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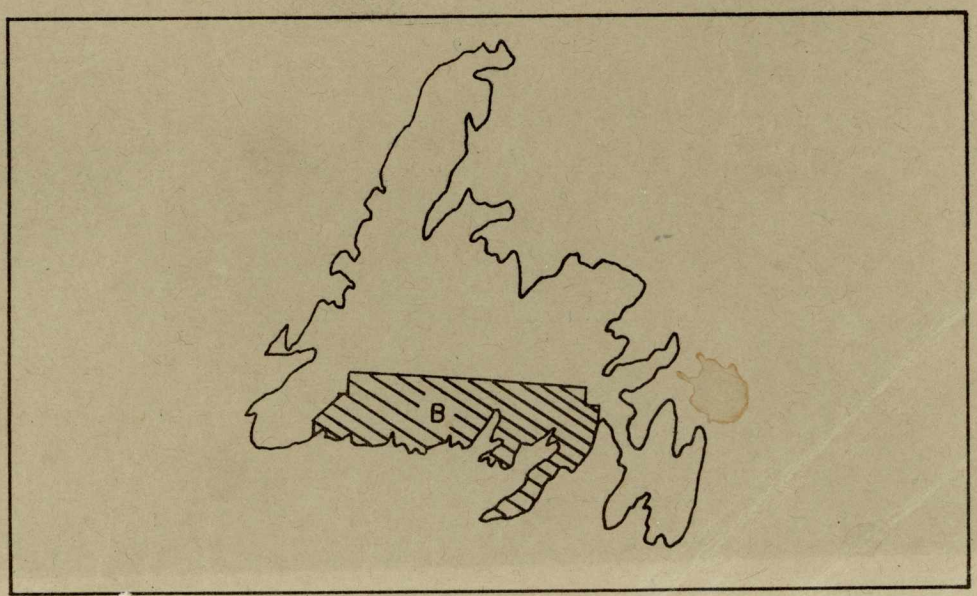
Catalogue of Rivers in Insular Newfoundland

Volume B

by
T.R.Porter, L.G.Riche and G.R.Traverse

Data Record Series No. NEW/D-74-9

Resource Development Branch
Newfoundland Region



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RESOURCE DEVELOPMENT BRANCH
FISHERIES & MARINE SERVICE
DEPARTMENT OF THE ENVIRONMENT

OCTOBER, 1974

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GLOSSARY OF TERMS

Drainage basin:	the area drained by a stream and all its tributaries (Murray and Harmon 1969).
Axial length:	the length of the long axis of the basin measured from the mouth to the most distant point on the perimeter.
Mean width:	the average of a number of widths taken at right angles to the axial length.
Relief:	difference in elevation between the basin mouth and the highest point on basin perimeter.
Gene frequency:	frequency of Tf4(TfA) transferrin allele (Payne 1974).
Mouth of river:	downstream end of the stream where it has confluence with another river, lake, estuary or sea.
Obstructions:	natural or man-made barriers to salmon migration. A complete obstruction is impassable to salmon migrants. A partial obstruction is passable at only certain water levels or is a barrier to a portion of the migrants during either all or part of the spawning run.
Population estimates:	number of adult salmon produced by a river system prior to exploitation by the commercial fishery. This is usually based on the estimate that each accessible 100 square yards of parr rearing area can potentially produce 1-2 smolt. The sea survival has been calculated to be 10-15% of total smolt production. In this report the generally accepted range in values for the estimate adult salmon production is enclosed by dotted lines.

INTRODUCTION

In the early 1960's the Program Working Party on Atlantic Anadromous Fishes requested the compilation of a catalogue of base line data on all river systems in insular Newfoundland. These data would be used to identify river systems with the potential to expand or develop Atlantic salmon (Salmo salar) populations. A program to compile the data from all possible sources was initiated as well as a helicopter river reconnaissance survey program. The terms of reference for the survey were: (1) to provide a general description of each river basin (2) to locate and identify obstructions in river systems, drainage area greater than 25 miles^2, that are barriers to salmon migration (3) to obtain an estimate of potential parr rearing habitat in accessible and inaccessible areas of the river and to estimate potential adult salmon production. Riche (1972) describes the methods used in stream surveys and estimation of salmon production.

The compilation of physical and chemical data on Newfoundland rivers prior to 1967 was presented by Murray and Harmon (1969). The authors emphasized parameters that affected salmon production; however, the report failed to provide an easy reference for identification of rivers with the potential for development to enhance salmon populations.

This report is a compendium of all available data on each river system in insular Newfoundland. It includes: the data reported by Murray et al. (1969); a summary of the stream surveys and estimates of adult salmon production reported by Mercer (1961, 1962, 1963, 1967), Riche (1966a, 1966b, 1969a, 1969b), Riche and Traverse (1969, 1971, 1972),

Traverse (1971, 1972) and Porter et al. (1974); a summary of salmon angling data provided by the Conservation & Protection Branch; water quality data provided primarily by the Water Resources Group of Resource Development Branch (Jamieson 1974a, 1974b); gene frequencies for Atlantic salmon (Payne 1974); information on accessibility of stream to anglers and salmon redd counts provided by Conservation & Protection Branch and Resource Development Branch; references to studies conducted on the river system; and unauthenticated reports (clearly marked) by anglers and local residents. Photographs of sections of each river or activities on the river are kept on file by the Newfoundland River Development Unit, Resource Development Branch, St. John's. Reference to photos on file are indicated in the catalogue.

The report is published in four volumes, A, B, C and D. Each volume corresponds in number to the present district set-up of the Conservation and Protection Branch (Fig. 1). All information on rivers that occur with District A, B, C and D are included in Volume A, B, C and D respectively.

This catalogue has multiple uses. It has been used by government agencies to identify rivers for salmon enhancement programs; by researchers to obtain base data for aquatic studies; by federal, provincial and private agencies involved in impact of development projects on the aquatic resources; by Provincial Department of Tourism and Parks Canada to obtain information on the history of the sport fishery and the recreational potential of selected river systems.

The authors apologize for the inconsistencies in style and format. The length of time required to re-write and re-type the manuscript did not out weigh the benefits gained by an early publication.

It is the authors' intent that the catalogue be updated annually and another edition be published every five years.

Anyone with pertinent information which has not been included in the report, please send it to the authors.

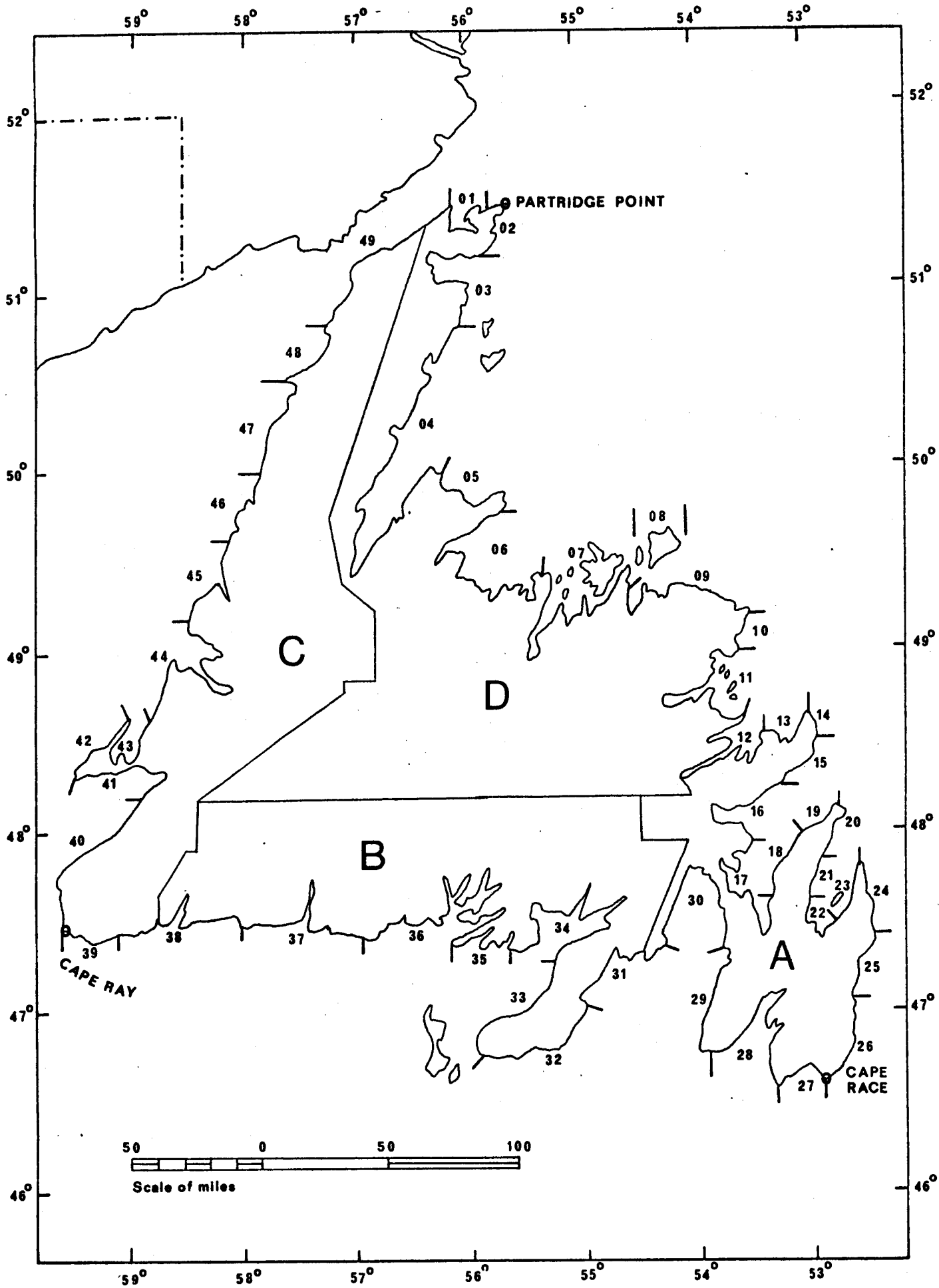


FIG. 1 OUTLINE MAP OF NEWFOUNDLAND SHOWING STATISTICAL SECTIONS AND CONSERVATION AND PROTECTION BRANCH DISTRICTS

EXPLANATION OF RIVER CODES

Each of the 4,404 river systems in insular Newfoundland (39,928 miles^2) has been assigned a seven digit code. The purpose of the code is for quick identification and location of each river, and computer coding for comparison of sport and commercial fisheries.

The first digit is a letter indicating the coast on which the mouth of the river is located. East coast rivers (E) are located between Partridge Point and Cape Race; south coast rivers (S) between Cape Race and Cape Ray and west coast rivers (W) between Cape Ray and Partridge Point (Fig. 1). The second and third digits correspond to the statistical sections (Fig. 1) developed by Economics and Intelligence Branch in 1968 (Waldron 1974). The last four digits is the number given to each river system. The rivers were numbered consecutively and clockwise on each coast. In the larger system the tributaries have also been identified by the addition of two digits. Example: Harpoon Brook, tributary of the Exploits River has been coded E-07-0779-78. The E indicates the river system is on the east coast; the mouth of the Exploits River system is in statistical area 07; the river is number 0779 from Partridge Point and Harpoon Brook is tributary 78 of the Exploits River system (E-07-0779).

SANDY HARBOUR RIVER

Location: 47°42'17" N. 54°21'05" W. Great Sandy Harbour, Placentia Bay.

Map Reference: Harbour Buffett. 1 M/9 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 178.3 miles^2 (461.79 km^2). Mean width, 6.4 miles (10.29 km).

Perimeter, 83.6 miles (134.51 km). Axial length, 27.0 miles (43.44 km).

Maximum basin relief, 1,076 feet (327.96 m).

Geology:

About half acidic intrusive rocks with the remainder consisting of Precambrian volcanic and Precambrian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Spawning Areas:

On main river, one small area below Wigwam Brook at mile 12.5 (20.11 km).

Barriers to Fish Migration:

Main River:

Falls at mile 0. Height: 5 feet (1.52 m). Sloping falls is a temporary holdup during low tide. In 1972, ledgerock blasted at top of falls to allow more water to flow at more favourable migration route.

Falls at mile 2.5 (4.02 km). Height: 18 feet (5.48 m). Slope: 90°. Width: 5 feet (1.52 m) across the top. Complete obstruction.

Falls at mile 5 (8.04 km). The right hand side has a 10 foot (3.05 m) vertical drop with an overhanging lip and a 15 foot (4.57 m) chute at 60° slope. This side is a complete obstruction at all water levels. The left hand side has 3 drops; drop #1 height: 5 feet (1.52 m) and slope 50°; drop #2, height: 6 feet (1.82 m) and slope 55°; drop #3 height: 2 feet (0.60 m). There is a pool between each drop.

Above this there is a pool that leads to a 20 foot (6.09 m) long, 2 feet (0.60 m), wide chute at a slope of 15°-20°. There is a 7 foot (2.1 m) vertical falls at the top of this chute. This side is estimated to be passable with difficulty at low and medium water levels.

Photographs on file; Nos. 700, 1170-1173.

Water Quality Data, Sample Collecte May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.2	2.0	4.0	0.8	3.5	12.0	1.0	2.44

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout.

No angling data available on this stream.

POTENTIAL POPULATION ESTIMATION

Estimated Atlantic salmon smolt production and adult sea survival, Sandy Harbour River below complete obstruction.

If smolt production per 100 yd^2 (81.7 m^2) is: Smolts produced		1 914	2 1,828	3 2,742
Adult return if sea survival is:	5%	46	91	137
	10%	91	183	274
	15%	137	274	411
	20%	183	366	548
	25%	229	457	686

Estimated Atlantic salmon smolt production and adult sea survival, Sandy Harbour River and accessible tributaries above complete obstruction.

If smolt production per 100 yd^2 (81.7 m^2) is: Smolts produced		1 6,549	2 13,098	3 19,647
Adult return if sea survival is:	5%	327	655	982
	10%	655	1,310	1,965
	15%	982	1,965	2,947
	20%	1,310	2,620	3,929
	25%	1,637	3,275	4,912

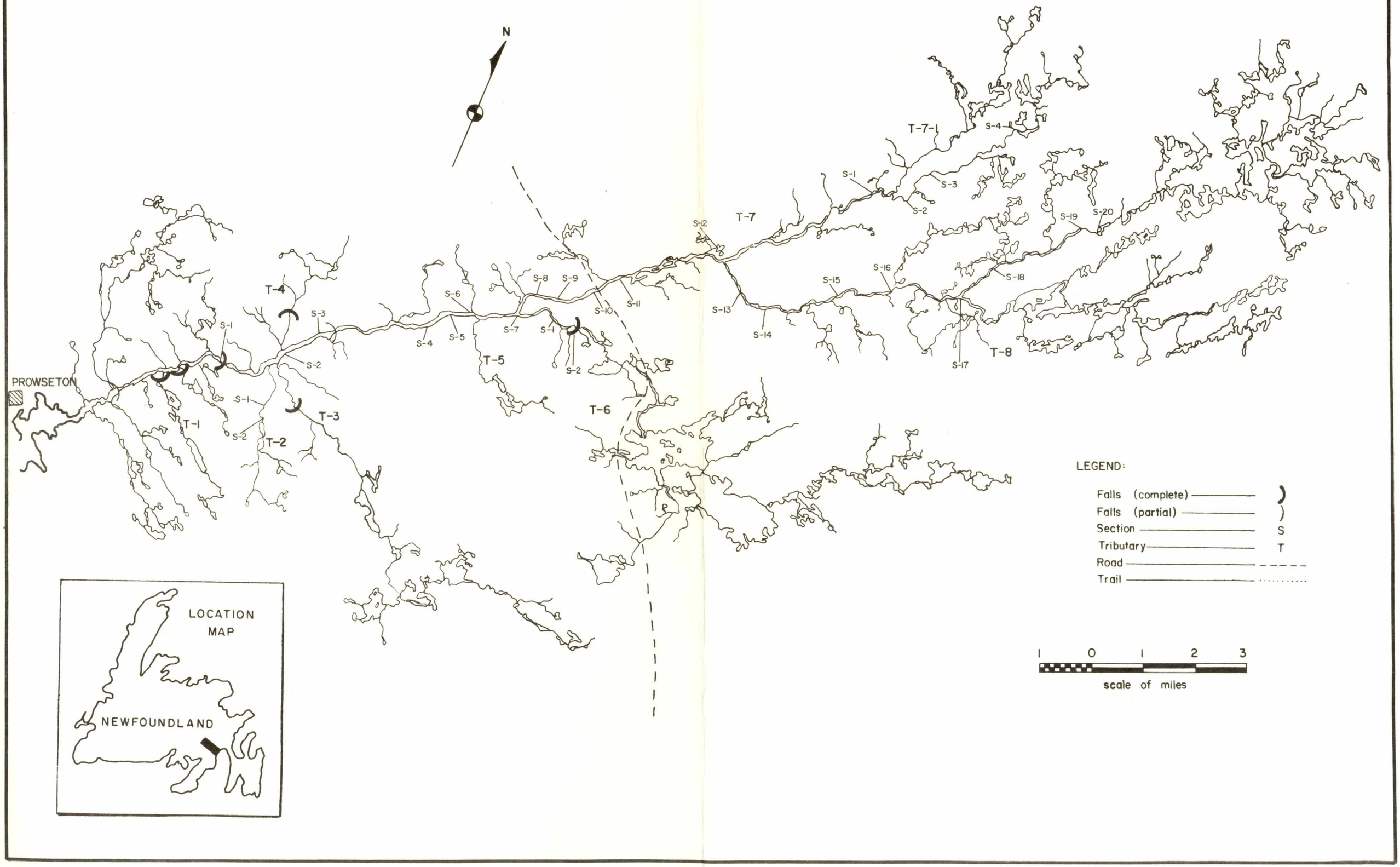


FIG. 2 OUTLINE MAP OF SANDY HARBOUR RIVER SHOWING OBSTRUCTION LOCATIONS AND SECTIONS SURVEYED.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: Biological survey, 1971.

