- Henry's Lake—2,000 S3. Jacquet River—33,840 A1. Louison Creek—2,000 S2.

Lily Lake-1,000 S3. Middle River-3,000 S2. Nash Creek—1,000 S2. Nipisiguit River-67,680 A1, 123,945 A2. Restigouche River-95,328 A1, 458,568 A2, 140,500 A3. Kedgwick River-22,488 A2, 148,000 A3. Little Main River-44,976 A2, 64,450 A3. Matapedia River-95,328 A1, 180,000 A2. Upsalquitch River-81,504 A1, 154,800 A2. Walker Brook-2,000 S4.

Florenceville Hatchery

Carleton County-10,000 S4. Acker Brook-Saint John River-20,000 Sd. Becaguimec River-60,000 Ad, 40,000 A1. Bedell Brook—10,000 S1. Bennett Lake—200 Sg. Birmingham Brook-Becaguimec River—10,000 S1, 10,000 S5. Bradley Brook—20,000 Sd. Bull Creek-Eel River-10,000 S1. 10,000 S1. Bulls Creek-Saint John River—200 Sf. Burke Brook-Shiktahawk River-10,000 S1. S1. Burnt Land Brook-Becaguimec River-20,000 Burpee Brook-Presquille River—200 Sf. Campbell Brook—10,000 S1. Coldstream-Becaguimec River-20,000 Sd, 600 Sf. 10,000 S1, 10,000 S5, 500 Sf. Colton Brook-Shiktahawk River-10,000 S1. Colwell Brook-10,000 S1. Cross Creek-Becaguimec River-10,000 S4. 10,000 S1.

Day Brook-Becaguimec River-20,000 Sd, Debec Brook-Sherwood Lake-20,000 Sd, 15,000 S1; 500 Sf. Dingee Brook-20,000 Sd, 200 Sf. Gin Brook-20,000 Sd. Guisiguit River-10,000 S1, 400 Sf. Hagerman Brook-Meduxnekeag River-Hardwood Brook-Saint John River-10,000 Harold Brook-200 Sf. Hatfield Brook-Saint John River-10,000 S1. Hayden Brook—10,000 S1, 10,190 S4. Johnville Beaver Pond Shiktahawk River— Knoxford Lake-2,000 Sf. Lanes Creek-Saint John River-10,000 S1. Lily Brook-Saint John River-20,000 Sd,

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Florenceville Hatchery-Conc.

Carleton County-Conc. Little Guisiguit River—10,000 S1. Little Presquille River—20,000 Sd, 20,000 S1. McIsaac Brook—6,000 S1. McLeary Brook—20,000 Sd. Miramichi River, Southwest and tribu-taries—160,000 Ad, 115,000 A1, 34,972 Af. Monquart River-60,000 Ad, 35,000 A1, 10,000 A3. Presquille River-50,000 Ad, 60,000 A1. Pokemoonshine Brook-500 Sf. River des Chutes-10,000 S1, 1,000 Sf. Rosedale Brook-10,000 S1. Saint John River-80,000 A1, 215,000 S1, 1,297 Sk. Shiktahawk River-60,000 Ad, 35,000 A1, 10,000 A3. Stickney Brook-20,000 Sd. York County-Big Cranberry Lake-15,000 L3, 5,000 Lf, 800 Sf. Bolster Brook—10,000 S1. Cedar Brook—10,000 S1.

Clinch Brook-Little Magaguadavic Lake-18,000 L2, 8,000 Lf.

Victoria County-Saint John River-Andover-35,000 A2. Aroostock Bar-85,000 A2. Aroostock River-35,000 A2. At Morell-35,000 A1. Costigan Point-35,000 A1. Hatchery Brook, above falls-200 Sf. Hatchery Brook, mouth-33,086 Sc. Limestone Ferry—75,000 A1, 30,000 A2. Little River of Salmon River—10,000 S2. Little River, Headwaters-500 Sf. Muniac River, mouth—35,000 A1. North View Pond—10,000 S1. Perkin Brook—30,000 Sd, 10,000 S2. Perth, lower—35,000 S1, 30,000 A2. Rapide de Femme-2,178 S2. Rocky Brook-10,000 S2. Salmon River-At mouth-75,000 A1. Aubin Crossing-50,000 A1, 50,000 A2.

