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Angler Harvest of Yearling Brook Trout *(Salvelinus Fontinalis)* Distributed From Antigonish and Yarmouth Fish Culture Stations in 1973

by
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ANGLER HARVEST OF YEARLING BROOK TROUT (*SALVELINUS FONTINALIS*) DISTRIBUTED FROM ANTIGONISH AND YARMOUTH FISH CULTURE STATIONS IN 1973

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HALIFAX, NOVA SCOTIA

CONTENTS

ABSTRACT

Anglers harvested 11.2 percent of 63,800 yearling brook trout distributed in 1973 from Antigonish Fish Culture Station, compared to 38.4 percent of 81,750 trout distributed the same year from Yarmouth Fish Culture Station. Respective harvests during the second angling season were 3.2 percent and 5.5 percent of the total harvests from these distributions. Differences in the rate of harvest of trout produced by these two stations may be partially attributable to difference in size at distribution (mean fork lengths: Antigonish, 16.5 centimeters; Yarmouth, 21.0 centimeters). These fish distributions resemble those for "catchable" trout stocking programs but fail to provide a comparably high return. Although harvest calculations from individual stocked waters are subject to errors inherent in the methods, these results are useful as a guide in selecting suitable locations for future "catchable" fisheries.

RÉSUMÉ

Les pêcheurs à la ligne ont capturé 11.2 pour cent des 63,800 truites mouchetées d'un an produites à la station piscicole d'Antigonish et relachées en 1973 comparativement à 38.4 pour cent des 81,750 truites produites à la station piscicole de Yarmouth et relachées la même année. Au cours de la deuxième saison de pêche à la ligne, les prises provenant de ces mises en liberté ont été respectivement égales a 3.2 pour cent et à 5.5 pour cent des prises totales. On peut en partie attribuer les différences de capture des truites élevées dans ces deux stations à la différence de leur taille au moment de la mise en liberté (longueur moyenne des truites de la tête à la fourche de la queue: Antigonish, 16.5 centimètres; Yarmouth, 21.0 centimètres). Ces mises en liberté de poisson ressemblent à celles effectuées dans le cadre des programmes d'ensemencement avec des truites "pouvant être capturées", mais elles ne réussissent pas à produire des prises en nombre aussi éléve. Bien que les calculs relatifs aux prises provenant de nappes d'eau particulières ayant été ensemencées puissent renfermer des erreurs inhérentes aux méthodes employées, les présents résultats se révèlent un guide utile pour le choix d'emplacements appropriés destinés aux futures mises en liberté de poisson "pouvant être capturé".

INTRODUCTION

The Government of Canada has maintained fish hatcheries in the Maritime Provinces since 1873. In 1973, thirteen fish hatcheries, alternately termed fish culture stations (F.C.S.), were operated by the Resource Development Branch, Fisheries and Marine Service, Department of the Environment. Although the fish culture program has undergone many operational changes in the last 100 years, it was not until 1968 that a major evaluation effort was undertaken to measure the contribution to fisheries of stocking Atlantic salmon *(Salmo salar)* (Ritter 1972). Evaluation of trout distributions was not included in that assessment.

Trout production and distribution to public waters constitutes more than one-half of the annual fish culture program. In 1972, for example, distributions consisted of 2,253,000 Atlantic salmon and 4,026,000 trout (primarily brook trout, *Salvelinus fontinalis*) (Campbell 1972, unpublished). Of these trout, 573,000 (14.2%) were released after reaching at least one year of age from date of hatch. With the exception of 53,000 fish used in the establishment and assessment of a project in the Halifax-Dartmouth area of Nova Scotia involving the release of the largest available hatchery trout for capture over a short time interval - and now termed a "catchable" trout fishery - all were distributed under the "general trout distribution program".

The general trout distribution program is subject to a policy with three major directives: (1) each county within a stocking district is to receive an approximately equal share of the fish available, (2) all waters are to be open to fishing by the public and be accessible by hatchery truck and, (3) no lake without a fish stocking history is to receive fish prior to completion of a biological survey. The latter directive is a recent (1971-72) addition, aimed at reducing potentially harmful effects of hatchery stocks on "wild" trout populations. Few waters on the existing list of trout planting locations have been surveyed.

Based on this policy, on distribution records and on the number of fish available - and with some appreciation of the size of each water and the anticipated fishing pressure in each area - hatchery supervisors annually prepare a stocking proposal which lists stocking locations and numbers of fish to be released. This proposal is discussed in open meeting by hatchery personnel, Fisheries Conservation and Protection Officers, representatives of local sportsman groups and interested members of the public. Minor revisions to the proposal may result from the discussion.