Redd Counts: None to date.

References:

Palmer, C.H. 1928. The Salmon Rivers of Newfoundland. Farrington Co. Boston.

Riche, L.G. & G.R. Traverse 1972. River Investigations 1971, Burin Peninsula - An Inventory - MS report, Fisheries Service, St. John's, Newfoundland.

PARADISE RIVER

Location: 47° 37' 05" N 54° 26' 00" W. Paradise Sound, Placentia Bay.

Map Reference: Harbour Buffett. 1 M/9 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 189.3 miles^2, (490.28 kilometers^2). Mean width, 5.8 miles, (9.33 kilometers).

Perimeter, 93.2 miles, (149.95 kilometers). Axial length, 31.4 miles, (50.52 kilometers).

Maximum basin relief, 1,147 feet, (349.60 meters).

Geology:

About half acidic intrusive rocks with the remainder consisting of Precambrian volcanic and Precambrian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

River fairly wide except for a few rapid areas above the falls.

Spawning Area: Approximately 80% as viewed from Helicopter.

Miscellaneous Information: River has good flow of water even in extremely dry weather.

Barriers to Fish Migration:

Obstructions, main stem of Paradise River

Obst. No.	Obst. Type	Location from mouth	Description	Degree of obstruction	Recommended improvements
1	falls	0.25 miles (.40 kilometers)	45' (13.71 meters) vertical	Complete	divert river around falls if feasible. Engineering survey required.
2	falls	6.0 miles (9.65 kilometers)	12' (3.65 meters) vertical run-around, right hand side	Complete	needs blasting to move more water through run-around.
3	falls	6.6 miles (10.61 kilometers)	4' (1.21 meters) vertical	Minor holdup	no work needed.
4	falls	6.7 miles (10.78 kilometers)	15' (4.57 meters) high; 25' (7.62 meters) long, at 50° angle.	Extremely difficult, possibly complete	blasting to confine water at top of falls. Engineering survey.
5	falls	11.3 miles (18.18 kilometers)	21' (6.40 meters) overall 50° angle Several short drops fish could move up diagonally	Holdup at low water	requires blasting to confine water.

Photographs on file; Nos.

Water Quality Data, Sample Collected, May 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.05	3.0	3.0	1.2	4.0	12.0	0.5	3.66

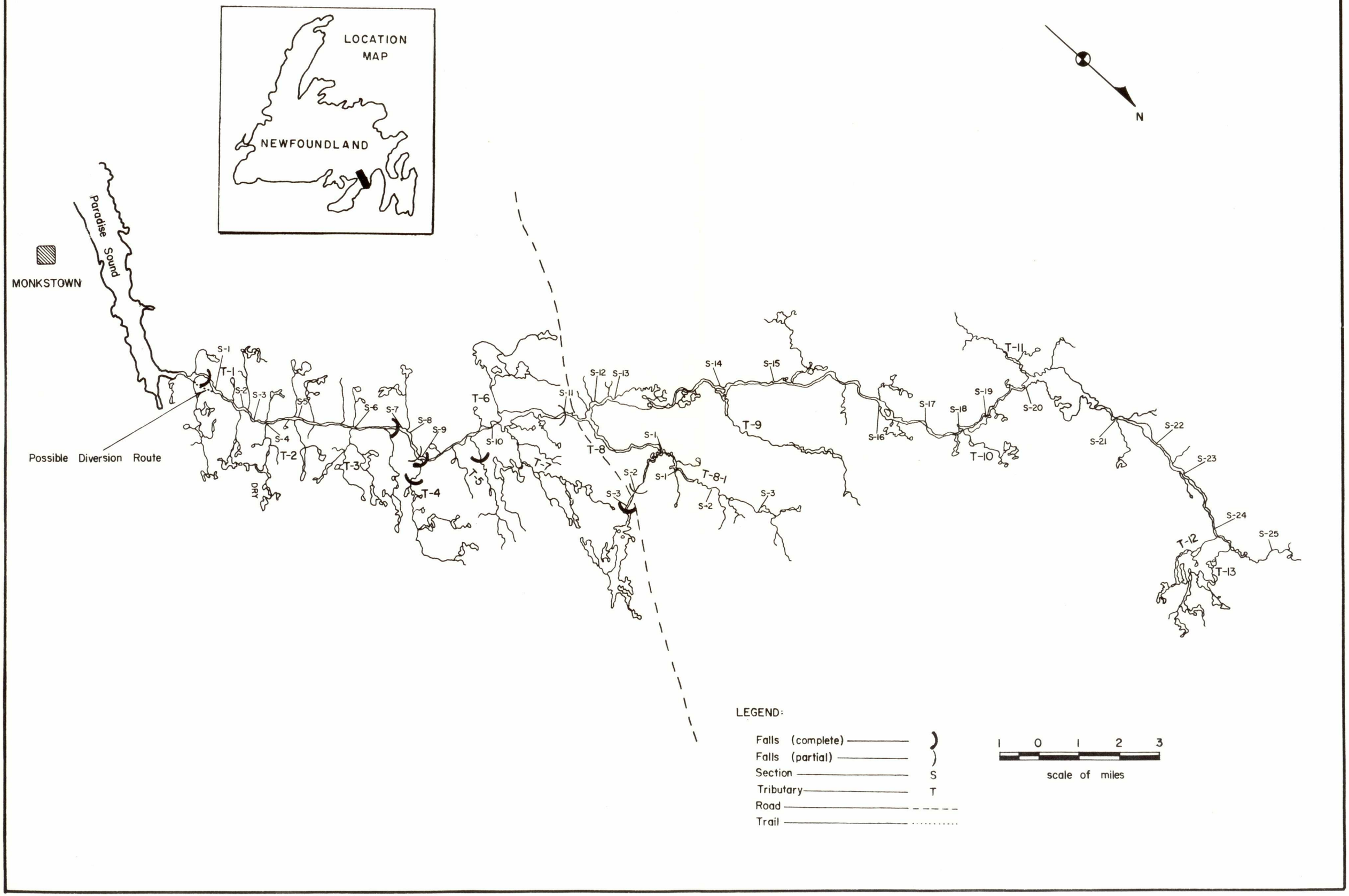


FIG. 3 OUTLINE MAP OF PARADISE RIVER SHOWING OBSTRUCTION LOCATIONS AND SECTIONS SURVEYED.

FISH POPULATIONS

Species Present: Atlantic salmon.

No angling data available on this stream.

POTENTIAL POPULATION ESTIMATION

Estimated Atlantic salmon smolt production and adult sea survival, Paradise River.

If smolt production per 100 yd^2 (83.7 m) is: Smolts produced		1 10,824	2 21,648	3 32,472
Adult return if sea survival is:	5%	541	1,082	1,624
	10%	1,082	2,165	3,247
	15%	1,624	3,247	4,871
	20%	2,165	4,330	6,494
	25%	2,706	5,412	8,118

Gene Frequency:

Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
1968	June 30-July 6	July 28-Aug. 3	July 13-20

Accessibility to Anglers:

Surveys: Biological survey, 1971.

Redd Counts: None to date.

References:

Riche, L.G. and G.R. Traverse 1972. River Investigations 1971 Burin Peninsula - An Inventory - MS report, Fisheries Service, St. John's, Newfoundland.

BLACK RIVER

Location: 47° 35' 17" N 54° 26' 40" W. Paradise Sound, Placentia Bay.

Map Reference: Harbour Buffett. 1 M/9 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 79.3 miles^2, (205.38 kilometers^2). Mean width, 7.4 miles, (11.90 kilometers).

Perimeter, 61.9 miles, (99.59 kilometers). Axial length, 9.5 miles, (15.28 kilometers).

Maximum basin relief, 1,050 feet, (320.04 meters).

Geology:

Predominantly Precambrian volcanic with some acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Spawning Areas: Two small areas between second and third lake on the main river.

Barriers to Fish Migration:

Obstructions, main stem, Black River.

No. Obst.	Type Obst.	Distance from mouth	Description	Degree of obstruction	Recommended Improvement
1	falls	2000' (0.61 km)	8' (2.43 m) high; 70°	minor	none
2	falls	2300' (0.70 km)	12'(3.65 m) high in 2 drops, 45' (3.71 m) 45° slope.	none	
3	falls	2400' (0.73 km)	12'(3.65 m) vertical overhanging lip	complete all levels	blasting to remove bedrock outcrops and lower top of falls
4	falls	2450' (0.75 km)	4' (1.21 m) vertical	none	
5	falls	2650' (0.81 km)	5' (1.52 m) vertical on RHS, 5' (1.52 m) high, 15' (4.57 m) long LHS	none	
6	falls	2750' (0.84 km)	8' (2.43 m) vertical	holdup all levels	blasting to remove overhanging lip
7	falls	2850' (0.87 km)	10'(3.04 m) high, 25' (7.62 m) long at 45°	holdup all levels	blasting
8	falls	2950' (0.90 km)	5' (1.52 m) high, 30' (9.14 m) long, 30° slope	none	
9	falls	3050' (0.93 km)	12'(3.65 m) in 2 drops, upper 3' (.91 m) at 45°, lower 9' (2.74 m) vertical LHS 70°	complete all levels, occasional fish may get over at low water	extensive blasting; possibly fishway may be required
10	falls	2 miles (3.21 km)	15'(4.57 m) vertical overhanging lip	complete all levels	blasting hanging lip, raise water level in pool below

LEGEND:

Falls (complete)	)
Falls (partial)	)
Section	S
Tributary	T
Road	- - - - -
Trail	.....

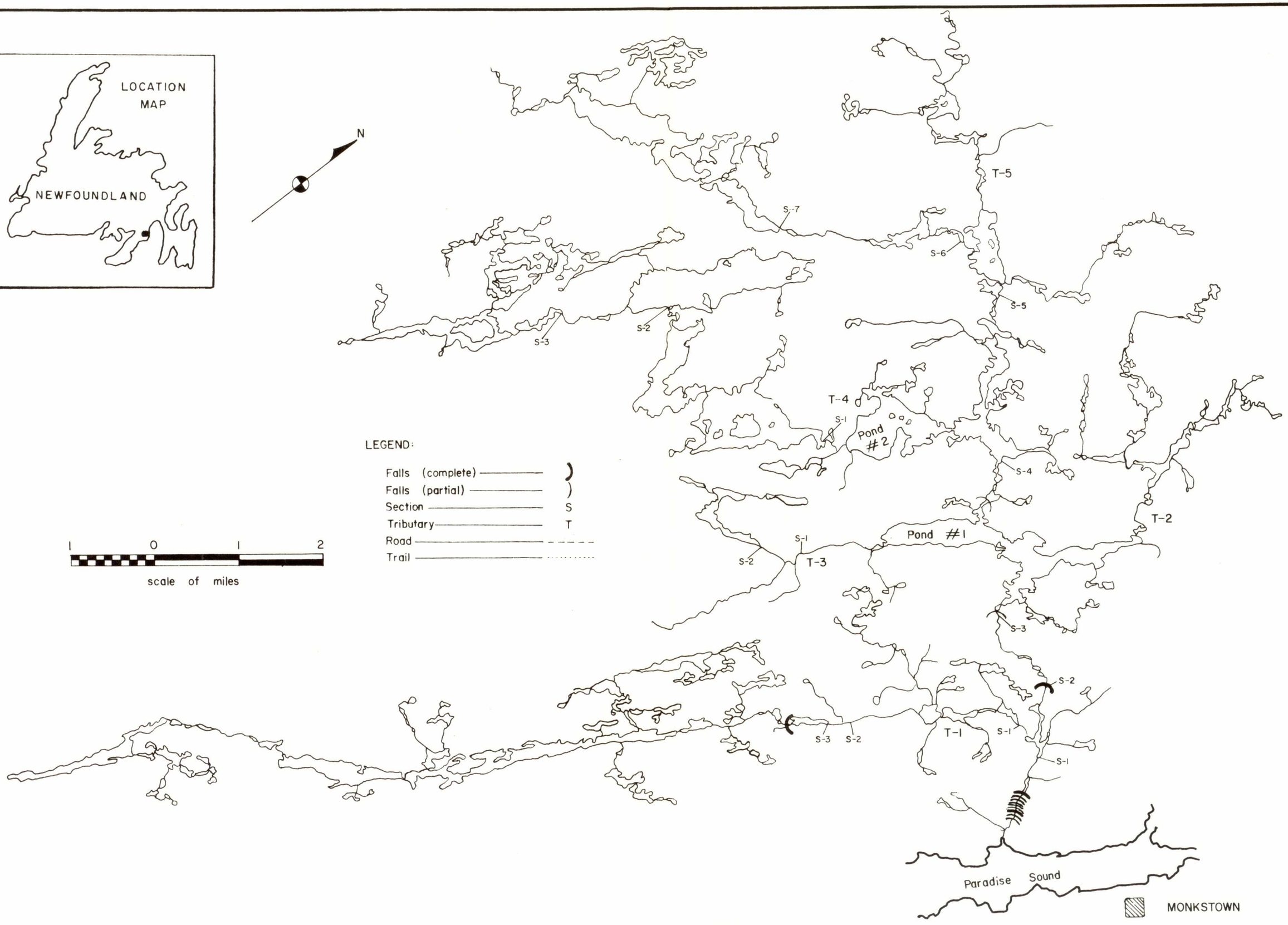


FIG. 4 OUTLINE MAP OF BLACK RIVER SHOWING OBSTRUCTION LOCATIONS AND SECTIONS SURVEYED.

Obstructions, main stem, Black River (cont'd.)

No. Obst.	Type Obst.	Distance from mouth	Description	Degree of obstruction	Recommended Improvement
11	falls	3 miles (4.82 km)	12'(3.65 m) overall height, lower 7' (2.13 m) vertical, upper 5' (1.52 m) 30° slope, pool between	holdup high water, current may be too strong	removal of bedrock to wider falls
12	falls	4.5 miles (7.24 km)	14'(4.26 m) overall height, 35'(10.66 m) long, 45° angle	none	none

Photographs on file; Nos. 856, 440, 642-644, 646, 701, 1179-1184.

Water Quality Data, Sample Collected July, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.
6.9	3.0	4.0	0.9	3.0	12.0	0.5	3.7

FISH POPULATIONS

Species Present: Brook trout.

No angling data available on this stream.

Miscellaneous Information:

The main river from the mouth to mile 5, (0.80 km) flows between very high hills. This river does not look like a good salmon river because of the many obstructions and lack of spawning areas.

POTENTIAL POPULATION ESTIMATION

Estimated Atlantic salmon smolt production and adult sea survival - Black River and tributaries.

If smolt production per 100 yd^2 (83.7 m^2) is:		1	2	3
Smolts produced		1,805	3,610	5,415
Adult return if sea survival is:	5%	90	181	271
	10%	181	361	542
	15%	271	542	812
	20%	361	722	1,083
	25%	451	903	1,354

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: Biological surveys 1956 and 1971.

Redd Counts: None to date.

References:

Riche, L.G. and G.R. Traverse 1972. River Investigations 1971 Burin Peninsula, - An Inventory - MS report, Fisheries Service, St. John's, Newfoundland.

NONSUCH BROOK

Location: 47° 26' 35" N. 53° 39' 00" W. Nonsuch Arm, Placentia Bay.

Map Reference: Baine Harbour. 1 M/7 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 11.6 miles^2 (30.04 kilometers^2). Mean width, 1.4 miles (2.25 kilometers).

Perimeter, 23.3 miles (37.48 kilometers). Axial length, 7.3 miles (11.74 kilometers).

Maximum basin relief, 900 feet (274.32 meters).

Geology:

Precambrian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Bottom types: On main river, consists mainly of boulder, with some rubble and gravel.

Barriers to Fish Migration:

Falls; partial obstruction during low water, a short distance upstream from mouth; 5 ft. (1.52 meters) vertical with an overhanging lip.

In 1972 notch at top of falls blasted.

Photographs on file: Nos. 297, 1185-1187

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, large run of sea trout.