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Haley Brook Ponds

Victoria County-Tobique River-35,000 A2, 35,000 A3,33,270 A4. Beaver Brook-1,500 S4. Burnt Land Brook-6,000 S4. Everett Brook—1,500 S4. Haley Brook—3,000 S4. Horse Island Brook-1,500 S4. Hutchinson Brook-1,500 S4. Little Tobique River-35,000 A2, 25,000 A3, 20,000 A4. Mamozekel River-35,000 A2, 35,000 A3, 20,000 A4.

Cross Creek-Nashwaak River-3,000 S4. Davidson Lake-300 Sf. Dead Creek-Eel River-20,000 Sd, 500 Sf. Dunbar Brook—Nashwaak River—20,000 Sd. Estey Brook—20,000 Sd, 10,000 Sl. First Eel River—3,000 S3, 600 Sf. George Lake—500 Sf, 750 Sg. Green Hill Lake-Keswick River—400 Sf. Hazen Brook-Rushagonish River-1,000 Sf. Keswick River-60,000 Ad, 10,000 A2. Limekiln Brook-Nashwaak River-3,000 S4. McBanes Brook-Nashwaak River-20,000 Sd. McLellan Brook-Eel River-20,000 Sd, 3,000 S3. Mactaquac River-60,000 Ad, 40,000 A2. Manzer Mill Stream-20,000 Sd. Nackawic River—100,000 A1. Nashwaak River—100,000 Ad, 45,000 A1, 5,000 Af. Nashwaakis River-20,000 Sd. Penniac Brook-Nashwaak River-500 Sf. Pokiok River—900 Sf. Richardson Brook—10,000 S1. Shogomoc River—900 Sf. Skiff Lake—10,000 L3, 5,000 Lf. Tay River-20,000 Sd, 10,000 S1.

Grand Falls Hatchery

Covered Bridge-75,000 A1. Danish Mill-75,000 A1, 80,000 A2. Ortonville Ferry-75,000 A1. Otter Slide Brook-9,000 S2. St. John River, at hatchery-4,975 S2. Sutherland Brook-15,000 S2. Therriault Mill-75,000 A1. Trout Brook-20,000 S2.

Madawaska County-Baker Lake-600 Sf. Caron Lake-600 Sf. Green River-600 Sf. Iroquois River-575 Sf. Ledges Pond-225 Sf. Spring Valley Pond-40,000 Sd. St. John Lake—50,000 Sd. Thompson Lake-400 Sf. Unique Lake-600 Sf.

McInnis Brook-500 S4.

Orton Lake-1,000 S2. Riley Brook-1,500 S4. Sadler Brook-500 S4. Sandy Blue Brook-1,500 S4. Serpentine River-35,000 A2, 25,000 A3, 20,000 A4. Sisson Brook-4,500 S4. Trafton Brook-1,500 S4. Two Brooks-6,000 S4. Wolverton Brook-5,000 S4.

Miramichi Hatchery

Gloucester County-Little Tracadie River-20,000 S2, 4,200 S3. Pokemouche River-20,000 S2, 8,400 S3.

Kent County-

Grand Aldouane River-15,000 S1, 20,000 S3.

- Northumberland County-
 - Barnaby River-120,000 A1. Bartibog River-14,400 Sd, 16,000 S1, 17,000 S3.
 - Bay Du Vin River-14,400 Sd, 16,000 S1. Black River-14,400 Sd, 10,800 S1, 10,000 S2,
 - 4,200 S3.
 - Buckley's Pond-9,600 S1.
 - Burnt Church River-15,000 S1, 20,000 S2.
 - Cains River-240,000 A1, 20,000 A3.