The success or failure of this program in providing fish to the angler's creel has been relatively unknown. Specific evaluation of the 1972 intensive "catchable" fishery in the Halifax-Dartmouth area showed that harvest figures in the order of 77% for yearling and 90% for two- and three-year-old brook trout could be expected (Alexander 1973). However, the same study indicated that yearling brook trout released into less intensively

fished lakes might be harvested at levels near 12%. This latter example is representative of the general trout distribution program.

Baseline data describing the success of the present distribution program on a production scale were considered essential, to determine the need to either modify or expand the program. Therefore, in 1973, a project was implemented to quantify angler harvest of brook trout released as yearlings. Antigonish and Yarmouth, two of the ten trout-producing fish culture stations, were selected for assessment. Results of the assessment project are summarized in this report.

METHODS

Lakes and streams stocked in this project were selected as indicated in the description of the general trout distribution program (Figs. 1 and 2). Distributions commenced from both stations on April 17, and were completed on May 16 from Yarmouth and on June 14 from Antigonish. Trout were transported in several tank types, all of which incorporate water circulation-aeration and, in some cases, temperature control systems. Immediate mortality as a result of transportation was negligible.

Circular strap Monel metal (0.244 in. inside diameter), butt-end jaw tags were applied to 20% of all trout distributed to each location from Antigonish and to 10% of all trout distributed to each location from Yarmouth. Each tag bore a serial number and the Departmental address. Trout were anaesthetized with a 100-ppm solution of MS-222 (tricane methanesulphonate) for a period of 1-5 min during tagging, and were held for a period ranging from several hours to several days before distribution. A random sample of trout from each station was measured to the nearest millimeter fork length (FL) during the tagging operation to determine size composition of the test fish.

Tags mailed to the Department by anglers until November 1, 1974, were used to derive estimates of total trout harvest. Incentive to return tags was provided by the traditional reward of $0.25 per tag and by operation of a draw to award 14 angling-related prizes, including a 15-foot canoe. Each returned tag represented one draw entry. Tag return incentive was promoted through official news releases in April and May, and by twenty 30-sec radio announcements, broadcast during September by each of several radio stations within the distribution areas.

Regardless of the level of incentive and promotion, it was recognized that not all recovered tags would be returned by anglers. Correction for failure to report was calculated by comparing tag serial numbers recorded in a roving creel census to serial numbers of tags returned by mail. Creel census personnel attempted not to bias interviewed anglers either to return or to retain tags.

Previous and concurrent studies (Alexander 1973; Alexander unpublished) indicate that tag loss and mortality as a result of tagging were negligible under the conditions of this study. Consequently, no additional correction factor was applied in the calculation of total trout harvest.

RESULTS AND DISCUSSION

In this study 63,800 yearling brook trout, averaging 16.5 cm FL (SD = ±0.75 cm), were distributed from Antigonish F.C.S. to 83 bodies of water (Appendix A); compared to 81,750 yearling trout, averaging 21.0 cm FL (SD = ±0.58 cm), distributed from Yarmouth F.C.S. to 75 locations (Appendix B).

Calculation of tag-reporting efficiency, as a correction factor for estimated harvest from each lake and each stream, was not feasible because of the small total number of tags (72) seen during creel census. Of 20 tag numbers recorded during creel census in the Antigonish distribution area, 11 were later returned to the Department. Of 52 tags examined in the Yarmouth census area, 24 were subsequently returned. Respective tag reporting efficiencies were therefore 55.0% and 46.2%. These proportions are not significantly different ($\chi^2_{cal.} = 0.18$, $\chi^2_{0.05} = 3.84$) and are in close agreement with the average 52% value calculated for tags returned from the Halifax-Dartmouth area in 1972 (Alexander 1973). The appropriate average reporting efficiency, according to station of fish origin, has been used in the calculation of trout harvest from each lake or stream (Appendices A and B).

Estimated trout harvests from individual waters ranged from 0% to 113% of the number stocked. When harvest estimates are combined, over-estimates - such as for the three locations where harvest exceeded 100% (Appendix B, No. 96, 106 and 112) - are assumed to be equalled by under-estimates on other waters. Total harvest from all 159 waters was estimated at 38,524 fish or 26.5% of the number released. This number represents 11.2% (7,124) of the trout distributed from Antigonish and 38.4% (31,400) of those from Yarmouth. The difference in the returns from the two stations is very highly significant ($\chi^2_{cal.} = 13,667$, $\chi^2_{0.001} = 10.83$).

If all tags returned after November 1, 1973, are assumed to be from trout angled in 1974, then 226 fish or 3.2% of the estimated total harvest from Antigonish was taken during the second year. This catch is less than 1% of the number distributed by that station in 1973. Similarily, 1,788 fish or 5.7% of the total harvest from Yarmouth was taken during the second season, representing 2.2% of the 1973 Yarmouth distribution.