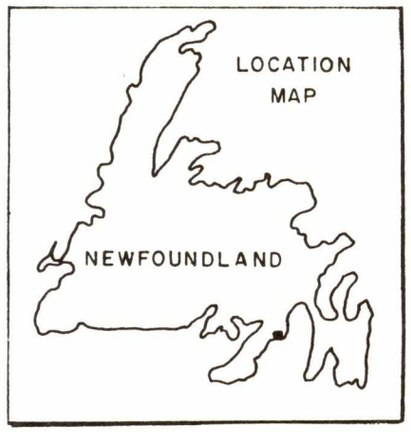
Atlantic salmon angling record-partial count - Nonsuch Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1963	6	20	80	36.3	-	-	-	20	80	36.3
1965	168	5	18	8.2	-	-	-	5	18	8.2
1966	109	3	12	5.4	-	-	-	3	12	5.4
1968	9	2	8	3.6	-	-	-	2	8	3.6
1969	2	6	24	10.9	-	-	-	6	24	10.9
1970	No report									
1971	No report									
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Potential Population Estimation

Estimated Atlantic salmon smolt production and adult sea survival - Nonsuch River.

If smolt production per 100 yds^2 (81.7 meters^2) is: Smolts produced		1 1012	2 2024	3 3036
Adult return if sea survival is:	5%	51	101	152
	10%	101	202	304
	15%	152	304	455
	20%	202	405	607
	25%	253	506	759



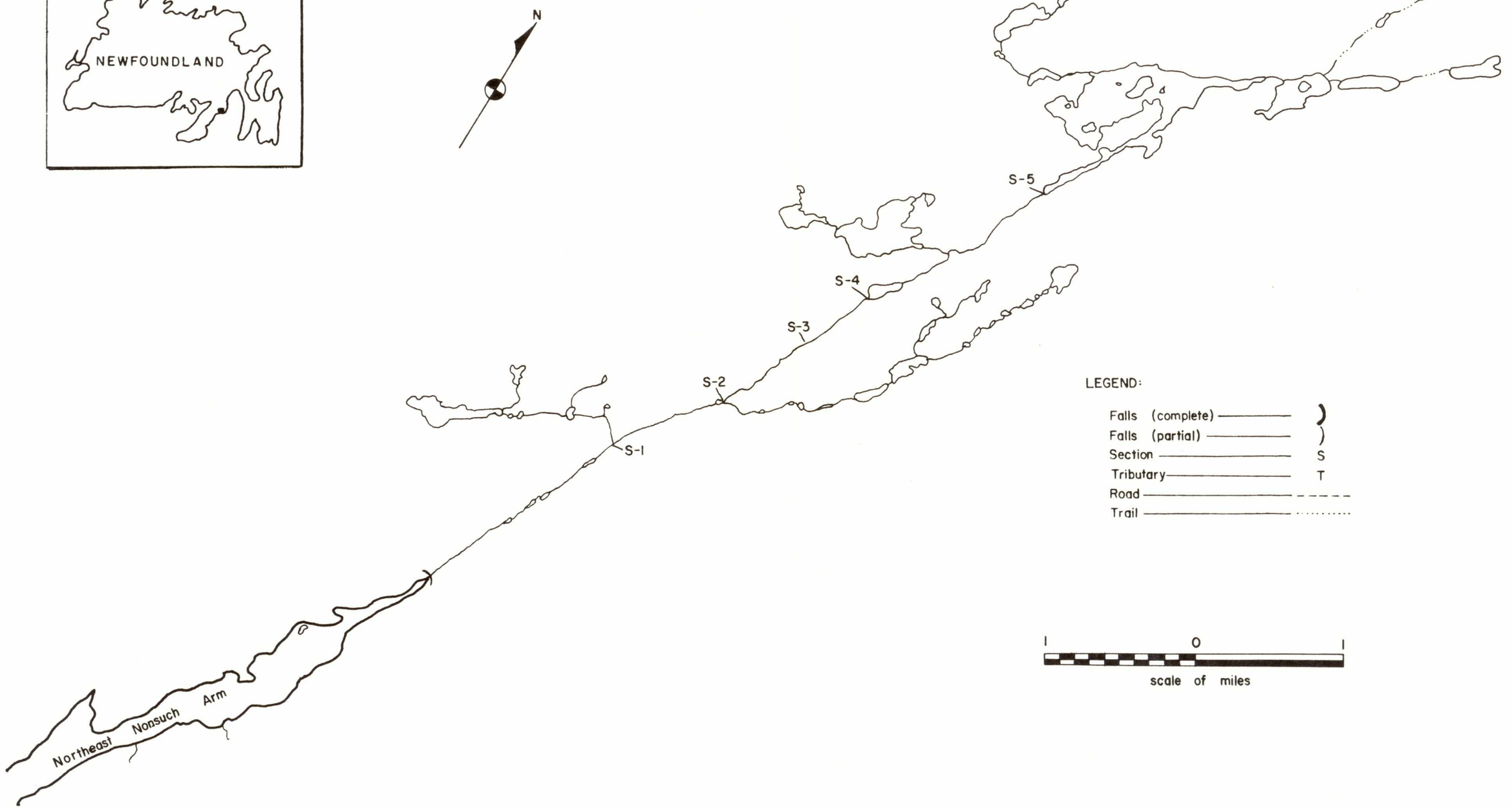


FIG 5 OUTLINE MAP OF NONSUCH RIVER SHOWING OBSTRUCTION LOCATIONS AND SECTIONS SURVEYED.

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish,	Last fish	Week of peak run
Average 1966, 1968-69	July 16-22	August 2-8	

A small number of fish angled on this river each year; in 1968 only 2 fish angled.

Accessibility to Anglers:

Surveys: Biological survey, 1971.

Redd Counts: None to date.

References:

Riche, L.G. and G.R. Traverse 1972. River Ingestigations 1971 Burin Peninsula - An Inventory - MS report, Fisheries Service, St. John's, Newfoundland.

CAPE ROGER BROOK

Location: 47°25'35" N. 54°42'15" W. Bottom of Cape Roger Bay, Placentia Bay.

Map Reference: Baine Harbour, 1 M/7 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 35.8 miles^2 (92.72 km^2). Mean width, 2.7 miles (4.34 km).

Perimeter, 37.6 miles (60.49 km). Axial length, 12.6 miles (4.18 km).

Maximum basin relief, 1,050 feet (320.04 m).

Geology:

Predominantly Precambrian volcanic with some acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Spawning areas:

Lacking on main river.

Barriers to Fish Migration:

Main River:

Falls at mile 1.5 (2.41 km). Height: 20 feet (6.09 m). Slope: vertical. Passable at all water levels.

Tributaries:

Tributary #1; Falls at mile 0.5 (0.8 km). Height: 12 feet (3.65 m). Slope: 90°. Complete obstruction.

Tributary #3; Falls at mile 0.5 (0.80 km). Height: 25 feet (7.62 m). Complete obstruction.

June, 1965. Wooden dam diversion constructed, falls on main river consisting of four benches was lowered by rock cutting. This now presents no problem to migrating fish.

Photographs on file; Nos. 38, 1197-1201.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, sea run brook trout.

Atlantic salmon angling record - Cape Roger Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1953	75	185	655	297.4	-	-	-	185	655	297.4
1954	214	195	878	398.6	6	41	18.6	201	919	417.2
1955	109	52	206	93.5	-	-	-	52	206	93.5
1956	-	102	388	176.2	-	-	-	102	388	176.2
1957	20	17	65	29.5	-	-	-	17	65	29.5
1958	133	256	970	440.4	2	14	6.4	258	984	446.8
1959	112	107	384	174.3	-	-	-	107	384	174.3
1960	114	150	495	224.7	-	-	-	150	495	224.7
1961	92	61	196	90.0	-	-	-	61	196	90.0
1962	108	107	366	166.2	-	-	-	107	366	166.2
1963	148	212	828	375.9	-	-	-	212	828	375.9
1964[1]	176	221	741	336.4	-	-	-	221	741	336.4
1965	165	116	416	188.9	-	-	-	116	416	188.9
1966	139	96	380	172.5	-	-	-	96	380	172.5
1967	159	30	107	48.6	-	-	-	30	107	48.6
1968	225	208	915	415.4	-	-	-	208	915	415.4
1969	295	186	798	362.3	2	14	6.4	188	812	368.7
1970	139	81	297	134.8	-	-	-	81	297	134.8
1971	89	78	290	131.7	-	-	-	78	290	131.7
1972	136	82	353	160.3	-	-	-	82	353	160.3
1973	144	197	778	353.6	-	-	-	197	778	353.6
1974										
1975										
1976										
1977										
MEAN										
1964-68	153	134	512	232.6	-	-	-	134	512	232.6
1969-73	161	125	503	228.7	.4	2.8	1.3	125	506	230.0

[1]Angling data, 1964-73, estimated to be 100% accurate. (R.Morris, personal communication).

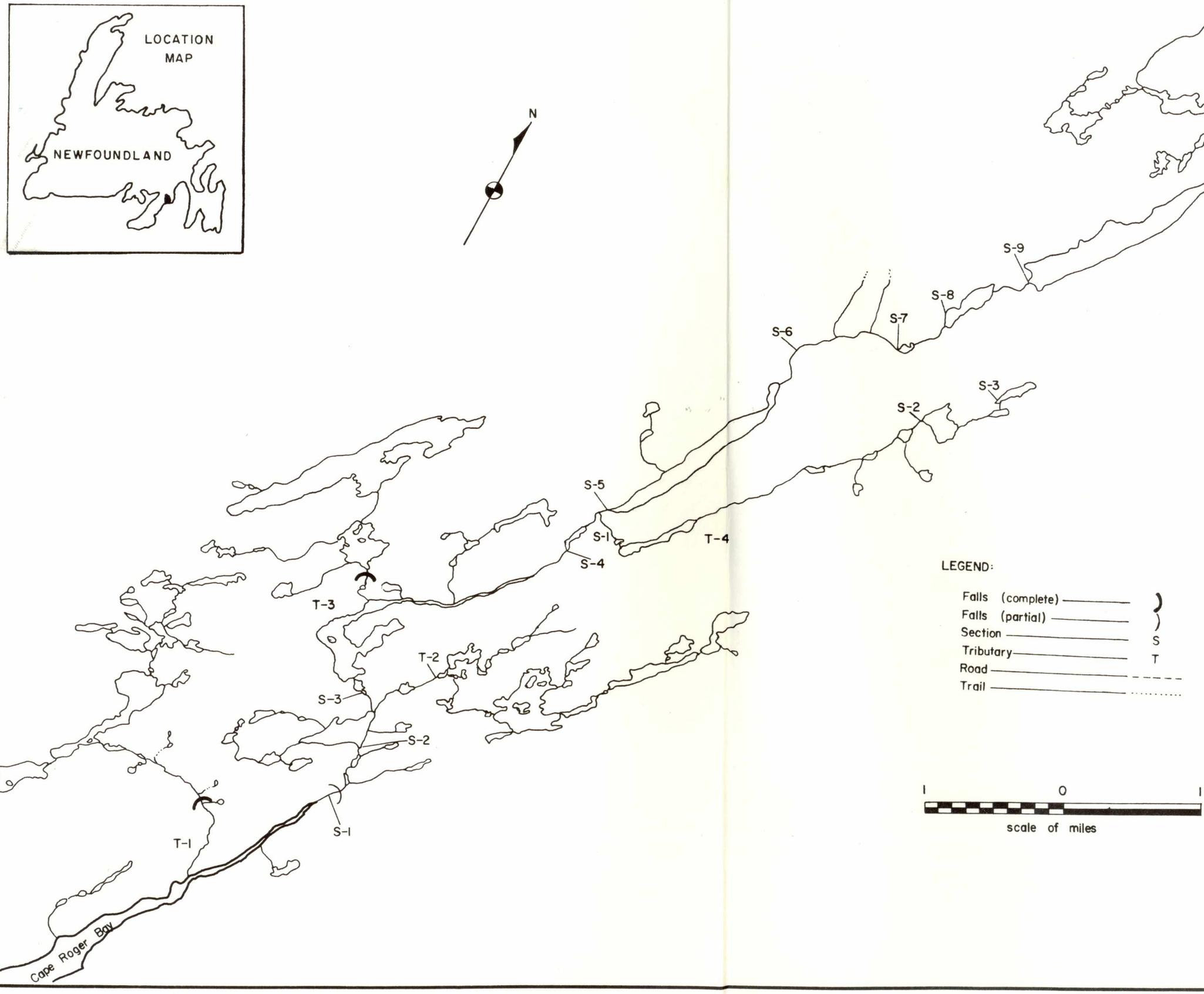


FIG. 6 OUTLINE MAP OF CAPE ROGER RIVER SHOWING OBSTRUCTION LOCATIONS AND SECTIONS SURVEYED.

POTENTIAL POPULATION ESTIMATION

Estimated Atlantic salmon smolt production and adult sea survival - Cape Roger River and tributaries.

If smolt production per 100 yd^2 (83.7 m^2) is: Smolts Produced		1 1,536	2 3,072	3 4,608
Adult return if sea survival is:	5%	77	154	230
	10%	154	307	461
	15%	230	461	691
	20%	307	614	922
	25%	384	768	1,152

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 12-18	July 28-Aug. 3	July 13-20 (1968)

Accessibility to Anglers:

Accessible only by foot or aircraft. A good footpath follows the right bank of the river for approximately five miles.

Surveys: C & P Survey, 1968.
Biological Survey, 1971.

Redd Counts: None to date.

References:

Anonomyous. Summary of Stream Obstructions. MS report, Fisheries Service, St. John's, Newfoundland.

Anonomyous. Nfld. Dept. of Nat. Res., 1943. Res. Bull. No. 12 St. John's, Newfoundland.

References (cont'd.)

Palmer, C.H. 1928. The Salmon Rivers of Newfoundland. Farrington Co. Boston.

Riche, L.G. and G.R. Traverse 1972. River Investigations 1971 Burin Peninsula - an inventory - MS report, Fisheries Service, St. John's, Newfoundland.

BAY DE L'EAU RIVER

Location: 47°26'20" N. 54°47'00" W. Bay De L'Eau, Placentia Bay.

Map Reference: Baine Harbour. 1 M/7 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 58.5 miles^2 (151.51 km^2). Mean width, 3.7 miles (5.95 km).

Perimeter, 50.9 miles (81.89 km). Axial length, 17.0 miles (27.35 km).

Maximum basin relief, 1,233 feet (375.81 m).

Geology:

About half Precambrian volcanic with the remainder consisting of acidic intrusive rocks and Ordovician sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Bottom types:

Main river from mouth to mile 4.5; (7.24 km), mostly gravel and sand.

Main river from mile 4.5 to 7.0 (7.24-11.26 km), mainly gravel.

Note: Many ponds on river between mile 7 and 15 (11.26-24.13 km).

Barriers to Fish Migration:

Main river: no obstructions.

Tributary #1: 4.5 miles (7.24 km) from mouth of main river. Two falls at mile 4 (6.43 km). Height: both 10-12 feet (3.04-3.65 m) Slope: 90°. Complete obstruction.

Tributary #2: Seven miles (11.27 km) from mouth of main river. Falls at mile 1 (1.61 km). Height: 20 feet (6.09 m). Complete obstruction.

Tributary #3: Twelve miles, (16.09 km) from mouth of main river. Falls at mile 2; (3.21 km). Partial obstruction. In 1956, falls on tributary #3, consisting of two benches, eight and four feet, (2.44 and 1.22 m), respectively, were lowered and pools blasted in them.

Photographs on file: Nos. 109, 110, 371.

Water Quality Data, Sample Collected, May 1973

pH	Alkalinity (total) ppm	Total Hardness ppm	Turbidity J.T.U.	Chlorides ppm	Spec.Cond. @ 25℃ in μ mhos/cm	Calcium ppm	HCO_3 Biocarbonate ppm
5.75	<1.0	4.0	0.7	5.0	18.0	1.0	

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout, sea trout.

Atlantic salmon angling record - Bay de L'Eau River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1954	5	7	25	11.4	-	-	-	7	25	11.4
1955	329	10	41	18.6	-	-	-	10	41	18.6
1956	-	18	84	38.1	1	7	3.2	19	91	41.3
1957	38	1	4	1.8	-	-	-	1	4	1.8
1958	676	99	359	163.0	1	8	3.6	100	367	166.6
1959	464	56	226	102.6	7	48	21.8	63	274	124.4
1960	26	34	110	50.0	3	19	8.6	37	129	58.6
1961	130	13	40	18.2	-	-	-	13	40	18.2
1962	173	36	137	62.2	-	-	-	36	137	62.2
1963	186	144	587	266.5	8	55	25.0	152	642	291.5
1964[1]	471	307	995	451.7	1	7	3.2	308	1002	454.9
1965	422	64	251	114.0	6	42	19.1	70	293	133.1
1966	475	58	228	103.5	-	-	-	58	228	103.5
1967	668	4	18	8.2	-	-	-	4	18	8.2
1968	735	304	1166	529.4	-	-	-	304	1166	529.4
1969	771	159	636	288.7	-	-	-	159	636	288.7

Atlantic salmon angling record - Bay de L'Eau River. (cont'd.)

Year	Rod days	No	lbs	kg	No	lbs	kg	No	lbs	kg
1970	901	69	255	115.8	-	-	-	69	255	115.8
1971	1417	183	685	311.0	1	7	3.2	184	692	314.2
1972	1541	175	695	315.5	-	-	-	175	695	315.5
1973	2392	545	2239	1017.7	37	258	117.3	582	2497	1135.0
1974										
1975										
1976										
1977										
MEAN										
1964-68	554	147	532	241.6	1.4	9.8	4.5	149	541	246.1
1969-73	1404	226	902	410.0	7.6	53.0	24.1	234	955	434.1

[1]Angling data, 1964-73, estimated to be 80-85% accurate.(R. Morris, personal communicatio

Miscellaneous Information:

The main river appears to be an excellent stream for salmon. The surrounding country is rocky and flat.