 - Dungarvon River—180,000 A1, 20,000 A3. Eskedellic River—14,400 Sd, 16,000 S1, 17,000 S3.
- Green Brook-16,000 S1. Hortons Creek-15.000 S2. Miramichi River, northwest and tributaries -810,000 A1, 30,000 A2, 96,562 A3. Miramichi River, southwest and tributaries -120,000 A1, 180,000 A2. Black Brook-20,000 S3. Mill Brook-14,400 Sd. Moore Brook-14,400 Sd. Napan River-18,000 Sd, 7,200 S1. Miramichi River, Little Southwest-840,000 A1, 40,000 A3. Mill Stream-60,000 A1, 40,000 A3. Renous River—180,000 A1, 8,597 A3. Sevogle River—210,000 A2. Stewarts Brook-719 S3. Sutherlands Brook-15,000 S3.
- York County-Taxes River-80,000 A1, 60,000 A2.

Saint John Hatchery

Albert County-Crooked Creek-26,224 R2. McFadden Lake-5,000 S1.

Charlotte County-Back Meadow Brook-4,000 S2. Bartlett Lake—14,000 S3. Bog Brook-2,000 S2. Bush Brook-2,500 S3. Chamcook Lake-80,000 L1, 114,645 L2. Clarence Stream-Digdeguash Lake-4,000 S2. Clear Brook-4,000 S2. Cox Brook-5,000 S2 Crecy Lake—15,500 S4, 1,350 Sf. David Watt Lake (Grand Manan Island)— 15,000 S2. Denny Stream—2,500 S3. Digdeguash Lake—5,000 S4. Digdeguash River-48,000 B1, 42,682 B3, 5.000 S4. Digdeguash River, North West Branch-60,000 S1, 6,000 S3. Disappointment or Mistake Lake-20,000 S1. Gallop Lake-3,000 S3 Gallop Stream-3,000 S2, 3,000 S3. Gibson Lake-15,400 S4, 1.540 Sf. Goat Brook-Canoose River-3,000 S2. Goat Brook, Big-18,000 S3. Goat Brook, Little-6,000 S3. Jones Brook-20,000 S1. Kirk Brook—2,500 S3. Little Ridge Brook-2,500 S3. Little Long Pond (Grand Manan Island)-5,000 Sd. Meadow Brook-2,000 S2. McDougall Lake-4,000 S2, 10,000 S4. McLeans Brook-2,000 S2. Milligan Brook—2,000 S2. Mohannas Creek—6,000 S2, 2,500 S3. New River—25,000 S2. Piskahagan River-18,000 S1.

Pocologan River-50,000 A1. Red Rock Brook-3,000 S2. Red Rock Lake-4,000 S2, 10,000 S4. Sandy Brook-3,000 S2, 2,500 S3. Snipe Brook-20,000 S1, 4,500 S3. Sparks Lake-9,000 S2, 10,000 S4. Spears Brook-Trout Lake-20,000 S2. Stein Brook-2,000 S2. Stuart Brook-20,000 S1, 2,500 S3. Trout Brook, Upper-4,000 S2. Twin Lakes-18,000 S3. Watty Brook-10,000 S2. Waweig River-30,000 S1, 10,000 S3. Waweig River, East-7,500 S2. Waweig River, West-7,500 S2. Widgeon Lake-1,000 S4. Wilson Lake (Grand Manan Island)-15,000 S2. Kent County-Kouchibouguac River-17,500 S1, 17,500 S4. Kouchibouguacis River-17,500 S4. Mahalawodiac River or McKee Mill Stream -74,000 S1, 10,000 S4. St. Nicholas River-30,000 S1, 10,000 S4. Kings County-

Anagance River-4,500 S2.

Crawford Lake-15,000 S2

Hammond River-40,000 S2. Kennebecasis River—50,000 A1. Hamilton Lake—7,500 S2.

Headwaters-17,500 S1.

10,000 S3.

McFarlane Lake-450 Sf.

Mitchell Brook-25,000 A1.

Moosehorn Creek-25,000 A1.

McLeod Brook-17,500 S1, 7,500 S2,

Saint John Hatchery-Conc.