Differences in rate of trout return may be the result of the size difference between trout distributed by the two stations (mean fork lengths: Antigonish, 16.5 cm; Yarmouth, 21.0 cm).

Although all trout originated from eggs produced by broodstock held at Antigonish, the more moderate climate in southwestern Nova Scotia resulted in a longer growing season and, therefore, larger trout distributed from Yarmouth. Hence, Yarmouth trout may be more actively sought by anglers than Antigonish trout. Biological surveys on selected lakes indicate that stocked trout were frequently forced to compete with yellow perch *(Perca flavescens)*, white perch *(Roccus americanus)*, white suckers *(Catostomus commersoni)*, brown bullheads *(Ictalurus nebulosus)* and eels *(Anguilla rostrata)* in both areas. Therefore, the smaller Antigonish trout may be subject to greater natural mortality as a result of heavy competition and predation following distribution.

Other probable factors contributing to the differences in harvest rates were the 769 trout per site stocking density for Antigonish versus 1,090 trout per site for Yarmouth, and the better accessibility of waters in the Yarmouth distribution area. The Yarmouth distribution characteristics more nearly resemble those of a "catchable" fishery.

Caution must be exercised in the interpretation of harvest values for individual waters. Each angler is likely to return all or none of the tags recovered by him, rather than the average value used in harvest calculations. Therefore, harvest from an individual water may be under-estimated if the anglers in that area return tags at lower than average efficiency. For example, the calculated harvest of 0% from Thompson Lake (Appendix A, No. 19) may be an accurate estimate, or it may be an under-estimate if anglers in that area consistently failed to report tags. If the latter case is true, it can be assumed that few anglers are participating in that fishery, since more anglers would increase the chance of some tags being returned. In either case, stocking in Thompson Lake and in other waters with a low calculated harvest can be considered to be of relatively little value.

This evaluation identified 16 locations stocked by Antigonish F.C.S. and seven stocked by Yarmouth F.C.S. from which no trout were apparently angled. Stocking of these sites, under present conditions, could be discontinued without significantly affecting the fishery. Further, if an arbitrary objective of a 10% harvest is selected, then 66 locations (Antigonish, 50; Yarmouth, 16) could be eliminated from stocking. Finally, if the program were considered to be a "catchable" fishery with an objective of 75% trout harvest, then all waters with the exception of nine receiving distributions from Yarmouth could be eliminated from stocking.

CONCLUSIONS

This evaluation demonstrates the need for changes in the general trout distribution program. Low harvest during the second year of angling suggests that yearling trout distributions provide primarily a "catchable" or short-term "put-and-take"

fishery. However, the total harvest is insufficient to term the program successful.

Immediate action to adjust the program should include greater emphasis on producing fish of acceptable size to anglers participating in a "catchable" fishery. A minimum size of 20 cm fork length is suggested.

Data collected in this study (Appendices A and B) will be useful in the selection of waters for future stocking with yearling trout. Priority should be given to those nine locations from which harvest was 75% or more of the number distributed. Those 66 waters with less than 10% harvest should be removed from the stocking list. The remaining waters with harvest figures between 9% and 75% should be used as a guide in selecting locations for future stockings in each area. Assuming that the same number of fish will be available for distribution, the number of trout per site will be greater, and consideration should be given to stocking those sites with the highest returns at least twice in one season.

The eight fish culture stations for which calculations of estimated harvest from specific waters are not available should emphasize distribution of yearling trout to waters most accessible to the public.

Further study is required in order to assess the performance of our domestic strain of hatchery trout in a range of natural environmental conditions. It may then be necessary to develop new strains adapted to specific conditions. Many options are available for development of new strains. Optimal use of any strain is dependent on greater knowledge of the waters to be stocked. A resource inventory is essential to provide this basic information.

The project has provided no direct information on the success or failure of fingerling trout distributions to support fisheries. However, since fingerlings would normally be required to survive at least one winter outside the hatchery environment, natural mortality is expected to be much higher than for the yearlings; and, therefore, the contribution to fisheries would be much less than the average 26.5% value calculated for yearlings distributed from these stations.