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	July 9-15	August 16-22	July 13-20 (1968)

Accessibility to Anglers:

Accessible at mouth by vehicle. The old Burin Peninsula road follows the river from a point approximately seven miles upstream to Clam Brook Bridge. The new Burin peninsula road crosses Clam Brook below Grandy Pond and approximately one mile above the old road.

Surveys:

Engineering survey of falls on Clam Brook, tributary of Bay De'Leau River, in 1961.

Redd Counts:

A partial spawning survey during 1970 counted approximately two hundred redds.

References:

Anonomyous. Summary of Stream Obstructions. MS report, Fisheries Service, St. John's, Newfoundland.

Anonomyous. Salmon and Trout Management. MS report, Fisheries Service, St. John's, Newfoundland.

RUSHOON RIVER

Location: 47°21'15" N. 54°55'03" W. Placentia Bay.

Map Reference: Baine Harbour. 1 M/7 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 22.7 miles^2 (58.79 km^2). Mean width, 2.4 miles (3.86 km).

Perimeter, 27.9 miles (44.89 km). Axial length, 9.2 miles (14.80 km).

Maximum basin relief, 700 feet (213.36 m).

Geology:

Precambrian volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration: Nil.

Photographs on file; Nos.

Water Quality Data, Sample collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.
5.5	< 1.0	5.0	1.3	9.0	21.0	1.0	

FISH POPULATIONS

Species Present: Atlantic salmon.

Atlantic Salmon Angling Record -Rushoon River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1968	14	4	13	5.9	-	-	-	4	13	5.9
1974										
1975										
1976										
1977										

Timing of Run:

Year	First fish	Last fish	Week of peak run
1968	July 27	-	-

Note: Only 4 fish angled in 1968.

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

RED HARBOUR RIVER

Location: 47° 17' 35" N 55° 00' 01" W. Red Harbour, Placentia Bay.
Map Reference: Baine Harbour. 1 M/7 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 28.3 miles^2 (73.29 kilometers^2). Mean width, 5.1 miles, (8.20 kilometers).

Perimeter, 32.4 miles, (52.13 kilometers). Axial length, 4.3 miles, (6.91 kilometers).

Maximum basin relief, 1,250 feet, (381.00 meters).

Geology:

Precambrian volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Obstructions, Red Harbour River

Obst. No.	Obst. Type	Location fr. mouth	Description	Degree of obstruction	Recommended improvements
1	falls	0.5 miles (.80 kilometers)	11' (3.34 meters) vertical overhanging lip	complete low water, passable with difficulty other levels	In 1971, channel blasted at top of falls in order to lower height of falls and confine water.
2	falls	4.5 miles (7.24 kilometers)	6' (1.82 meters) high, 90° LHS, 50° RHS	passable at high water	blasting to confine water to RHS
3	falls	4.5 miles (7.24 kilometers)	7' (2.13 meters) high overall, 2 vertical drops lower 5' (1.54 meters) upper 2' (.60 meters)	passable at high water	improve lower drop by blasting.
4	falls	4.7 miles (7.56 kilometers)	6'-7' (1.82-2.13 meters); 10' (3.04 meters) long 50°.	passable with difficulty high water, complete low water	removal of huge boulder at top of falls.
5	falls	4.7 miles (7.56 kilometers)	10' (3.04 meters) vertical overhanging lip.	complete except at high water	blast off overhanging lip.

Obst. No.	Obst. Type	Location fr. mouth	Description	Degree of obstruction	Recommended improvements
6	falls		5' (1.52 meters), large overhanging lip	passable at high water, complete other levels.	removal of huge boulder at top of falls.
7	falls	4.9 miles (7.88 kilo-meters)	18' (5.48 meters) high, 30' (9.14 meters long, 75° angle	complete at all water levels.	extensive blasting or fishways
8	falls	5.0 miles (8.04 kilo-meters)	3' (.91 meters) vertical	holdup at low water	no work required
T-1	falls	1500' (457.2 meters)	40' (12.19 meters) vertical	complete all levels	no work necessary

Photographs on file; Nos. 92-96, 674, 1188-1191.

Water Quality Data, Sample Collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.
5.9	1.0	4.0	0.9	5.5	18.0	0.5	

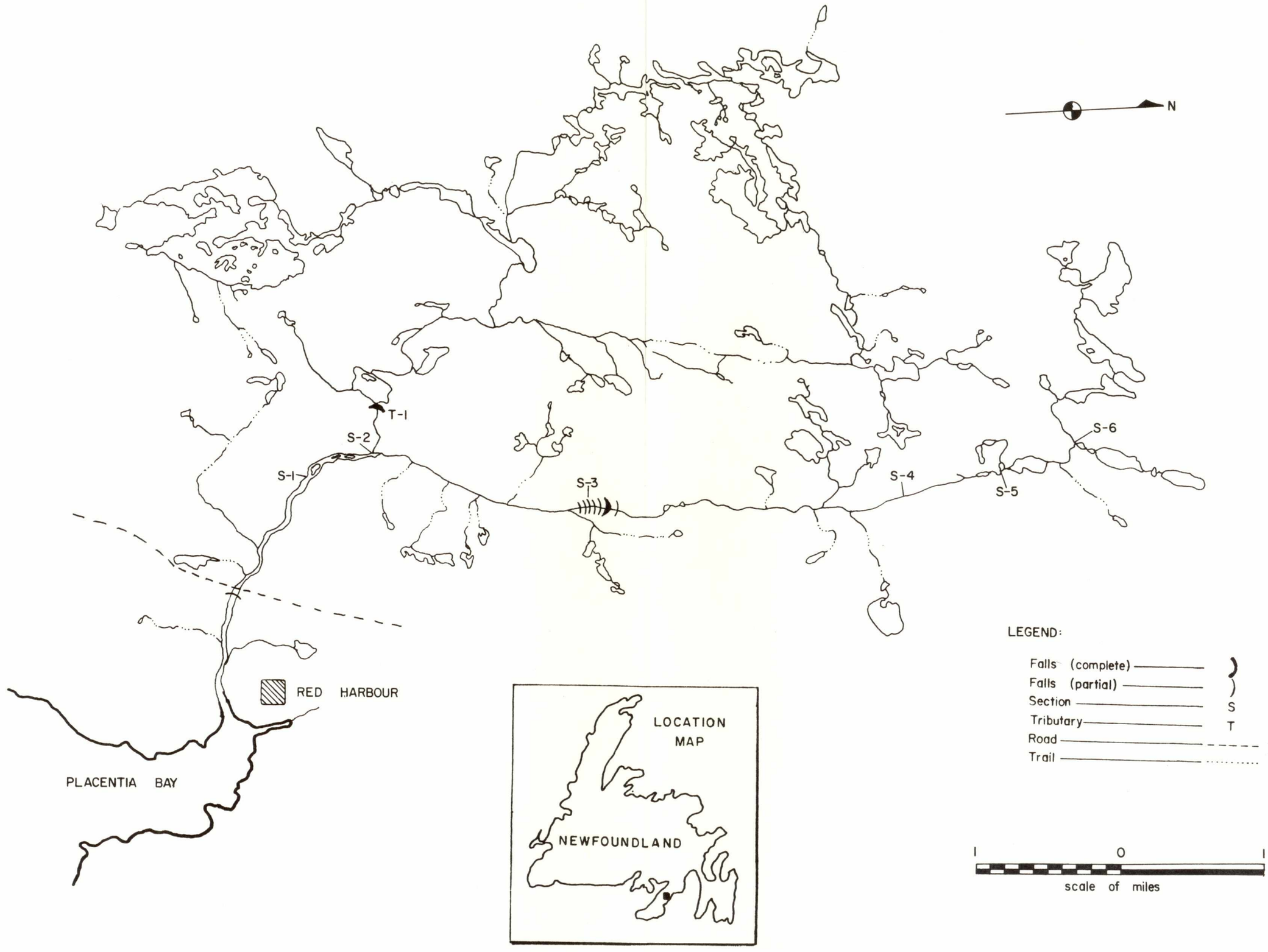


FIG. 7 OUTLINE MAP OF RED HARBOUR RIVER SHOWING OBSTRUCTION LOCATIONS AND SECTIONS SURVEYED.

FISH POPULATIONS

Species Present· Atlantic salmon, brown trout, brook trout.

Atlantic salmon angling record - Red Harbour River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1962	4	3	10	4.5	-	-	-	3	10	4.5
1963	18	14	46	20.9	-	-	-	14	46	20.9
1964[1]	44	25	80	36.3	-	-	-	25	80	36.3
1965	74	41	138	62.7	-	-	-	41	138	62.7
1966	148	44	179	81.3	1	7	3.2	45	186	84.5
1967	47	8	30	13.6	-	-	-	8	30	13.6
1968	205	28	112	50.8	1	6	2.7	29	118	53.5
1969	137	38	172	78.1	-	-	-	38	172	78.1
1970	74	13	49	22.2	-	-	-	13	49	22.2
1971	158	36	153	69.5	-	-	-	36	153	69.5
1972[2]	217	7	25	11.4	1	7	3.2	8	32	14.5
1973	243	61	229	104.1	-	-	-	61	229	104.1
1974										
1975										
1976										
1977										
Mean 1964-68	104	29	108	49.0	.4	2.6	1.2	30	110	50.2
Mean 1969-73	166	31	126	57.1	.2	1.4	.6	31	127	57.7

[1]Angling data, 1964-71, estimated to be 50% accurate. (R. Morris, personal communication).

[2]Angling data, 1972-73, estimated to be 80% accurate. (R. Morris, personal communication).

POTENTIAL POPULATION ESTIMATION

Estimated Atlantic salmon smolt production and adult sea survival, Red Harbour River below gorge.

If smolt production per 100 yd^2 (83.7 m^2) is: Smolts produced		1 664	2 1,328	3 1,992
Adult return if sea survival is:	5%	33	66	100
	10%	66	133	199
	15%	100	199	299
	20%	133	266	398
	25%	166	332	498

Estimated Atlantic salmon smolt production and adult sea survival - Red Harbour River above gorge.

If smolt production per 100 yd^2 (83.7 m^2) is: Smolts produced		1 441	2 882	3 1,323
Adult return if sea survival is:	5%	22	44	66
	10%	44	88	132
	15%	66	132	198
	20%	88	176	265
	25%	110	221	331

Gene Frequency: Not completed

Timing of Run: (based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 16-22	August 4-10	July 1-7 (1968)

Accessibility to Anglers:

Surveys: Engineering survey of obstructions in 1967.
Biological survey, 1971.

Redd Counts: None to date.

References:

Anonomyous. Salmon and Trout Management Program. MS report, Fisheries Service, St. John's, Newfoundland.

Riche, L.G. and G.R. Traverse 1972. River Investigations 1971 Burin Peninsula, - An Inventory - MS report, Fisheries Service, St. John's, Newfoundland.

WEST BROOK

Location: 47^{o} 10' 10" N 55^{o} 14' 55" W. South West Arm, Mortier Bay.

Map Reference: Marystown. 1 M/3 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 32.7 miles^2, (84.69 kilometers^2), Mean width, 3.3 miles, (5.30 kilometers).

Perimeter, 33.1 miles, (53.25 kilometers), Axial length, 11.2 miles, (18.02 kilometers).

Maximum basin relief, 800 feet, (243.84 meters).

Geology:

About equal amounts of Precambrian volcanic and acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

TIDES BROOK

Location: 47°08'21" N. 55°14'00" W. South West Arm, Mortier Bay.

Map Reference: Marystown. 1 M/3 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 69.1 miles^2 (178.96 km^2). Mean width, 4.3 miles (6.91 km).

Perimeter, 46.2 miles (74.33 km). Axial length, 12.6 miles (20.27 km).

Maximum basin relief, 900 feet (274.32 m).

Geology:

Precambrian volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.05	2.0	6.0	1.3	9.5	29.0	1.0	2.44

FISH POPULATIONS

Species Present: Atlantic salmon.

Atlantic salmon angling record - Tides Brook and Main Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	227	39	187	84.9	8	56	25.4	47	243	110.3
1953	165	25	120	54.5	-	-	-	25	120	54.5
1954	43	7	35	15.9	1	10	4.5	8	45	20.4
1955	99	5	19	8.6	-	-	-	5	19	8.6
1956	-	25	103	46.8	-	-	-	25	103	46.8
1957	261	21	81	36.8	2	19	8.6	23	100	45.4
1958	565	183	702	318.7	10	76	34.5	193	778	353.2
1959	228	48	212	96.2	2	15	6.8	50	227	103.0
1960	226	41	146	66.3	2	16	7.3	43	162	73.6
1961	97	12	50	22.7	-	-	-	12	50	22.7
1962	278	20	96	43.6	57	397	180.2	77	493	223.8
1963	576	147	593	269.2	2	14	6.4	149	607	275.6
1964	296	202	701	318.3	1	8	3.6	203	709	321.9
1965	675	249	966	438.6	1	10	4.5	250	976	443.1
1966[1]	862	151	607	275.6	2	14	6.4	153	621	282.0
1967	620	81	272	123.5	1	9	4.1	82	281	127.6
1968	458	90	326	148.0	-	-	-	90	326	148.0
1969	296	88	401	182.1	3	23	10.4	91	424	192.5
1970	280	78	330	149.8	-	-	-	78	330	149.8
1971	322	153	623	282.8	2	14	6.4	155	637	289.2
1972	135	48	200	90.8	1	7	3.2	49	207	94.0
1973	279	100	436	198.2	1	7	3.2	101	443	201.4
1974										
1975										
1976										
1977										
Mean 1964-68	582	155	574	260.9	1.0	8.2	3.7	156	583	264.8
Mean 1969-73	262	93	398	180.9	1.4	10.2	4.6	95	408	185.5

[1]Angling data, 1966-73, estimated to be 90% accurate. (R. Morris, personal communication.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 21-27	August 25-31	July 27-August 3 (1968)

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

BIG SALMONIER BROOK

Location: 47°03'35" N. 55°13'10" W. Burin Inlet, Placentia Bay.

Map Reference: Marystown. 1 M/3 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 12.9 miles^2 (33.41 km^2). Mean width, 1.6 miles (2.57 km).

Perimeter, 20.9 miles (33.62 km). Axial length, 7.6 miles (12.22 km).

Maximum basin relief, 800 feet (243.84 m).

Geology:

About half Ordovician volcanic with the remainder consisting of Cambrian sedimentary, Ordovician sedimentary and basic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

On main river:

Falls at mile 1.5 (2.41 km). Height: 2.5 feet (0.76 m). Partial obstruction.

Falls at mile 4 (6.43 km). Height: 4 feet (1.21 m). Partial obstruction.

On tributary #1 (T-1) a 12 foot (3.64 m) vertical falls completely blocks access at mouth of tributary.

Photographs on file; Nos.

Water Quality Data, Sample Collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.60	5.0	9.0	2.8	8.5	32.0	2.0	6.1

FISH POPULATIONS

Species Present: Atlantic salmon.

Atlantic Salmon Angling Record - Big Salmonier Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1953	88	14	59	26.8	-	-	-	14	59	26.8
1954	8	1	4	1.8	-	-	-	1	4	1.8
1955	2	-	-	-	-	-	-	-	-	-
1958	24	17	61	27.7	-	-	-	17	61	27.7
1959	20	13	43	19.5	-	-	-	13	43	19.5
1964	38	13	40	18.2	-	-	-	13	40	18.2
1968	138	58	264	119.9	-	-	-	58	264	119.9
1969	21	9	32	14.5	-	-	-	9	32	14.5
1970	30	2	6	2.7	-	-	-	2	6	2.7
1971	No report									
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Estimated Atlantic salmon smolt production and adult sea survival - Big Salmonier Brook

If smolt production per 100 yds^2 (83.7 m^2) is:		1	2	3
Smolts produced		408	816	1,224
Adult return if sea survival is:	5%	20	41	61
	10%	41	82	122
	15%	61	122	184
	20%	82	163	245
	25%	102	204	306

FIG. 8 OUTLINE MAP OF BIG SALMONIER BROOK SHOWING OBSTRUCTION LOCATIONS AND SECTIONS SURVEYED.

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
1968	July 7-13	August 25-31	July 27-Aug.3 (1968)

Accessibility to Anglers:

Surveys: Biological Survey, 1971.

Redd Counts: None to date.

References:

Anonomyous. Nfld. Dept. Nat. Res. 1943. Res. Bull. No. 12 St. John's, Newfoundland.

Palmer, C.H. 1928. The Salmon Rivers of Newfoundland. Farrington Co. Boston.

Riche, L.G. and G.R. Traverse 1971. River Investigations 1971 Burin Peninsula - an inventory - MS report, Fisheries Service, St. John's, Newfoundland.

WATERFALL BROOK

Location: 46°55'40" N. 55°21'38" W. Little St. Lawrence Hr.

Map Reference: St. Lawrence. 1 L/14 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 14.3 miles^2 (37.03 km^2). Mean width, 1.9 miles (3.05 km).