Kings County-Conc. Moss Glen Lake-5,000 S2. Parlee Brook-21,000 S1. Sally Brook-17,500 S1. Sanction Brook-10,000 S2. Smith Creek—12,000 S2, 50,000 S3. South Branch—17,500 S1. Trout Creek—50,000 A1, 17,500 S1, 50,000 S3. Ward Creek-17,500 S1. Wetmore Lake-5,000 S2. Wind Gap Brook-14,000 S1. Mechanic Lake-Pollett River-9,000 S2. Price Brook-800 S4. Queens County-Adamson Pond-15,000 S4. Bogel Lake-1,200 S4. Canaan River—42,500 S1, 4,500 S2, 2,000 S4. Castaway Brook—4,000 S2. Cumberland Bay Brook-8,000 S2. Dan Wasson Brook-11,000 S1. Forks Stream-Canaan River-11,000 S1, 8,000 S2, 11,500 S4. Forks Stream, Big-11,000 S1, 4.000 S2, 13,000 S4. Gaspereaux River-16,000 S2. Grey Brook-2,000 S2, 12,000 S4. John Yeoman Brook—11,000 S1. Morgan Lake—450 Sf. Newcastle Creek-11,000 S1, 12,000 S4. North Forks-58,000 S1. Salmon Creek-500 S4. Salmon River-150,000 A1. Salmon River, Little-12,000 S4. Saint John County-Alder Brook-5,000 S2. Alward Lake-10,000 S1. Ashburn Lake-50,000 S1. Beaver Lake—10,000 S1. Big Salmon River—100,000 A1, 20,509 A2 20,000 R1. Black River-20,000 S1. Black River, East—15,000 S1. Blindman Lake—2,000 S3, 3,000 S5. Boaz Lake-2,500 S1. Brandy Brook-5,000 S2. Cherry Lake-5,000 S1. Chisholm Lake-1,000 S2. Crow Brook-20,000 R1. Dead Brook-Loch Lomond-15,000 S1. Dolan Lake—450 Sf. Donnelly Lake-1,550 S5. Elderly Brook-Little River-10,000 S1. Falls Brook-10,000 R1. Four Mile Lake—4,000 S5. Germaine Brook—39,000 S1. Graham Lake-10,000 S2. Grassy Lake-Black River-10,000 S2. Half Moon Lake—5,000 S2. Hanford Brook—32,500 S1. Hanson River—20,000 S2. Henry Lake—39,000 S1, 255 Sf. Howe Lake-5,000 S2. Kigmy Lake-1,000 S2.

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Lily Lake-Rockwood Park—325 Sh. Little River—11,648 S5, 22,257 Sf, 95 Sg, 67 Sh, 48 Rk, 230 Af, 1,688 C5, 2 Cf. Loch Lomond—84,500 S1, 40,000 S3, 45,000 S5, 1,255 Sg, 1,200 Sh. Mary Ann Hole-4,000 S3. Mayflower or Dark Lake-10,000 S2. McCormac Lake-20,000 S1, 5,000 S2, 6,000 S3, 20,000 S5, 225 Sf. McCracken Lake-30,000 S1, 8,000 S3, 20,000 S5, 225 Sf. Mispek River-10,000 S1, 15,000 S2. Musquash River, East-19,500 S1, 15,000 S2, 511 Sf. Pats Lake—1,300 S5. Perch Lake—4.500 S2. Pine Lake—4,500 S5. Rody Lake—4,500 S5. Second Lake-Loch Lomond—78,000 16,000 S3, 25,000 S5, 925 Sh. Seven Mile Lake—8,000 S2. S1. South Bay Spring Brook—1,600 S2. Stephenson Pond—5,000 S1. Taylor Lake—15,000 S1, 5,000 S2, 8,000 S3, 20,000 S5, 250 Sf. Terrio Lake-15,000 S1, 10,000 S3, 20,000 S5. Tufts Lake—1,550 S5. Tynemouth or Ten Mile Creek-50,000 A1. Walker Lake-1,000 S5. Wilmot Stream—19,000 S1. Sunbury County-Boone Brook-6,000 S1, 2,000 S4. Hardwood Creek-15,000 S1, 12,000 S4. Mill Brook-2,000 S4. Oromocto River-150,000 A1. Morance Brook, Big—2,000 S4. Porcupine Brook—12,000 S4. Three Tree Creek-6,000 S1, 24,000 S4. South Branch—39,000 S1. Otter Brook—15,000 S1, 6,000 S4. Peltoma Lake—12,000 S1, 6,000 S4. Peltoma Stream-12,000 S4. Perley Brook-33,000 S4. Shin Creek-9,000 S1. Westmorland County-Bourgue Pond-2,000 Sd. Meadow Brook-46,000 S1, 10,000 S4. Tait Brook-Memramcook River-20,000 S1. York County-Big Cranberry Lake-4,000 S2. Bolton Brook Lake-6,000 S3. Campbell Brook—3,000 S2. Cranberry Brook—3,000 S2, 2,500 S3. Dead Brook-Third Lake-4,000 S2. Garden Creek—1,000 S1. Mud Brook—3,200 S2. North Trout Brook-2,000 S2. Oliver Brook-3,100 S2. Oromocto Lake-2,400 S2. Spratt Lake-2,400 S2. Tom Davis Lake-4,800 S2. Trout Brook-7,000 S2. Waterloo Lake 3,000 S1.