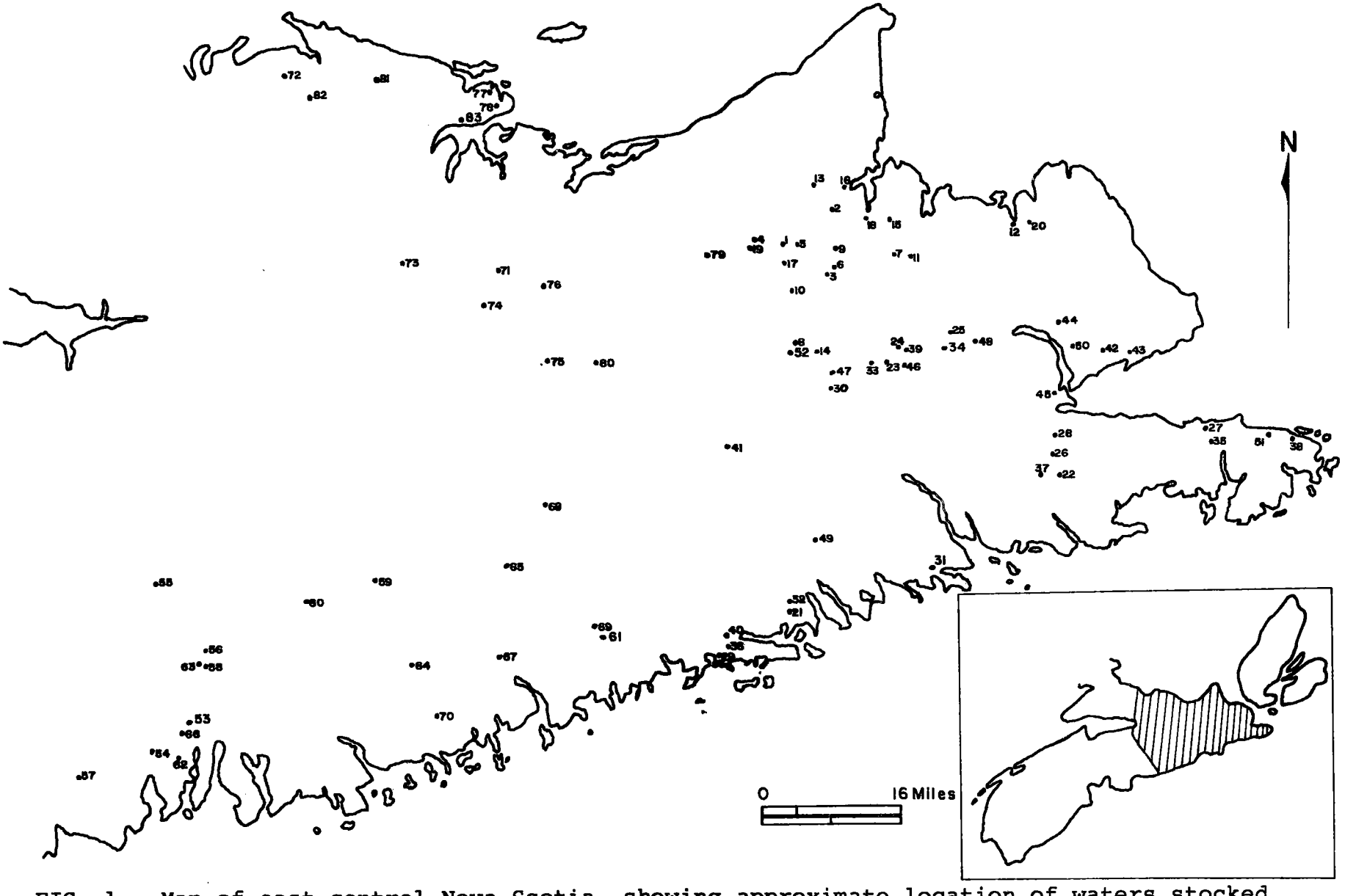

FIG. 1. Map of east-central Nova Scotia, showing approximate location of waters stocked with one-year-old brook trout distributed from Antigonish Fish Culture Station in 1973. (Location numbers refer to Appendix A).