Perimeter, 21.3 miles (34.27 km). Axial length, 7.5 miles (12.06 km).

Maximum basin relief, 700 feet (213.36 m).

Geology:

About equal amounts of Precambrian volcanic, Cambrian sedimentary, Ordovician sedimentary, Ordovician volcanic and a small amount of Silurian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Power house and dam at mouth.

Photographs on file; Nos.

Water Quality Data, Sample Collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.90	10.0	14.0	2.5	10.0	42.0	3.5	12.2

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

S-32-0715

ST. LAWRENCE RIVER (Little St. Lawrence)

Location: 46° 55' 50" N. 55° 22' 25" W. Little St. Lawrence Harbour.

Map Reference: St. Lawrence. 1 L/14 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 24.6 miles^2 (62.71 kilometers^2). Mean width, 2.7 miles (4.34 kilometers).

Perimeter, 24.5 miles (39.42 kilometers). Axial length, 9.5 miles (15.28 kilometers).

Maximum basin relief, 900 feet (274.32 meters).

Geology:

Predominantly Precambrian volcanic with some acidic intrusive rocks, Cambrian sedimentary and Ordovician volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

River used for hydro purposes.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon.

Atlantic Salmon Angling Record - Partial Count - St. Lawrence River (Little St. Lawrence).

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1964	50	22	78	35.4	-	-	-	22	78	35.4
1966	25	3	14	6.4	-	-	-	3	14	6.4
1967	114	3	12	5.4	-	-	-	3	12	5.4
1968	135	25	111	50.4	1	12	5.4	26	123	55.8
1969	4	2	8	3.6	-	-	-	2	8	3.6
1970	52	4	12	5.4	-	-	-	4	12	5.4
1971	55	12	40	18.2	-	-	-	12	40	18.2
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 16-22	August 4-10	July 22-28 (1968)

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

SALT COVE BROOK

Location: 46° 52' 45" N 55° 25' 20" W. Salt Cove, near Great St. Lawrence Harbour

Map Reference: St. Lawrence. 1 L/14 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factor:

Basin area, 8.9 miles^2, (23.05 kilometers^2), Mean width, 2.4 miles, (3.86 kilometers).

Perimeter, 14.6 miles, (23.49 kilometers), Axial length, 5.8 miles, (9.33 kilometers).

Maximum basin relief, 600 feet, (182.88 meters).

Geology:

Predominantly acidic intrusive rocks with some Ordovician sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Miscellaneous Information:

Fluorspar mine in the drainage basin area has introduced sand and clay into the brook. (No chemical analysis carried out).

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

Anonomyous. Salmon and Trout Management Program. MS report, Fisheries Service, St. John's, Newfoundland.

LAWN RIVER

Location: 46°55'55" N. 55°28'20" W. Little Lawn Harbour.

Map Reference: St. Lawrence. 1 L/14 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 14.7 miles^2 (38.07 km^2). Mean width, 2.0 miles (3.21 km).

Perimeter, 21.8 miles (35.07 km). Axial length, 7.3 miles (11.74 km).

Maximum basin relief, 800 feet (243.84).

Geology:

Predominantly Precambrian volcanic with about equal amounts of acidic intrusive rocks and Ordovician sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.15	1.0	4.0	1.1	9.5	30.0	1.0	

FISH POPULATIONS

Species Present: Atlantic salmon.

Summary, Angling Data - Partial Count - Lawn River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	
1968	119	51	192	87.2	-	-	-	51	192	87.2
1969	24	17	68	30.9	-	-	-	17	68	30.9
1970	No report									
1971	9	7	30	13.6	-	-	-	7	30	13.6
1972	No report									
1973	63	15	55	25.0	-	-	-	15	55	25.0
1974										
1975										
1976										
1977										

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics)

Year.	First fish	Last fish	Week of peak run
Average 1968-1969	June 21-27	August 11-17	July 13-20 (1968)

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date

References:

LITTLE LAWN BROOK

Location: 46° 56' 50" N 55° 32' 20" W. Great Lawn Harbour
Map Reference: Lamaline. 1 L/13 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 31.0 miles^2, (80.29 kilometers^2), Mean width, 3.2 miles, (5.14 kilometers).

Perimeter, 29.4 miles, (47.30 kilometers), Axial length, 9.7 miles, (15.60 kilometers).

Maximum basin relief, 800 feet, (243.84 meters).

Geology:

Predominantly Precambrian volcanic with about equal amounts of acidic intrusive rocks and Ordovician sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Miscellaneous Information:

River is used for hydroelectric power for the town of Lawn.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

TAYLOR BAY BROOK

Location: 46°52'40" N. 55°43'05" W. Taylor Bay.

Map Reference: Lamaline 1 L/13 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 27.1 miles^2 (70.18 km^2). Mean width, 2.7 miles (4.34 km).

Perimeter, 28.0 miles (45.05 km). Axial length, 9.6 miles (15.45 km).

Maximum basin relief, 550 feet (167.64 m).

Geology:

Precambrian volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Main River:

Falls at mile one (1.61 km). Ledge rock at top of falls blasted in 1972 to confine low water flows. Presents no problem to migrating fish.

Photographs on file; Nos. 696

Water Quality Data, Sample Collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.4	2.0	6.0	1.2	9.5	30.0	1.2	2.44

FISH POPULATIONS

Species Present: Atlantic salmon.

Atlantic Salmon Angling Record - Taylor Bay Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1963	3	2	7	3.2	-	-	-	2	7	3.2
1964[1]	12	6	27	12.3	-	-	-	6	27	12.3
1965	58	25	105	47.7	-	-	-	25	105	47.7
1966	48	13	46	20.9	-	-	-	13	46	20.9
1970	73	24	72	32.7	-	-	-	24	72	32.7
1971	52	28	97	44.0	-	-	-	28	97	44.0
1972	No report									
1973	119	18	72	32.7	-	-	-	18	72	32.7
1974										
1975										
1976										
1977										

[1]Angling data 1964-73 estimated to be 75% accurate. (R. Morris, personal communication).

Gene Frequency: Not completed

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
1966	June 19-25	July 24-30	-

Accessibility to Anglers:

Surveys: Engineering survey of falls at mile 1 (1.61 km) in 1961.

Redd Counts: None to date.

References:
Anonomyous. Summary of Stream Obstructions. MS report Fisheries Service, St. John's, Newfoundland.

Anonomyous. 1962. Salmon and Trout Management Program. MS report, Fisheries Service, St. John's, Newfoundland.

SALMONIER RIVER

Location: 46°52'25" N. 55°46'32" W. Lamaline Bay.

Map Reference: Lamaline. 1 L/13 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 44.5 miles^2 (115.25 km^2). Mean width, 3.8 miles (6.11 km).

Perimeter, 34.7 miles (55.83 km). Axial length, 11.9 miles (19.14 km).

Maximum basin relief, 500 feet (152.40 m).

Geology:

Almost entirely Precambrian volcanic with some Cambrian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Main River:

Falls at mile 10 (16.09 km). Height: maximum 7 feet (2.13 m); right side has 2 drops; lower one is 4 feet (1.22 m) high, at a 60° angle and the upper is 3 feet (0.91 m) at a 60° angle with a small overhanging lip. The centre has a 7 foot (2.13 m) drop. Temporary holdup at low water levels.

Photographs on file; Nos. 684

Water Quality Data, Sample Collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.
6.55	4.0	6.0	1.0	8.5	28.0	1.2	4.88

FISH POPULATIONS

Species Present: Atlantic salmon.

Atlantic salmon angling record - Salmonier River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	85	23	108	49.0	-	-	-	23	108	49.0
1953	230	85	380	172.5	3	22	10.0	88	402	182.5
1954	21	7	23	10.4	-	-	-	7	23	10.4
1955	46	29	119	54.0	1	6	2.7	30	125	56.7
1956	-	25	106	48.1	1	9	4.1	26	115	52.2
1957	17	4	17	7.7	-	-	-	4	17	7.7
1958	38	26	112	50.8	5	30	13.6	31	142	64.5
1959	99	35	159	72.2	2	16	7.3	37	175	79.5
1960	304	60	247	112.1	-	-	-	60	247	112.1
1961	318	45	182	82.6	-	-	-	45	182	82.6
1962	359	96	372	168.9	-	-	-	96	372	168.9
1963	326	161	646	293.3	-	-	-	161	646	293.3
1964[1]	589	206	779	353.7	2	15	6.8	208	794	360.5
1965	430	76	307	139.4	-	-	-	76	307	139.4
1966	534	127	590	267.9	1	8	3.6	128	598	271.5
1967	714	57	213	96.7	-	-	-	57	213	96.7
1968	814	147	591	268.3	-	-	-	147	591	268.3
1969	720	164	723	328.2	-	-	-	164	723	328.2
1970	711	99	403	183.0	-	-	-	99	403	183.0
1971	281	87	293	133.0	-	-	-	87	293	133.0
1972	342	26	126	57.2	-	-	-	26	126	57.2
1973	319	76	268	121.8	-	-	-	76	268	121.8
1974										
1975										
1976										
1977										
Mean 1964-68	616	123	496	225.5	.6	4.6	2.1	123	501	227.5
Mean 1969-73	475	90	363	164.8	-	-	-	90	363	164.8

[1]Angling data, 1964-73, estimated to be 95-100% accurate. (R. Morris, personal communication)

Gene Frequency: Not completed.

Timing or Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 21-27	August 21-27	July 20-27(1968)

Accessibility to Anglers:

Accessible by road at mouth; the remainder of stream accessible only by foot.

Surveys: None to date

Redd Counts: None to date.

References

FORTUNE BROOK

Location: 47°03'55" N. 55°50'05" W. Fortune, Fortune Bay.

Map Reference: Grand Bank. 1 M/4 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 18.7 miles^2 (48.4 km^2). Mean width, 2.4 miles (3.86 km).

Perimeter, 20.1 miles (32.34 km). Axial length, 7.6 miles (12.24 km).

Maximum basin relief, 800 feet (243.84 m).

Geology:

About half Cambrian sedimentary with the remainder consisting of Precambrian sedimentary and Precambrian volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

None

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Brook trout.

No angling data available on this stream.

Miscellaneous Information:

Beginning in 1955, brook serves as water supply for town of Fortune.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers.

Surveys: none to date.

Redd Counts: none to date.

References:

GRAND BANK BROOK

Location: 47°05'55" N. 55°45'09" W. Grand Bank, Fortune Bay.

Map Reference: Grand Bank. 1 M/4 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 25.8 miles^2 (66.82 km^2). Mean width, 3.0 miles (4.82 km).

Perimeter, 26.8 miles (43.12 km). Axial length, 8.1 miles (13.03 km).

Maximum basin relief, 800 feet (243.84 m).

Geology:

Almost entirely Precambrian volcanic with some acidic intrusive rocks and Ordovician sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

No obstructions.

Photographs on file; Nos. 302

Water Quality Data, Sample Collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.85	6.0	8.0	3.0	9.5	37.0	1.5	7.32

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout.

Atlantic Salmon Angling Record - Grand Bank Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1973	137	10	31	14.1	-	-	-	10	31	14.1
1974										
1975										
1976										
1977										

Miscellaneous Information:

The town of Grand Bank is situated at the mouth of this brook. River used for town water supply.

Gene Frequency:

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Redd Counts:

References: Anonomyous. Nfld. Dept. Nat. Res. 1943. Res. Bull. No. 12 St. John's, Newfoundland.

Palmer, C.H. 1928. The Salmon Rivers of Newfoundland. Farrington Co. Boston.

LANSE AU LOUP BROOK

Location: 47°05'08" N. 55°40'57" W. Fortune Bay.

Map Reference: Grand Bank. 1 M/4 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 7.2 miles^2 (18.64 km^2). Mean width, 1.2 miles (1.93 km).

Perimeter, 15.0 miles (24.13 km). Axial length, 5.7 miles (9.17 km).

Maximum basin relief, 450 feet (121.93 m).

Geology:

Precambrian volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.5	6.0	6.0	0.7	8.0	26.0	1.5	7.32

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date

References:

LITTLE BARASWAY BROOK

Location: 47°06'15" N. 55°37'25" W. Fortune Bay.

Map Reference: Grand Bank. 1 M/4 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 12.0 miles^2 (31.06 km^2). Mean width, 1.7 miles (2.73 km).

Perimeter, 17.8 miles (28.64 km). Axial length, 6.2 miles (9.98 km).

Maximum basin relief, 450 feet (121.93 m).

Geology:

Precambrian volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected, May 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.6	5.0	8.0	0.7	8.5	32.0	1.5	6.10

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

FAMINE BROOK

Location: 47°07'08" N. 55°36'50" W. Fortune Bay.

Map Reference: 1 M/4 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 11.2 miles^2 (29.00 km^2). Mean width, 1.5 miles (2.41 km).

Perimeter, 22.5 miles (36.20 km). Axial length, 7.4 miles (11.90 km).

Maximum basin relief, 450 feet (121.93 m).

Geology:

Almost entirely Precambrian volcanic with some acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected, May 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.4	3.0	6.0	1.0	9.0	25.0	1.0	3.66

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

GARNISH RIVER

Location: 47°13'40" N. 55°20'50" W. Little Garnish Barasway, Fortune Bay.

Map Reference: Marystown. 1 M/3 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 82.0 miles^2 (212.38 km^2). Mean width, 3.0 miles (4.82 km).

Perimeter, 73.9 miles (118.90 km). Axial length, 24.0 miles (38.61 km).

Maximum basin relief, 1,500 feet (457.20 m).

Geology:

Precambrian volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Main River:

A series of 4 small falls located in a gorge section at mile 14.5 (23.33 km). Height: 3-4 feet (0.91-1.21 m). Length: 200 feet (60.96 m). In 1971 boulders and ledgerock blasted at the four falls to make fish passage easier.

Falls at mile 17 (27.35 km). Height: 12 feet (3.64m) on right hand side and centre. Slope 90°. Run around on left hand side that can be utilized only at high water levels but is a complete obstruction at low and medium water levels.

Tributaries:

Falls at mile 1 (1.61 km), complete obstruction at all water levels.

Photographs on file; Nos. 685, 1202-1208

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, sea trout.

Atlantic salmon angling record - Garnish River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	6	3	11	5.0	1	7	3.2	4	18	8.2
1953	38	8	30	13.6	-	-	-	8	30	13.6
1954	14	3	9	4.1	-	-	-	3	9	4.1
1955	1	-	-	-	-	-	-	-	-	-
1956	-	7	30	13.6	-	-	-	7	30	13.6
1958	20	11	43	19.5	-	-	-	11	43	19.5
1959	17	17	83	37.7	-	-	-	17	83	37.7
1960	49	9	32	14.5	-	-	-	9	32	14.5
1961	28	5	17	7.7	-	-	-	5	17	7.7
1962	94	33	107	48.6	-	-	-	33	107	48.6
1963	28	15	58	26.3	-	-	-	15	58	26.3
1964[1]	110	54	181	82.2	-	-	-	54	181	82.2
1965	231	91	325	147.6	-	-	-	91	325	147.6
1966	144	61	212	96.2	-	-	-	61	212	96.2
1967	656	389	1291	586.1	-	-	-	389	1291	586.1
1968	970	977	3216	1460.1	-	-	-	977	3216	1460.1
1969	1263	2637	8569	3890.3	-	-	-	2637	8569	3890.3
1970	1318	2071	5713	2593.7	1	9	4.1	2072	5722	2597.8
1971	1154	1382	3798	1724.3	6	51	23.2	1388	3849	1747.5
1972	1144	1242	3733	1694.8	-	-	-	1242	3733	1694.8
1973	1212	1080	3242	1473.6	-	-	-	1080	3242	1473.6
1974										
1975										
1976										
1977										
MEAN										
1964-68	422	314	1045	475.0	-	-	-	314	1045	475.0
1969-73	1218	1682	5011	2277.7	1.4	12.0	5.5	1684	5023	2283.2