PRINCE EDWARD ISLAND

Cardigan Ponds

Kings County— Cardigan River—2,500 R5, 386 S5. Morell River—105,000 A3, 95,000 S4.

Prince County-Dunk River-133,000 A3, 42,000 A4. Queens County—

Glenfinnan Lake—70,118 R5. O'Keefe's Lake—3,500 R4, 35,500 R5. Simpson's Pond—4,290 S5. Stevenson's Pond—4,290 S5.

Kelly's Pond Hatchery

Kings County-

East or Hillsboro River—4,000 S1. Essery's Pond-Covehead Bay—10,000 Sd. Finlaysons Pond-Greek River—6,000 S1. Graystone Creek-Boughton River—4,000 S1. Leard's Pond-Morell River—24,000 S1. MacLeod's Pond-Murray River—9,000 S1. Montague Electric Pond-Montague River— 9,000 S1. Midgell River—22,000 A1. Morell River—95,500 Ad, 14,000 A1. Narrow Creek-Boughton River—5,000 S1. St. Peters Bay, head of—30,000 Ad.

Prince County-

Barlow Pond-Grand River—520 S2. Bell's Stream-Provost Cove—500 S2. Bell's Stream-Mill River—4,000 S1. Brae River—4,000 S1. Calbeck's Pond-Dunk River—500 S2. Clark's Pond-Wilmot River—1,000 S2. Conroys Pond-Kildare Cape—3,000 S1. Curries Pond-Pierre Jacques River—10,000 S1. Dunk River—1,000 S2. Fitzgerald's Pond-Grand River—4,000 S1. Gordons Pond-Kildare River—6,000 S1. Ives' Pond-Tryon River—500 S2. Leard's Pond-Trout River tributary to Lot 10

River—4,000 S1. Marchbank's Pond-Trout River (Tyne

Valley)—500 S2.

McAusland's Pond-Mill River—500 S2. McNally's Pond-Jacques River—500 S2. Rix's Pond-Kildare River—6,000 S1. Round Pond (Greenmount)—3,000 S1. Scales Pond-Dunk River—470 S2. Wright Leard's Pond-Dunk River—500 S2.

Queens County-

Bagnall's Pond-Hunter River-6,000 S1. Black River-Tracadie Bay-5,000 S1. Brander's Pond (Sea View)-3,000 S1. Clark's Stream-East River-10,000 S1. Cousin's Pond (Sea View)-3,000 S1. Craswell's Pond-Hunter River-6,000 S1. Crosby's Pond-East River-5,000 S1. Dixon's Pond-DeSable River-8,000 S1. Glenfinnan River-10,000 S1. Glencoe Creek-Vernon River-1,000 S2. Howatt's Pond-Rattenbury River-3,000 S1. Johnston's River-5,000 S1. Leard's Pond-Crapaud River-4,000 S1. Leard's Pond-Pisquid River-6,000 S1. MacLeans Pond-West River-6,000 S1. Millers Brook-East River-4,000 S1. Pickett's Pond-East River-4,000 S1. Rackham's Pond-Wheatley River—12,000 S1. Stordy's Pond-Crapaud River-4,000 S1. Taylor's Pond-Rattenbury River-3,000 S1. Thompson's Pond-Winter River-5,000 S2. West River—15,000 S1.

EDMOND CLOUTIER, C.M.G., O.A., D.S.P. QUEEN'S PRINTER AND CONTROLLER OF STATIONERY OTTAWA, 1953

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