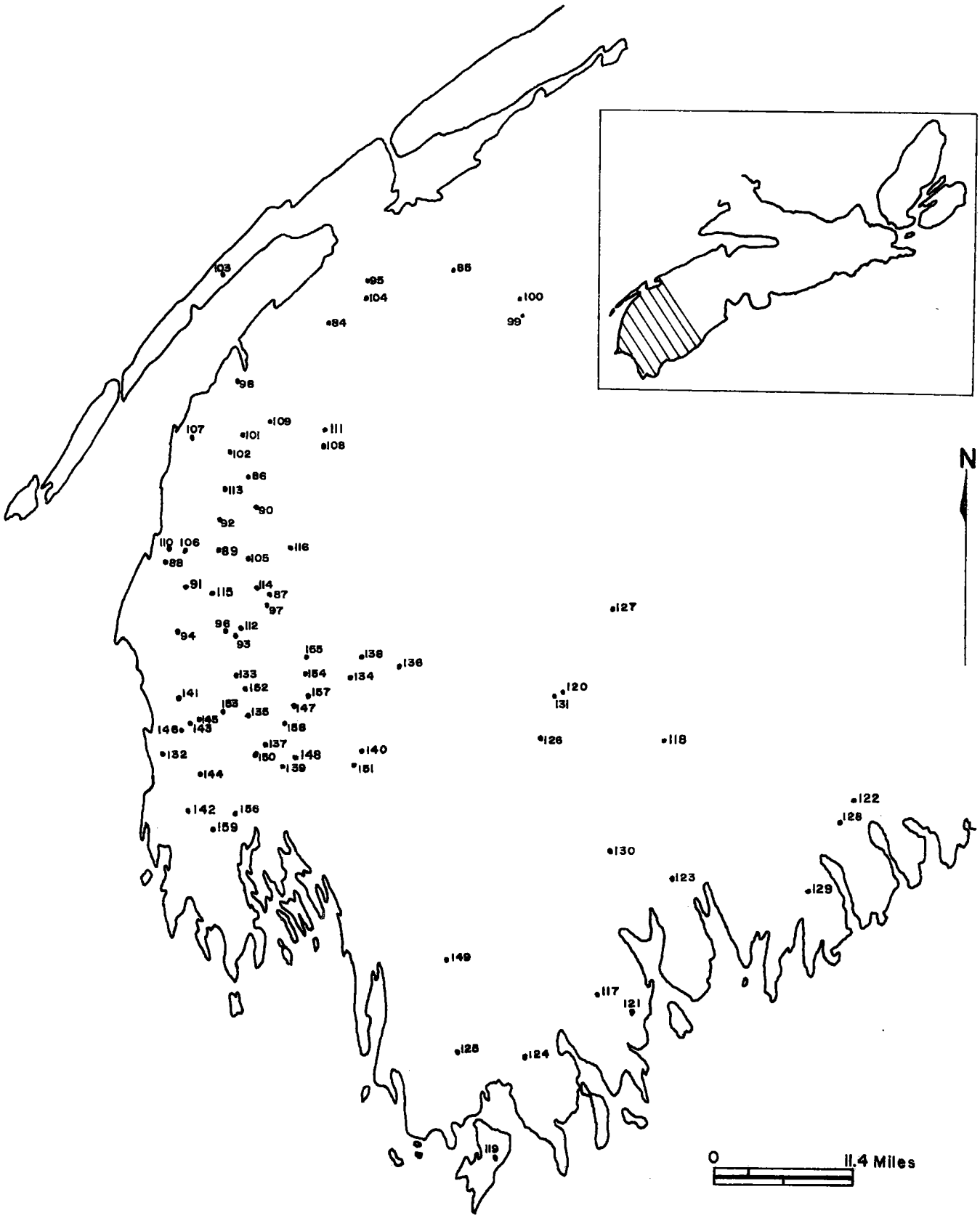

FIG. 2. Map of southwestern Nova Scotia, showing approximate location of waters stocked with one-year-old brook trout distributed from Yarmouth Fish Culture Station in 1973. (Location numbers refer to Appendix B).

APPENDIX A

CALCULATED ANGLER HARVEST (1973 AND 1974 COMBINED) OF BROOK TROUT DISTRIBUTED (1973) AS YEARLINGS FROM ANTIGONISH FISH CULTURE STATION

(N = no. of tags returned/no. of tags applied)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
	Antigonish County					
1	Beaver Meadow River 45°33'; 62°05'	8/5	800	15/150	136	17
2	Brierly Brook 45°37'; 61°59'	8/5	300	2/60	18	6
3	Cameron Lake 45°31'; 61°59'	17/4	500	2/100	18	4
4	Cameron Lakes 45°33'; 62°08'	7/6	200	9/40	82	41
5	Gaspereaux Lake 45°33'; 62°03'	17/4	500	6/100	55	11
6	Gillis Lake 45°32'; 61°58'	17/4	500	4/100	36	7
7	Glenroy River 45°33'; 61°51'	8/6	500	19/100	173	35
8	Lochaber Lake 45°25'; 62°02'	19/4 14/6	2,000 2,000	35/400 117/400	318 1,064	16 53
9	MacLean Pond 45°33'; 61°58'	29/5	300	1/60	9	3
10	MacMillan Lake 45°29'; 62°03'	29/5	300	5/60	45	15
11	Meadow Green River 45°33'; 61°49'	8/6	800	54/160	491	61
12	Monastery River 45°37'; 61°37'	30/5	1,000	46/200	418	42
13	Mooney Pond 45°38'; 62°02'	8/5	100	5/20	45	45