1 Angling data, 1964-73, estimated to be 80% accurate.(R.Morris, personal communication).

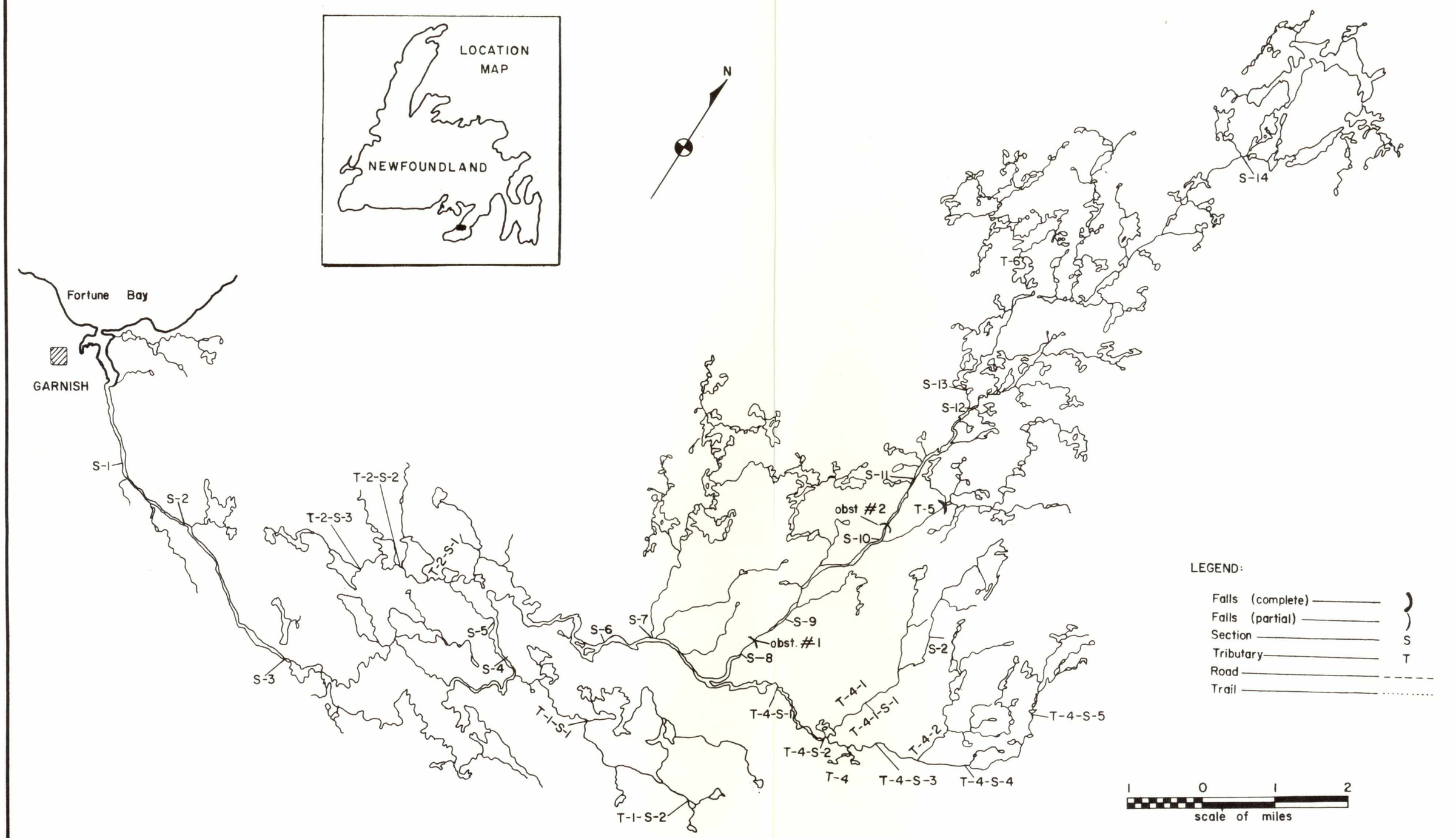


FIG. 9 OUTLINE MAP OF GARNISH RIVER SHOWING OBSTRUCTION LOCATIONS AND SECTIONS SURVEYED.

Potential Population Estimation

Estimated Atlantic salmon smolt production and adult sea survival, Garnish River and tributaries.

If smolt production per 100 yds^2(83.7 m^2) is: Smolts produced		1 9,283	2 18,566	3 27,849
Adult return if sea survival is:	5%	464	928	1,392
	10%	928	1,857	2,785
	15%	1,392	2,785	4,177
	20%	1,857	3,713	5,570
	25%	2,321	4,642	6,962

Miscellaneous Information:

Good salmon pools are located on the river from its mouth to mile 4 (6.44 km).

Gene Frequency:

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 9-15	August 2-9	June 22-July 6 (1968)

Accessibility to Anglers:

Accessible at mouth and at Garnish Pond by road and small boat. Accessible from Marystown by a foot trail, distance approximately five miles (8.05 km).

Surveys:

Biological survey, 1971.

Spawning survey, 1971.

Redd Counts:

1971, partial spawning survey located 850 redds.

References:

Anonomyous. 1943. Dept. Nat. Res. Res. Bull. No. 12, St. John's, Newfoundland.

Palmer, C.H. 1928. The Salmon Rivers of Newfoundland. Farrington Co. Boston.

Riche, L.G. and G.R. Traverse, 1972. River Investigations 1971 Burin Peninsula - an inventory - MS report, Fisheries Service, St. John's, Newfoundland.

S-33-0854

DEVIL BROOK

Location: 47° 16' 35" N 55° 18' 35" W. Fortune Bay

Map Reference: Point Enragee. 1 M/6 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 26.1 miles^2, (67.60 kilometers^2), Mean width, 2.2 miles, (3.53 kilometers).

Perimeter, 35.4 miles, (56.95 kilometers), Axial length, 11.8 miles, (18.98 kilometers).

Maximum basin relief, 1,250 feet, (381.00 meters).

Geology:

Precambrian volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

S-34-0917

TERRENCEVILLE BROOK

Location: 47° 40' 37" N 54° 42' 00" W. Terrenceville, Fortune Bay.
Map Reference: Terrenceville, 1 M/10 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 44.3 miles^2, (114.73 kilometers). Mean width, 4.5 miles, (7.24 kilometers).

Perimeter, 39.7 miles, (63.87 kilometers). Axial length, 10.2 miles, (16.41 kilometers).

Maximum basin relief, 1,147 feet, (349.60 meters).

Geology:

About half gneissis with the remainder consisting of Precambrian volcanic, Ordovician sedimentary and Cambrian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Approximately 3.5 miles (5.63 kilometers) from the mouth, there is a series of seven falls in a 100 yard (91.44 meters) long gorge. Total overall height is one hundred feet (30.48 meters).

Obstructions, gorge section of Terrenceville Brook

Falls number (from downstream end)	Description	Degree of obstruction
1	15' (4.56 meters) high, 50° slope	Passable with difficulty
2	20' (6.09 meters) vertical	Complete
3	15' (4.56 meters) high, 75° slope	Complete
4	10' (3.04 meters) vertical	Passable with difficulty
5	20' (6.09 meters) vertical	Complete
6	10' (3.04 meters) 45° slope	Passable
7	10' (3.04 meters) 45° slope	Passable

Photographs on file; Nos. 1209

Water Quality Data, Sample Collected May, 1973

pH	Alkalinity (Total) ppm	Total Hardness ppm	Turbidity JTU	Chlorides ppm	Spec.Cond. @ 25°C in mhos/cm	Calcium ppm	HCO_3 Biocarbonate ppm
5.8	<1.0	5.0	0.8	12.0	12.0	0.5	-

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout, banded killifish.

Atlantic salmon angling record - Terrenceville Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	2	3	15	6.8	1	6	2.7	4	21	9.5
1953	58	25	90	40.9	12	90	40.9	37	180	81.8
1954	32	37	94	42.7	-	-	-	37	94	42.7
1955	49	8	24	10.9	-	-	-	8	24	10.9
1956	-	2	7	3.2	-	-	-	2	7	3.2
1957	17	4	11	5.0	1	10	4.5	5	21	9.5
1958	41	1	2	0.9	2	20	9.1	3	22	10.0
1960	19	-	-	-	1	15	6.8	1	15	6.8
1962	7	-	-	-	-	-	-	-	-	-
1963	31	4	16	7.3	-	-	-	4	16	7.3
1964	141	6	21	9.5	-	-	-	6	21	9.5
1965	58	11	42	19.1	-	-	-	11	42	19.1
1966	3	2	8	3.6	-	-	-	2	8	3.6
1967	192	42	155	70.4	-	-	-	42	155	70.4
1968	247	104	375	170.3	-	-	-	104	375	170.3
1969	67	9	29	13.2	-	-	-	9	29	13.2
1970	41	-	-	-	-	-	-	-	-	-
1971	39									
1972	No report									
1973	14	-	-	-	-	-	-	-	-	-
1974										
1975										
1976										
1977										

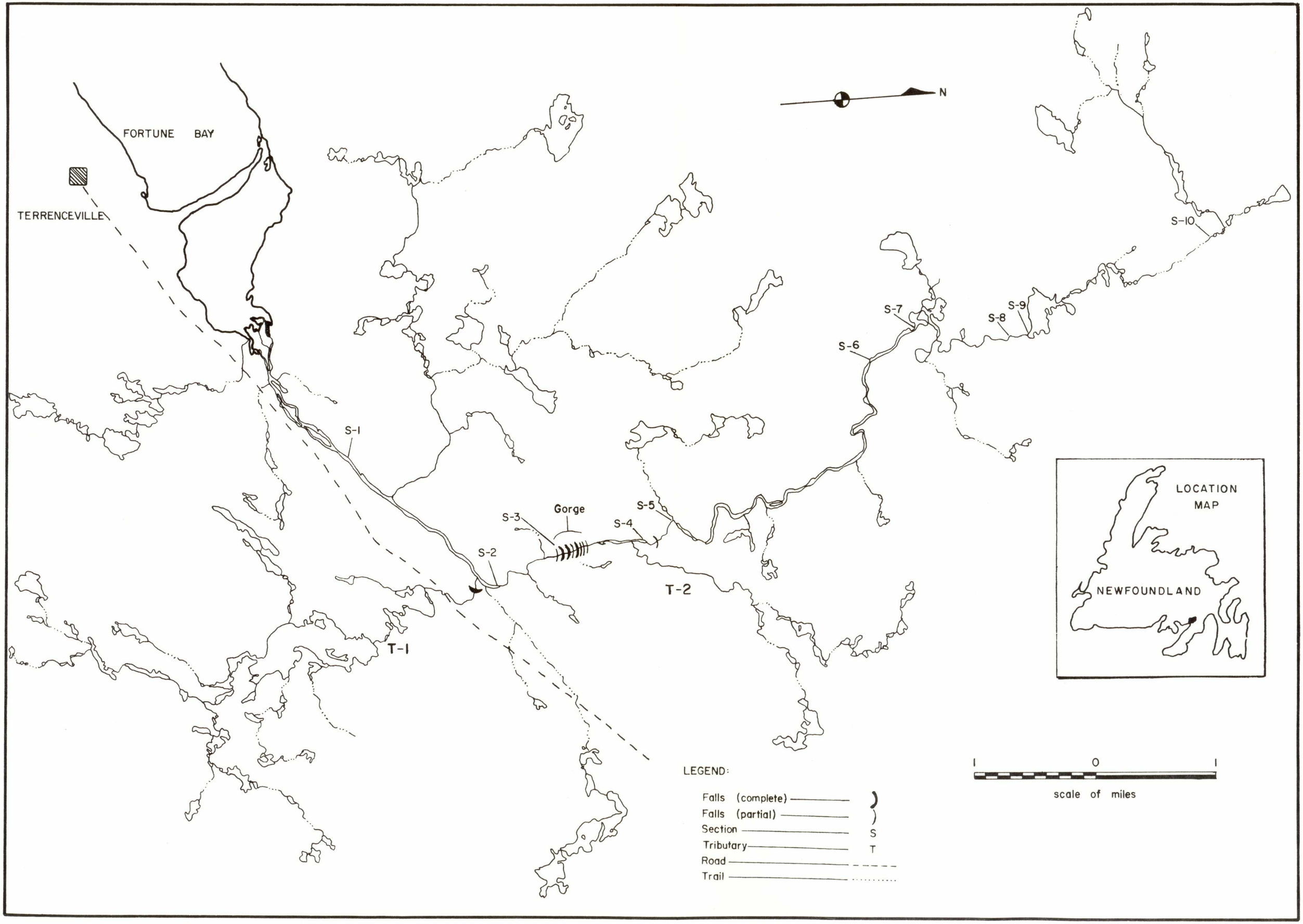


FIG. 10 OUTLINE MAP OF TERRENCEVILLE RIVER SHOWING OBSTRUCTION LOCATIONS AND SECTIONS SURVEYED.

Potential Population Estimation

Estimated Atlantic Salmon smolt production and adult sea survival;
Terrenceville Brook, below series of complete obstructions.

If smolt production per 100 yds^2 (83.7 meters^2) is:		1	2	3
		867	1,734	2,601
Smolts produced				
Adult return if sea survival is:	5%	43	87	130
	10%	87	173	260
	15%	130	260	390
	20%	173	347	520
	25%	217	434	650

Estimated Atlantic salmon smolt production and adult sea survival,
Terrenceville Brook above series of complete obstructions.

If smolt production per 100 yds^2 (83.7 meters^2) is:		1	2	3
		970	1,940	2,910
Smolts produced				
Adult return if sea survival is:	5%	49	97	146
	10%	97	194	291
	15%	146	291	437
	20%	194	388	582
	25%	243	485	728

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics).

Year	First fish	Last fish	Week of peak run
Average (1966-1969)	July 2 - 8	August 21-Sept. 2	July 27-August 3 (19

Accessibility to Anglers:

Surveys: Engineering survey of obstructions in 1967.
Biological Survey, 1971.

Redd Counts: None to date.

References:

Anonymous. 1943. Nfld. Dept. Nat. Res., Res. Bull. No. 12, St. John's, Newfoundland.

Palmer, C.H. 1928. Salmon Rivers of Newfoundland, Farrington Co., Boston.

Riche, L.G. and G.Traverse. 1971. River Investigations 1971 Burin Peninsula - An Inventory - MS report, Fisheries Service, St. John's, Newfoundland.

GRAND LA PIERRE RIVER (BROOK)

Location: 47°41'29" N. 54°46'55" W. Grand La Pierre, Fortune Bay.

Map Reference: Terrenceville, 1 M/10 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 17.9 miles^2 (46.36 km^2). Mean width, 3.2 miles (5.14 km).

Perimeter: 20.4 miles (32.82 km). Axial length, 5.6 miles (9.01 km).

Maximum basin relief: 900 feet (274.32 m).

Geology:

Almost entirely acidic intrusive rocks with some Cambrian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main River from mouth to mile 1.25 (2.01 km).

Width range; 20 to 25 feet (6.09 m to 7.62 m). Average depth; 2 feet (0.6 m).

Bottom types: Sand 5%; gravel 10%; rubble 45%; Boulder 20%; Bedrock 20%.

Barriers to Fish Migration:

Falls on main river at mile 1.25 (2.01 km). Height: 25-30 feet (7.62-9.14 m). Width: 20 feet (6.09 m). Slope: 80°. Complete obstruction.

Photographs on file: Nos.

Water Quality Data, Sample Collected May, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
5.85	2.0	4.0	0.7	3.5	13.0	0.5	2.44

FISH POPULATIONS

Species Present: Brook trout.

Angling data:

Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: Biological survey, 1966.

Redd Counts:

None to date.

References:

Newfoundland Region, Rept. of Resource Dev. Br. 1967. Ann. Rept. for 1966.

S-34-0944

FEMME HARBOUR BROOK

Location: 47° 37' 12" N 55° 58' 40" W. Femme Harbour, Fortune Bay.

Map Reference: Terrenceville. 1 M/10 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 7.7 miles^2, (19.94 kilometers^2). Mean width, 2.0 miles, (3.21 kilometers).

Perimeter, 15.0 miles, (24.13 kilometers). Axial length, 5.0 miles, (8.04 kilometers).

Maximum basin relief, 1,200 feet, (365.76 meters).

Geology:

Predominantly Silurian sedimentary with some Ordovician volcanic.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration: Falls on main river, near mouth, 8 feet, (2.43 meters), high; passable.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

Anonymous. Nfld. Dept. Nat. Res. 1943 Res. Bull. No. 12, St. John's, Newfoundland.

YOUNG'S BROOK

Location: 47° 46' 10" N 54° 56' 50" W. Long Harbour, Fortune Bay.

Map Reference: Gisbourne Lake. 1 M/15 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 10.6 miles^2, (27.45 kilometers^2). Mean width, 1.7 miles, (2.73 kilometers).

Perimeter, 16.5 miles, (26.54 kilometers). Axial length, 5.9 miles, (9.49 kilometers).

Maximum basin relief, 1,100 feet, (335.28 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Bottom type: Main river from mouth to mile point 1.8, (2.89 kilometers); bedrock, boulder and gravel.

Barriers to Fish Migrations:

Falls at mile point 0.3, (0.48 kilometers), on main river, 6 feet, (1.82 meters) high, angle 45°; partial obstruction.

Falls at mile point 1.8, (2.89 kilometers), on main river, 110 feet, (33.52 meters), high, angle 75°; total obstruction.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Biological survey, 1966.

Redd Counts: None to date

References:

SOUTH WEST BROOK

Location: 47°46'55" N. 54°56'10" W. Long Harbour, Fortune Bay.

Map Reference: Gisbourne Lake. 1 M/15 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin are: 62.6 miles^2 (162.13 km^2). Mean width: 5.0 miles (8.04 km).

Perimeter: 42.0 miles (67.57 km). Axial length: 11.6 miles (18.66 km).

Maximum basin relief, 1,147 feet (349.60 m).

Geology:

Predominantly acidic intrusive rocks with the remainder consisting of Precambrian volcanic and a small amount of Ordovician volcanic.

Vegetational Cover:

Upper drainage basin is covered by muskeg; lower basin is forested.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main River: From mouth to Gisbourne Lake;

Range of channel width: 60-80 feet (18.28-24.38 m).

Range of channel depth: 12-30 inches (0.3-0.76 m).

Velocity: From mouth to mile 3.3 (5.31 km), swift to moderate, Headwaters from mile 3.3 (5.31 km), to Gisbourne Lake, sluggish.

Bottom types: Gravel and mud 2.5%; sand 5%; sand and gravel 4.2%; coarse gravel 0.8%; fine gravel 6.7%; boulders 63.3%; bedrock 17.5%.

Barriers to Fish Migration:

Main River:

Falls at mile 3.3 (5.31 km). Height: 100 feet (30.48m). Complete obstruction.

Falls at mile 3.5 (5.63 km). Height: 10 feet (3.04 m). Partial obstruction.

Falls at mile 3.8 (6.11 km). Height: 40 feet (12.19 m). Complete obstruction.

Photographs on file:

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

Angling Data: Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Biological survey, 1966.

Redd Counts:

None to date.

References:

Newfoundland, Rept. of Resource Dev. Br., 1967. Ann. Rept. for 1966.

LONG HARBOUR RIVER

Location: 47°49'25" N. 54°56'30" W.

Map Reference: Gisbourne Lake. 1 M/15 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 387.0 miles^2 (1,002.33 km^2). Mean width: 9.9 miles (15.92 km).

Perimeter: 117.6 miles (189.21 km). Axial length: 32.5 miles (52.29 km).

Maximum basin relief: 1,076 feet (327.96 m).

Geology:

Almost entirely acidic intrusive rocks with some Cambrian sedimentary. Glacial drumlins, moraines and eskers are numerous.

Soils:

Deep alluvial soils are found along main river bed, on islands in river and on flood plain. Podzals are found at the bases of eroding upland hills. Glei soils underlie bogland. Glaciation has produced shallow, intermittent soils.

Vegetational Cover:

Bog and hummocks of stunted spruce and tamarack cover headwaters and upland areas. Medium to large size spruce, balsam, fir, tamarack, yellow birch, white birch, alder and white pine grow on valley slopes and bottom land.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Total area of main river is 1,219.5 acres. Total length of main river is 25 miles (40.25 km).

Main River:

Mile 0 to Mile 5 (8.04 km). Width, 400 to 1,300 feet (121.92-396.24 m). Depth, 6 to 24 inches (0.15-0.6 m) in riffles; 3 to 5 feet (4.82-8.04 m) in pools.

Mile 5 to mile 10 (8.05-16.09 km). Width, 300 to 500 feet (91.44-152.40 m). Depth, 6 to 35 inches (0.15-1.12 m) in riffles; 3 to 6

feet (0.91-1.82 m) in pools. Channel narrows into a vertical wall granite canyon between mile 7 and 8.5, (11.26-13.67 km).

Mile 10 to mile 15 (16.09 and 24.13 km). Width, 350 to 800 feet (106.68-243.84 m). Depth, 6 to 30 inches (0.15-0.76 m) in riffles; 3 to 5 feet (0.91-1.52 m) in pools. Channel widens into large, shallow pools; banks slope gently to river.

Mile 15 to mile 20 (24.15-32.20 km). Width, 150 to 600 feet (45.72-182.88 m). Depth, 1 to 2 feet (0.3-0.6 m), in riffles; 3 to 5 feet (0.91-1.5 m) in pools.

Mile 20 to mile 25 (32.18-40.22 km.). Width, 50 to 1,100 feet (15.24-335.28 m). Depth 1 to 5 feet (0.3-1.52 m). Channel incorporates ponds, large pools and narrow runs.

Mile 25 (40.22 km) to headwaters at Lake Maelpaeg - Meta Pond complex: Anastmasing drainage; water from Terra Nova drainage intermingles with Long Harbour river water at Lake Maelpaeg. Many lakes in system are large in area, but all appear shallow.

Tributary No. 1:

Enters main river 1.75 miles (2.81 km) from mouth. Total length of main stream is 8.6 miles (13.83 km). Length of interpond tributaries is 15 miles (24.13 km). Width, 30 to 200 feet (9.14-60.96 m). Depth, shallow.

Tributary No. 2:

Enters main river at mile 7 (11.26 km). Total length of main stream is 11.3 miles (18.18 km). Length of interpond tributaries is 10 miles (16.09 km). Width, 20 to 300 feet (6.09-91.44 m).

Tributary No. 3:

Enters main river at mile 15 (24.13 km). Total length of main stream is 8.6 miles (13.83 km). Width, up to 300 feet (91.44 m). Slope of basin is slight.

Tributary No. 4: Tolt Brook:

Enters main river at mile 17 (27.35 km). Total length of main stream is 9.3 miles (14.97 km). Length of interpond tributaries is 7 miles (11.26 km). Slope of basin is slight.

Bottom Types:

Main River, from mouth to mile 25 (40.22 km). Bedrock 539,367 yd^2 (451,450.2 m^2); boulder 1,603,394 yd^2 (1,342,040.8 m^2); rubble

1,399,695 yd^2 (1,171,544.7 m^2); gravel, 591,763 yd^2 (495,305.6 m^2); sand 515,623 yd^2 (431,576.5 m^2); muck 252,749 yd^2 (211,550.9 m^2).

Note: Figures represent non-rapids area only.

Tributary No. 1: Upper section, rubble and bedrock, some muck; lower section, almost entirely bedrock.

Tributary No. 2: Upper section, predominantly boulders mixed with gravel and sand; a few areas of bedrock outcropping. Middle section, predominantly gravel and rubble. Lower section, 90% gravel and 10% rubble. Mouth frequent bedrock outcropping.

Tributary No. 4: Tolt Brook: Entire length, predominantly sand, fine gravel and boulders.

Velocities:

Main river, from mouth to mile 5. Velocity measured at 0.36 to 3.5 feet per second (0.10 - 1.06 m/sec), June 20, 1966. 99% glide, 1% rapids.

Mile 5 to 10 (8.04-16.09 km) 49% glide, 51% rapids.

Mile 10 to 15 (16.09-24.13 km) 84% glide, 14% rapids.

Mile 15 to 20 (24.13-32.18 km) 74% glide, 26% rapids.

Mile 20 to 25 (32.18-40.22 km) 70% glide, 30% rapids.

Tributary No. 1: Headwaters, predominantly glide. Middle and lower sections, 50% glide, 50% rapids.

Tributary No. 2: Upper section, predominatly glide. Middle and lower sections, 90% glide, 10% rapids.

Tributary No. 4, Tolt Brook: Entire stream, 100% glide

Aquatic Vegetation:

Following is summary of findings of survey, July, 1966.

Main river:

Main 0 to 13 (20.91 km); Potamogeton on mud bottoms along margins of pools and steadies. Nastoc frequent over gravel, rubble bottom. Juncus along river margins.

Note: Species and numbers of plants are few in lower sections.

From mile 13 (20.91 km) to headwaters, mile 25 (40.22 km); Filamentaus algae and Nastor abundant in all interlake areas. Potamogeton and Nuphar occur over all muck bottoms in shallow, still areas. Nasturtium (water cress) and Juncus(sedges) grow on sandy areas. Sparganium and Vellisneria common on gravel and sand bottoms in glide areas.

Headwater Lakes Region:

Sparganium and Nuphar common in shallow areas.

Tributary No. 2:

Upper section: Extensive beds of sparganium and/or Vallisneria.

Lower section: Juncus along margin of river and Sparganium and/or Vallisneria over gravel bottoms.

Spawning Areas:

Main river:

Mile 11 and 12 (17.69 km and 19.30 km) 2,000 yd^2 (1,674 m^2).

Mile 13 and 14 (20.91-22.52 km), 58,500 yd^2 (48,964 m^2).

Mile 17 to 18 (27.37-28.96 km), 6,500 yd^2 (5,440 m^2).

Mile 19 to 20 (30.57-32.18 km), 77,000 yd^2 (64,449 m^2).

Tributary No. 2:

Lower section above mile 1 (1.61 km); 90% of bottom area has suitable spawning gravel.

Barriers to Fish Migration:

Main river:

Rapids at mile 5.2 (8.36 km); may cause delay in upstream migration during low water periods.

Falls and rapids at mile 9 (14.48 km). Height: 10 feet (3.04 m). Width: 80 feet (24.38 m). Length: 100 feet (30.48 m). May delay upstream migration during periods of low water.
Note: Salmon were observed leaping over this obstruction on July 14, 1966.

Falls and rapids at mile 10 (16.09 km). Height: 30 feet (9.14 m). Length: 150 feet (45.72 m). May cause delay in upstream migration during low water periods.

Falls at mile 11 (17.69 km). Height: 6 feet (1.82 m). Length: 100 feet (30.48 m). No interference with fish migration.

Falls at mile 15 (24.13 km). Height: 6 feet (1.82 m). Length: 100 feet (30.48 m). No interference with fish migration.

Tributary No. 1:

Falls at mile 5 (8.04 km). Height: 35 feet (3.04 m). Angle 90°, Complete obstruction.

Tributary No. 2:

Falls at mile 0.25 (0.40 km). Height: 12 feet (3.64 m). Angle 90°. Extremely difficult for fish passage.

Three falls in section above mile 0.25 (0.40 km). May delay fish passage during periods of low run-off.

Tributary No. 4, Tolt Brook:

Free of obstructions to fish passage.

Outlet of Lake Mealpaeg:

Series of three rapids. May delay fish passage during low water periods.

Photographs on file; Nos. 984, 992, 996, 999, 1000-1004, 1096, 1127.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

Water Temperatures:

Main River at Mouth:

Period: May 11 to 31, 1966. High 68°F. Mean 51°F. Low 40°F.

June 1to 30, 1966. High 62°F. Mean 56°F. Low 44°F.

July 1 to 31, 1966. High 70°F. Mean 56°F. Low 50°F.

August 1 to 17, 1966. High 75°F. Mean 56°F. Low 59°F.

Discharge:

One measurement at mile 0.5, June 20, 1966. 804 cfs.

FISH POPULATIONS

Species Present: American smelt, Atlantic salmon, ouananiche, brook trout, American eel, nine spined stickleback, three spined stickleback.

Atlantic salmon angling record - Long Harbour River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	127	152	664	301.5	13	102	46.3	165	766	347.8
1953	112	49	219	99.4	9	68	30.9	58	287	130.3
1954	68	31	132	59.9	2	15	6.8	33	147	66.7
1955	26	8	31	14.1	3	28	12.7	11	59	26.8
1956	-	49	216	98.1	2	30	13.6	51	246	111.7
1957	31	15	62	28.1	2	16	7.3	17	78	35.4
1958	55	65	293	133.0	3	26	11.8	68	319	144.8
1959	47	61	275	124.9	2	18	8.2	63	293	133.1
1960	29	58	282	128.0	1	12	5.4	59	294	133.4
1961	42	28	121	54.9	-	-	-	28	121	54.9
1962	102	129	507	230.2	3	30	13.6	132	537	243.8
1963	78	182	798	362.3	1	10	4.5	183	808	366.8
1964[1]	255	386	1603	727.8	5	46	20.9	391	1649	748.7
1965	238	468	1857	843.1	-	-	-	468	1857	843.1
1966	84	274	925	420.0	1	9	4.1	275	934	424.1
1967	264	114	423	192.0	3	21	9.5	117	444	201.5
1968	246	269	884	401.3	9	55	25.0	278	939	426.3
1969	383	408	1425	647.0	1	7	3.2	409	1432	650.2
1970	359	391	1691	767.7	2	24	10.9	393	1715	778.6
1971	221	126	488	221.6	9	72	32.7	135	560	254.3
1972	210	338	1133	514.4	1	7	3.2	339	1140	517.6
1973	395	380	1190	540.9	-	-	-	380	1190	540.9
1974										
1975										
1976										
1977										
MEAN										
1964-68	217	302	1138	517.5	3.6	26.2	11.9	306	1165	529.4
1969-73	314	329	1185	538.8	2.6	22.0	10.0	331	1207	548.8

[1]Angling data, 1964-73, estimated to be 75% accurate.(R.Morris, personal communication).

Fyke Net and Counting Fence Statistics

Year	Salmon: Under 6 lbs. (2.7 kilograms)	Salmon: 6 lbs. and over	Atl. salmon: Smolt	Atl. salmon: Parr	Smelt	Eels	Brook trout
1966	1,039	-	5,314	2,362	5,314	374	712

Note: Fyke nets in operation May 10-June 15. Fence in operation June 22-August 18.

Estimates of total numbers of fish moving to and from Long Harbour River, May to August, 1966. Atlantic salmon smolts, 114,000 (p=,05) Atlantic salmon adults, 1,400.

Distribution of Species: Atlantic salmon parr are more numerous from mouth to mile point 18, (28.96 kilometers); brook trout are more abundant from mile point 18, (28.96 kilometers), to headwaters (sampling by seine and fly line).

Bottom Fauna Indices of Production (25 samples) July, 1966. Estimated average biomass (all stations) 1.4 gm/ft^2, 134.3 lbs/acre. Estimated average biomass of Macrobenthos .09 gm/ft^2, 9.4 lbs/acre. Average number of insects.....
3.8 ft.^{2}, 1,219.5/acre.

Indices of Production Per Bottom Type

Biomass in gms./ft^2:

Bedrock, 2.35	Muck, 2.05	Rubble, 1.25
Sand, 0.90	Boulder, 1.00	Gravel, 0.85

Insects, Number ft.^{2}:

Bedrock, 5.0	Muck, 1.0	Rubble, 7.3
Sand, 0.5	Boulder, 1.3	Gravel, 7.8

Parasitism: Ouananiche and brook trout from headwater pond (mile point 25) showed poor condition and heavy parasitism. The following parasites were identified from Long Harbour fish:

Atlantic salmon (adults): Hepatoxylon trichiuri, Eubothrium crassum, Anisakis sp. Tentacularia caryphaenae.

Atlantic salmon (smolts): Echinarhynchus lateralis, Eubotherium salvelini, Crepidastomum farionis, Capillaria sp. Metabronerma salvelini, Diplacotyle sp.

Ouananiche: Echinorhynchus lateralis, Eubotherium salvelini.

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 14-20	July 16-22	June 29-July 6 (1968)

Accessibility to Anglers:

Accessible at mouth by water. An amphicat trail crosses the river approximately 13 miles upstream and is therefore accessible by this means both from the Burin Peninsula as well as from Bay d'Espoir road. The trail follows the transmission line.

Surveys:

Biological survey, 1966.

Redd Counts:

None to date.

References:

Harmon, T.J. and L.G. Riche, 1971. A report on some of the ecological features of Long Harbour River, Fortune Bay. MS report, Fisheries Service, St. John's, Newfoundland.

Riche, L.G., 1969. Long Harbour River Investigation, 1966. MS report, Fisheries Service, St. John's, Newfoundland.

Riche, L.G., and Harmon, T.J., 1967. A survey of the Long Harbour River and Estuary, Fortune Bay. MS report, Fisheries Service, St. John's, Newfoundland.

SCHOONER BROOK

Location: 47°44'30" N. 55°59'45" W. Long Harbour, Fortune Bay.

Map Reference: Terrenceville. 1 M/10 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 15.3 miles^2 (39.62 km^2). Mean width: 2.8 miles (4.50 km).

Perimeter, 18.8 miles (30.24 km). Axial length: 6.0 miles (9.65 km).

Maximum basin relief, 1,100 feet (335.28 m).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Main River:

Falls 50 feet (15.24 m) from mouth. Height: 13 feet (3.96 m). Length: 30 feet (9.14 m). Slope: 30°. (natural steps in falls). Partial obstruction.

Falls 120 feet (36.57 m), from mouth. Height: 40 feet (12.19 m). Length: 15 feet (4.57 m). Slope: 80°. Complete obstruction.

Photographs on file: nos.

Water Quality Data, Sample collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

Angling Data:

Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Biological survey, 1966.

Redd Counts:

None to date.

References:

MAL BAY BROOK

Location: 47°41'57" N. 55°07'07" W. Mal Bay, Fortune Bay.

Map Reference: Belleoram. 1 M/11 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 18.0 miles^2 (46.62 km^2). Mean width, 2.2 miles (3.53 km).

Perimeter: 24.1 miles (38.77 km). Axial length, 8.8 miles (14.15 km.)

Maximum basin relief 1,100 feet (335.28 m).

Geology:

Almost entirely Ordovician volcanic with some acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main River: From mouth to mile 1.5 (2.41 km). Width range: 40 to 50 feet (12.19-15.24 m). Average depth: 1 foot (0.30 m).

Bottom Types: From mouth to mile 1 (1.60 km). Bedrock: 25%; boulder 40%; rubble 20%; gravel 15%.

Mile 1 to mile 1.5 (1.60-2.41 km), bedrock 20%; boulder 20%; rubble 40%; gravel 20%.

Barriers to Fish Migration:

Main River: Four falls in section from mile 1.5 (2.41 km) to mile 1.75 (2.81 km); forms a complete obstruction.

First falls: Height: 5 feet (1.52 m); Slope: 45°.

Second falls: Height: 8 feet (2.43 m); Slope: 30°.

Third falls: Height: 8 feet (2.43 m); Length: 8 feet (2.43 m). Width: 6 feet (1.82 m); slope: 90°

Fourth falls: Height: 20 feet (6.09 m); Length: 20 feet (6.09 m). Width: 15 feet (4.57 m); slope 90°.

Photographs on file; Nos. 1028.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Brook trout.

Angling data:

Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Biological survey, 1966.

Redd Counts:

None to date.