APPENDIX A (cont'd)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
14	Polson (Copper) Lake 45°24'; 61°59'	10/5	400	8/80	73	18
15	Pomquet River 45°36'; 61°48'	8/6	1,000	16/200	145	15
16	Rights River 45°38'; 61°58'	7/6	1,000	26/200	236	24
17	St. Joseph's Lake 45°32'; 62°05'	29/5	500	9/100	82	16
18	South River 45°36'; 61°55'	10/5	1,000	3/200	27	3
19	Thompson Lake 45°33'; 62°08'	7/6	500	0/100	0	0
20	Tracadie Lake 45°37'; 61°36'	30/5	1,000	2/200	18	2
	Guysborough County					
21	Bear Lake 45°04'; 62°00'	24/5	400	5/80	45	11
22	Canters Lake 45°15'; 61°29'	24/5	500	16/100	145	29
23	Charlie Lake 45°23'; 61°52'	18/4	500	1/100	9	2
24	Cross Lake 45°25'; 61°51'	17/4	800	1/160	9	1
25	Cuddihys Lake 45°27'; 61°43'	6/6	800	14/160	127	16
26	Cupboard Lake 45°17'; 61°30'	24/5	500	2/100	18	4
27	Dobson Lake 45°20'; 61°12'	10/5	800	0/160	0	0
28	Donahue Lake 45°18'; 61°30'	28/5 14/6	3,000 2,000	30/600 51/400	273 464	9 23

APPENDIX A (cont'd)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
29	Ecum Secum River 44°58'; 62°10'	30/5	800	10/160	91	11
30	Eight Island Lake 45°21'; 61°57'	18/4	1,000	6/200	55	6
31	Fisherman's Harbour 45°07'; 61°44'	8/5	1,000	0/200	0	0
32	Gegogan Lake 45°05'; 62°00'	24/5	300	0/60	0	0
33	Giants Lake 45°24'; 61°53'	18/4	600	2/120	18	3
34	Glencoe Lake 42°25'; 61°44'	6/6	600	0/120	0	0
35	Halfway Run 45°19'; 61°12'	6/6	800	2/160	18	2
36	Hawbolt (Pye) Lake 44°59'; 62°06'	24/5	600	18/120	164	27
37	Horseshoe Lake 45°17'; 61°31'	24/5	500	7/100	64	13
38	Ice Lake 45°20'; 61°01'	10/5	500	13/100	118	24
39	Island (Round) Lake 45°25'; 61°50'	17/4	800	0/160	0	0
40	Liscomb River 45°00'; 62°06'	30/5	600	4/120	36	6
41	MacLeods Lake 45°16'; 62°09'	8/5	600	0/120	0	0
42	MacPherson Lake 45°26'; 61°25'	4/6	500	5/100	45	9
43	Manasette Lake 45°26'; 61°21'	4/6	800	0/160	0	0
44	Meaghers Lake 45°28'; 61°31'	4/6	700	18/140	164	23

APPENDIX A (cont'd)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
45	Milldam Pond 45°23'; 61°30'	4/6	200	1/40	9	5
46	Narrow Lake 45°24'; 61°51'	17/4	800	0/160	0	0
47	Pringle Lake 45°22'; 61°57'	18/4	600	1/120	9	2
48	Ross Brook 45°26'; 61°40'	4/6	500	4/100	36	7
49	Sherbrooke Lake 45°08'; 61°58'	30/5	600	1/120	9	2
50	Simpson Lake 45°27'; 61°29'	5/6	500	1/100	9	2
51	Three Mile Lake 45°20'; 61°05'	10/5	1,000	0/200	0	0
52	Two Mile Lake 45°21'; 62°04'	8/5	1,200	18/240	164	14
	Halifax County					
53	Bayer Lake 44°49'; 63°10'	23/5	500	1/100	9	2
54	Conrod Lake 44°46'; 63°16'	11/5	500	6/100	55	11
55	Cook Lake 45°00'; 63°16'	23/5	500	0/100	0	0
56	Eastern Run Lake 44°55'; 63°09'	22/5	1,000	0/200	0	0
57	Echo Lake 44°43'; 63°23'	11/5	500	2/100	18	4
58	Grand Lake 44°54'; 63°09'	22/5	1,000	2/200	18	2
59	Grassy Lake 45°03'; 62°50'	16/5	1,000	19/200	173	17

APPENDIX A (cont'd)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
60	Long Lake 45°00'; 62°58'	16/5	1,000	8/200	73	7
61	Nowlin Lake 44°59'; 62°22'	9/5	1,000	1/200	9	1
62	Petpeswick Lake 44°45'; 63°11'	11/5	1,000	6/200	55	6
63	Pot Lake 44°54'; 63°10'	22/5	500	0/100	0	0
64	River Lake 44°55'; 62°45'	27/4	1,000	1/200	9	1
65	Ruth Falls Flowage 45°05'; 62°34'	27/4	1,000	0/200	0	0
66	Scotch Pond 44°48'; 63°11'	23/5	1,000	4/200	36	4
67	Sheet Harbour Lake 44°56'; 62°35'	27/4	1,000	1/200	9	1
68	Sloane (Seloam) Lake 45°10'; 62°30'	9/5	1,000	1/200	9	1
69	Spar Lake 45°00'; 62°23'	9/5	1,000	4/200	36	4
70	Third Lake 44°51'; 62°41'	16/5	1,000	4/200	36	4
	Pictou County					
71	Calder Lake 45°28'; 62°38'	15/5	500	3/100	27	5
72	East River John 45°45'; 63°04'	30/4	500	7/100	64	13
73	Gairloch Lake 45°29'; 62°50'	29/5	500	8/100	73	15
74	Grants Lake 45°26'; 62°39'	15/5	1,000	16/200	145	15

APPENDIX A (cont'd)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	Calculated harvest %
75	MacKinnon Lake 45°22'; 62°32'	25/5	1,000	0/200	0	0
76	MacPherson Lake 45°28'; 62°33'	25/5	1,000	42/200	382	38
77	Mill Dam Pond 45°44'; 62°40'	29/5	100	3/20	27	27
78	Peterson Pond 45°43'; 62°39'	29/5	100	1/20	9	9
79	Robertson Lake 45°32'; 62°15'	25/5	500	7/100	64	13
80	Taylor Lake 45°22'; 62°26'	15/5	500	1/100	9	2
81	Toney River 45°47'; 62°54'	30/4	1,000	14/200	127	13
82	West River John 45°45'; 63°04'	30/4	500	0/100	0	0
83	West River Resev. 45°40'; 62°46'	29/5	500	7/100	64	13
	Antigonish F.C.S. Total		63,800		7,124	11.2

APPENDIX B

CALCULATED ANGLER HARVEST (1973 AND 1974 COMBINED) OF BROOK TROUT DISTRIBUTED (1973) AS YEARLINGS FROM YARMOUTH FISH CULTURE STATION

(N = no. of tags returned/no. of tags applied)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
	Digby County					
84	Andrews Lake 44°29'; 65°51'	8/5	500	13/50	282	56
85	Barnes Lake 44°32'; 65°40'	3/5	1,000	21/200	455	46
86	Bayou Lac 44°17'; 66°00'	16/5	1,500	31/150	672	45
87	Boarback Lake 44°09'; 65°57'	11/5	1,000	12/100	260	26
88	Bonaventure Lake 44°11'; 66°08'	4/5	1,000	34/100	737	74
89	Clearwater Lake 44°12'; 66°03'	7/5	1,500	18/150	390	26
90	Comeau Lake 44°15'; 65°59'	7/5	1,000	2/100	43	4
91	Cranberry Lake 44°09'; 66°06'	4/5	1,000	31/100	672	67
92	Eel Lake 44°14'; 66°03'	4/5	1,000	10/100	217	22
93	Farish Lake 44°06'; 66°01'	7/5	1,000	21/100	455	46
94	Gaspereau Lake 44°06'; 66°07'	11/5	1,500	54/150	1,170	78
95	Haines Lake 44°31'; 65°48'	4/5	2,500	57/250	1,235	49
96	Hectanooga Lake 44°06'; 66°02'	7/5	1,000	51/100	1,105	111

APPENDIX B (cont'd)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
97	Hunter Lake 44°08'; 65°58'	11/5	1,500	36/150	780	52
98	Journeay Lake 44°24'; 66°01'	11/5	1,000	34/100	737	74
99	Lake Jolly 44°28'; 65°33'	3/5	1,500	25/150	542	36
100	LeMarchant Lake 44°30'; 65°33'	9/5	1,000	2/100	43	4
101	Margot Lake 44°20'; 66°01'	9/5	1,000	5/100	108	11
102	Meteghan Lake 44°19'; 62°02'	14/5	1,500	43/150	932	62
103	Midway Lake 44°32'; 66°03'	8/5	1,000	32/100	693	69
104	Mistake Lake 44°30'; 65°48'	8/5	1,500	36/150	780	52
105	Moosehorn Lake 44°11'; 66°00'	7/5	1,000	5/100	108	11
106	Negro Lake 44°12'; 66°06'	8/5	500	26/50	563	113
107	North Doucette Lake 44°19'; 66°07'	8/5	1,000	37/100	802	80
108	Oliver Lake 44°17'; 65°53'	11/5	1,000	43/100	932	93
109	Partridge Lake 44°21'; 65°58'	9/5	1,500	20/150	433	29
110	Seth Lake 44°12'; 66°08'	9/5	500	6/50	130	26
111	Sullivan Lake 44°19'; 65°53'	11/5	1,000	14/100	303	30
112	Tedford Lake 44°06'; 66°01'	7/5	1,000	48/100	1,040	104

APPENDIX B (cont'd)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
113	Thibault Brook 44°16'; 66°02'	7/5	500	7/50	152	30
114	Ticken Lake 44°09'; 65°59'	16/5	1,500	40/150	867	58
115	Upper Lake Doucette 44°07'; 66°03'	7/5	1,000	21/100	455	46
116	Wentworth Lake 44°11'; 65°56'	11/5	1,000	6/100	130	13
	Shelburne County					
117	Beaver Dam Lake 43°43'; 65°25'	30/4	1,000	0/100	0	0
118	Beaver Farm (White) Lake 43°58'; 65°20'	1/5	1,000	24/100	520	52
119	Bull Head Lake 43°28'; 65°34'	30/4	250	2/25	43	17
120	Clamshell Lake 44°02'; 65°29'	2/5	2,000	12/200	260	13
121	Dexter Lake 43°39'; 65°21'	1/5	1,000	0/100	0	0
122	Dexter's Mill Pond 43°54'; 65°00'	2/5	1,000	22/100	477	48
123	George Lake 43°48'; 65°18'	7/5	2,000	19/200	417	21
124	Goose Lake 43°36'; 65°32'	1/5	1,000	1/100	22	2
125	Oak Park Lake 43°36'; 65°40'	1/5	1,000	5/100	108	11
126	Ryer Lake 43°58'; 65°31'	2/5	1,000	2/100	43	4
127	Silvery Lake 44°08'; 65°24'	3/5 7/5	750 750	16/75 17/75	347 368	46 49

APPENDIX B (cont'd)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
128	Tidney River 43°50'; 65°03'	8/5	1,500	5/150	108	7
129	Wall Lake 43°46'; 65°04'	2/5	3,000	34/300	737	25
130	Welch Town Lake 43°50'; 65°23'	2/5	1,000	0/100	0	0
131	West Horseshoe Lake 44°02'; 65°29'	3/5	1,500	33/150	715	48
	Yarmouth County					
132	Allen Lake 43°57'; 66°09'	17/4	2,000	90/200	1,950	98
133	Annis Lake 44°03'; 66°01'	26/4	1,000	9/100	195	20
134	Beaverhouse Lake 44°03'; 65°48'	19/4	500	1/50	22	4
135	Big Brazil Lake 44°00'; 66°00'	19/4	500	8/50	173	35
136	Big Meadow Brook 44°07'; 65°45'	18/4	500	5/50	108	22
137	Bird Lake 43°58'; 65°57'	19/4	500	15/50	325	65
138	Bower Lake 44°05'; 65°47'	25/4	750	1/75	22	3
139	Butler Lake 43°54'; 65°55'	19/4	500	2/50	43	9
140	Canoe Lake 43°57'; 65°46'	19/4	500	1/50	22	9
141	Cedar Lake 44°01'; 66°07'	27/4	1,000	17/100	368	37
142	Chandler Lake 43°51'; 66°04'	18/4	1,000	0/100	0	0

APPENDIX B (cont'd)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
143	Churchill Lake 43°59'; 66°08'	27/4	1,000	5/100	108	11
144	Chegoggin Lake 43°56'; 66°07'	26/4	1,000	20/100	433	43
145	Coggins Lake 43°59'; 66°07'	18/4	500	18/50	390	78
146	Darling Lake 43°58'; 66°08'	18/4	2,000	85/200	1,842	92
147	Fanning Lake 44°01'; 65°55'	25/4	1,000	11/100	238	24
148	Gavel Lake 43°55'; 65°54'	25/4	500	0/50	0	0
149	Great Pubnico Lake 43°42'; 65°43'	27/4	2,000	11/200	238	12
150	Hooper Lake 43°57'; 65°59'	26/4	1,000	26/100	563	56
151	James Lake 43°56'; 65°47'	25/4	250	0/25	0	0
152	Jesse Lake 44°02'; 66°00'	18/4	500	3/50	65	13
153	Killam Lake 44°00'; 66°05'	26/4	1,000	16/100	347	35
154	Ogden Lake 44°03'; 65°54'	18/4	1,000	11/100	238	24
155	Parr Lake 44°05'; 65°54'	19/4	500	0/50	0	0
156	Porcupine Lake 43°51'; 66°02'	26/4	1,000	19/100	412	41
157	Skinner Lake 44°01'; 65°54'	26/4	1,000	12/100	260	26
158	Sloan Lake 43°59'; 65°56'	25/4	1,000	11/100	238	24

APPENDIX B (cont'd)

Loc. no.	Water name and map coordinates	Stocking date	Number stocked	N	Calculated harvest No.	%
159	Trefry Lake 43°50'; 66°03'	18/4	1,000	19/100	412	41
	Yarmouth F.C.S. Total		81,750		31,400	38.4

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