References:

Anonymous. 1943. Nfld. Dept. Nat. Res. Res. Bull. No. 12

Newfoundland Region, Rept. of Resource Dev. Br., 1967. Ann. Rept. for 1966.

RENCONTRE BROOK

Location: 47°38'15" N. 55°12'30" W. Rencontre East, Fortune Bay.

Map Reference: Belleoram. 1 M/11 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 75.3 miles^2 (195.02 km^2). Mean width, 3.6 miles (5.79 km).

Perimeter: 57.2 miles (92.03 km). Axial length, 18.7 miles (30.08 km).

Maximum basin relief, 1,065 feet (324.61 m).

Geology:

Predominantly acidic intrusive rocks with some Ordovician volcanic.

Vegetational Cover:

Forest in valley.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main river: from mouth to pond at mile 1 (1.60 km).

Bottom types: Gravel 10 %; rubble 50%; boulders 30%; bedrock 10%.

Spawning area:

Very little in this section.

Barriers to Fish Migrations:

Falls at mouth of main river, 6 feet (1.82 m) high at low tide; partial obstruction. At high tide the water rises to the crest of the falls eliminating the obstruction.

Photographs on file; No 1022.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout.

Angling data:

Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Biological survey, 1966.

Redd Counts:

None to date.

References:

Anonymous. 1943. Nfld. Dept. Nat. Res. Res. Bull. No. 12

Newfoundland Region, Rept. of Res. Dev. Br., 1967. Ann. Rept. for 1966.

References (cont'd.)

Palmer, C.H. 1928. Salmon Rivers in Newfoundland. Farrington Co., Boston.

S-34-1043

BELLE HARBOUR RIVER

Location: 47°42'05" N. 55°18'25" W. Bell Bay, Fortune Bay.

Map Reference: Belleoram. 1 M/11 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 17.8 miles^2 (46.10 km^2). Mean width, 2.8 miles (4.50 km).

Perimeter: 20.3 miles (32.66 km). Axial length, 7.0 miles (11.26 km).

Maximum basin relief, 850 feet (259.08 m).

Geology:

Acidic intrusive rocks.

Vegetational Cover:

Spruce, fir and birch; growth heavier in upper regions.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main river: from mile 0 to mile 3 (4.82 km). Width range: 30 to 75 feet (9.14-22.86 m). Depth range: 1 to 2 feet (0.3-0.6 m).

Bottom types: bedrock 60%; boulder 55%; rubble 25%; gravel 4%.

Velocity: medium to fast.

Spawning areas:

Main river: from mile 0 to mile 1 (1.60 km); 2,000 yd^2 (1,674 m^2), condition poor. From mile 2 to mile 3 (3.21-4.82 km); 1,760 yd^2 (1,473.12 m^2), condition poor.

Barriers to Fish Migration:

Main river: series of three falls, each 2-3 feet (0.6-0.91 m), high at mile 2 (3.21 km); partial obstruction.

Falls 10 feet (3.04 m) at mile 2.3 (3.70 km); partial obstruction.

Photographs on file; Nos. 1024, 1025.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout.

Angling Data:

Nil.

Miscellaneous Information:

Above mile 3 (4.82 km) the main river branches. Both branches flow through steep gorges where there are many rapids and falls, considered passable.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Biological survey, 1966.

Redd Counts:

None to date.

References:

Anonymous. 1943. Nfld. Dept. Nat. Res. Res. Bull. No. 12

Newfoundland Region, Rept. of Resource Dev. Br., 1967. Ann. Rept. for 1966.

S-34-1065

NORTH EAST BROOK

Location: 47°43'45" N. 55°21'35" W. East Bay, Belle Bay, Fortune Bay.

Map Reference: Belleoram. 1 M/11 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 54.8 miles^2 (141.93 km^2). Mean width: 3.2 miles (5.14 km).

Perimeter: 45.4 miles (73.04 km). Axial length: 16.0 miles (25.74 km).

Maximum basin relief, 1,065 feet (324.61 m).

Geology:

Almost entirely acidic intrusive rocks with some Cambrian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel characteristics:

Main River:

From mouth to mile 1.5 (2.41 km). Width range: 100 to 200 feet (30.48-60.96 m). Average depth: 2 feet (0.6 m).

Bottom types: from mouth to mile 1 (1.60 km). Bedrock 5%; boulder 20%; rubble 50%; gravel 25%.

From mile 1 to mile 1.5 (1.60-2.41 km). Bedrock 40%; boulder 20%; rubble 30%; gravel 10%.

Barriers to Fish Migration:

Falls at mouth on main river. Height: 5 feet (1.52 m). Width: 50 feet (15.24 m). Slope: 30.45°; partial obstruction.

Photographs on file:

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout.

Angling Data:

Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Biological survey, 1966.

Redd Counts:

None to date.

References:

Newfoundland Region, Rept. of Resource Dev. Br., 1967. Ann. Rept. for 1966.

NORTH WEST BROOK

Location: 47° 44' 18" N 55° 23' 45" W. East Bay, Fortune Bay.
Map Reference: Belleoram. 1 M/11 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 32.4 miles^2, (85.91 kilometers^2). Mean width, 3.1 miles, (4.98 kilometers).

Perimeter, 32.7 miles, (52.61 kilometers). Axial length, 11.2 miles, (18.02 kilometers).

Maximum basin relief, 800 feet, (243.84 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main River: From mouth to mile point 0.25, (0.40 kilometers).

Average width: 100 ft. (30.48 meters). Average depth: 1 to 2 ft., (0.3-0.6 meters).

Velocity: Medium.

Number of pools in section: 1, 100 yds., (932.8 meters) long by 25 yds. (21.2 meters) wide.

Bottom types: Bedrock: 10%, Boulder: 20%, Rubble: 50%, Gravel: 20%.

From mile point 0.25, (.40 kilometers), 300 yards (254.4 meters), upstream to 2nd falls.

Width range: 50 to 100 ft., (15.24-30.48 meters). Depth range: 1 to 2 ft., (.3-.6 meters).

Velocity: Medium.

Number of pools in section: 1 just below second falls.

Bottom types: Bedrock: 5%, Boulder: 40%, Rubble: 40%, Gravel: 15%.

From 2nd falls, mile point 0.5, (.8 kilometers) to 3rd falls, mile point 0.75, (1.20 kilometers).

Average width: 75 ft., (22.86 meters). Average depth: 1 ft. (0.3 meters).

Velocity: Medium.

Bottom types: Bedrock: 10%, Boulder: 50%, Rubble: 20%, Gravel: 20%.

Section: From 3rd falls, mile point 0 75, (1.20 kilometers) to 4th falls, mile point 1, (1,60 kilometers).

Width range: 50 to 100 ft.,(15.24-30.48 meters).Average Depth: 1',(.3 meters).

Velocity: Medium to slow.

Number of pools: A few small ones in section.

Bottom types: Bedrock 10%, Boulder: 40%, Rubble: 30%, Gravel: 20%.

Spawning Areas:

Main River: 15% of area in 300 yd., (254.4 meters), section between 1st and 2nd falls, medium condition. 20% of $\frac{1}{4}$ mile (.4 kilometers), section between 2nd and 3rd falls, medium condition. 20% of $\frac{1}{4}$ mile, (.4 kilometers), section between 3rd. and 4th falls, good condition.

Barriers to Fish Migration:

Main river: Falls at mile point 0.25, (0.4 kilometers), 15 ft.(4.57 meters) 2 ft., (0.6 meters), wide, 45° angle; believed to be impassable.

Falls #2: At mile point 0.5, (0.8 kilometers), a series of four falls.

Falls (a) 4 ft. (1.21 meters) high, 3 ft. (.91 meters), wide, 90° angle.

Falls (b) 10 ft. (3.04 meters) high, 8 ft. (2.43 meters), wide, 45° angle.

Falls (c) 10 ft. (3.04 meters) high, 5 to 6 ft. (1.51-1.82 meters), wide, 70° angle.

Falls (d) 3 ft. (.91 meters) high, 10 ft. (3.04 meters) wide, 90° angle.

Falls #3: At mile point 0.75 (1.21 kilometers), 8 ft. (2.43 meters) high, 2 to 6 ft., (1.82 meters) wide, 30° angle; partial obstruction.

Falls #4: At mile point 1, (1.61 kilometers), 4 ft. (1.22 meters) high, 75 ft. (22.86 meters) wide, 45° angle; partial obstruction.

Photographs on file; Nos. 1013

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout
No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:
Biological survey, 1966.

Redd Counts: None to date.

References:

Newfoundland Region, Rept. of Resource Dev., Br., 1967. Ann. Rept. for 1966.

S-34-1079

BAY DU NORD RIVER

Location: 47° 43' 50" N 55° 26' 15" W. North Bay, Fortune Bay.
Map Reference: Belleoram. 1 M/11 West half

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 452.0 miles^2, (1170.68 kilometers^2). Mean width, 8.3 miles, (13.35 kilometers).

Perimeter, 159.2 miles, (256.15 kilometers). Axial length, 42.0 miles, (67.57 kilometers).

Maximum basin relief, 1,254 feet, (382.21 meters).

Geology:

About half acidic intrusive rocks with the remainder consisting of Ordovician sedimentary, Ordovician volcanic and basic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main river: From mouth to mile point 2.5, (4.02 kilometers); located in tidal zone.

Between mile points 2.5 and 4.6, (4.02-7.40 kilometers); deep steady water, sand and mud bottom, straight banks and poor shade.

Between mile points 4.6 and 6.8, (7.4-10.94 kilometers). Depth range: 1½ - 5 ft., (.45-1.52 meters).

Velocity: swift. Fair to excellent shade, rubble and gravel bottom.

Spawning area: Approximately 5,334 yds., (4523.23 meters), excellent condition.

Between mile points 6.8 and 9.0, (10.48-14.48 kilometers), (Smoky Falls). Bedrock bottom, deep pools, rapids and four high falls.

Between mile points 9.0 and 11.3, (14.48-18.18 kilometers); Pool ("Big Still"). Entire length of this section: 2¼ miles, (3.62 kilometers) long and 1/3 mile, (.53 kilometers), wide. Depth 3 ft. (.91 meters). Bottom type: mud, sand and gravel.

North West Brook: (This tributary flows into the "Big Still"). From mouth to 400 yds., (339.2 meters), upstream - excellent spawning grounds. Above this there is a series of rapids and falls.

Barriers to Fish Migrations:

Main River: Falls and rapids at mile points 8 - 9, (12.87-14.48 kilometers); partial obstructions.

Smoky Falls, 56' (17.06 meters) high at mile point 9, (14.48 kilometers); complete obstruction.

Fishway built along side of Smoky Falls in 1947-1948.

Reports indicate that this fishway is ineffective.

Photographs on file; Nos. 64, 69, 111, 114, 115, 612.

Note: Fourteen tributaries of the sections previously mentioned have impassable falls a very short distance from the main river.

Water Quality Data.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout, gaspereau, smelt

Atlantic salmon angling record - Bay du Nord River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	91	54	240	109.0	12	108	49.0	66	348	158.0
1953	100	17	74	33.6	6	61	27.7	23	135	61.3
1954	11	3	11	5.0	-	-	-	3	11	5.0
1955	29	9	37	16.8	3	43	19.5	12	80	36.3
1956	-	7	31	14.1	7	64	29.0	14	95	43.1
1957	67	18	65	29.5	3	30	13.6	21	95	43.1
1958	73	30	139	63.1	6	70	31.8	36	209	94.9
1959	166	43	160	72.6	20	171	77.6	63	331	150.2
1960	145	22	68	30.9	9	81	36.8	31	149	67.7
1961	133	20	84	38.1	7	73	33.1	27	157	71.2
1962	149	35	138	62.7	7	58	26.3	42	196	89.0
1963	158	59	264	119.9	16	179	81.3	75	443	201.2
1964[1]	171	37	153	69.5	2	27	12.3	39	180	81.8
1965	48	20	77	35.0	2	19	8.6	22	96	43.6
1966	128	11	55	25.0	4	35	15.9	15	90	40.9
1967	32	23	111	50.4	4	51	23.2	27	162	73.6
1968	35	38	182	82.6	12	91	41.3	50	273	123.9
1969	26	44	210	95.3	1	13	5.9	45	223	101.2
1970	41	51	199	90.3	-	-	-	51	199	90.3
1971	32	46	200	90.8	6	50	22.7	52	250	113.5
1972	28	46	177	80.4	9	75.5	34.3	55	252.5	114.7
1973	45	97	387	175.9	14	145	65.9	111	532	241.8
1974										
1975										
1976										
1977										
MEAN										
1964-68	83	26	116	52.5	4.8	44.6	20.3	31	160	72.8
1969-73	34	57	235	106.6	6.0	56.7	25.8	63	291	132.4

[1]Angling data, 1964-73, estimated to be 100% accurate.(R.Morris, personal communication).

Summary, Counting fence data, Bay Du Nord River

Year	Salmon									Brook Trout		Frost
	Under 6 lbs. (2.7 kilograms)	6 lbs. & over	Smolt	Parr	Kelt	Smelt	Shad	Eels		Adult	Parr	Fish
1953	98	53										
1954	21	34										

Note * 1954 - Trap washed out in August.

Miscellaneous Information:

"Excellent river for salmon and can be fished from boat from mouth to falls over which distance 8 miles (12.87 kilometers), there are many pools. Large salmon up to 40 lbs. in weight frequent this river". (Palmer, 1928.)

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 21 - 27	August 1 - 7	July 13 - 20 (1968)

Accessibility to Anglers:

Accessible by boat at mouth. Twelve miles upstream impassable Smoky Falls, headwaters crossed by amphicat trail.

Surveys: Survey of fishway in 1950.

Redd Counts: None to date.

References:

Palmer, C. H., 1928. Salmon Rivers in Newfoundland Farrington Co., Boston.

Blair, A. A. 1953-54. Atlantic Salmon Research. MS report, Fisheries Service, St. John's, Newfoundland.

SALMON RIVER

Location: 47°39'53" N. 55°28'35" W. Cinq Island Bay, Fortune Bay.

Map Reference: Belleoram. 1 M/11 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 75.8 miles^2 (196.32 km^2). Mean width, 4.0 miles (6.43 km).

Perimeter: 59.2 miles (95.25 km). Axial length, 15.7 miles (25.26 km).

Maximum basin relief, 1,250 feet (381.00 m).

Geology:

Predominantly acidic intrusive rocks with some Ordovician volcanic and Ordovician sedimentary.

Vegetational Cover:

Forest covered valley with muskeg in the higher regions.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main river: mile 0 to mile 5 (8.04 km).

Bottom types: Silt 0.6%; sand 7.5%; gravel 19.4%;rubble 17.5%; boulders 33.1%; bedrock 21.9%

Spawning Areas:

Many good areas throughout main river mile 0 to mile 5 (8.04 km).

Barriers to Fish Migration:

Main River:

(1) Falls at mile 0.5 (0.80 km). Height: 8 feet (2.43 m). Partial obstruction.

(2) Gorge at mile 1.8 (2.89 km); partial obstruction.

(3) Falls at mile 3.0 (4.82 km). Height: 10 feet (3.04 m). Complete obstruction at low water levels.

(4) Rapids at mile 4.0 (6.43 km). Height: 8 feet (2.43 m). Partial obstruction.

(5) Rapids and falls between mile 4.5 and 5.0 (7.24-8.04 km); partial obstruction.

Photographs on file: Nos. 1006, 1007, 1010.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout.

Angling Data:

Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Biological survey, 1966.

Redd Counts:

None to date.

References:

Newfoundland Region, Rept. of Resource Dev. Br., 1967. Ann. Rept. for 1966.

SIMMONS BROOK
(Rattling Brook)

Location: 47° 39' 05" N 55° 28' 35" W. Cinq Island Bay, Fortune Bay.
Map Reference: Belleoram. 1 M/11 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 15.0 miles^2, (38.85 kilometers^2). Mean width, 3.1 miles, (4.98 kilometers).

Perimeter, 19.7 miles, (31.69 kilometers). Axial length, 4.5 miles, (7.24 kilometers).

Maximum basin relief, 1,150 feet, (350.52 meters).

Geology:

Predominantly acidic intrusive rocks with some Ordovician sedimentary and Ordovician volcanic.

Vegetational Cover:

River valley steep, covered with forest.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main river: From mouth to mile point 1.5: (2.41 kilometers).
Range of channel width: 10 - 30 ft., (3.04-9.12 meters).
Range of channel depth: 6 inches - 22 ft., (0.15-6.70 meters).
Velocity: Rapid.
Bottom type: Percentage of total area:
Sand: 8.8%, Gravel: 20%, Rubble: 16.3%, Boulders: 16.3%, Bedrock: 38.8%.

Barriers to Fish Migration:

Main River:

Series of 8 to 10 falls, from mouth to mile point 0.25; (.40 kilometers); complete obstruction: Falls, 10 ft. (3.04 kilometers) high, at mile point 0.5; (0.8 kilometers); partial obstruction. Two falls, 6 and 15 ft., (1.82-4.57 meters) high at mile point 1.5; (2.41 kilometers); complete obstruction.

Photographs on file; Nos. 1017, 1018,

Miscellaneous Information:

Many pools in this area. The maximum depth of 22 ft. (6.70 meters), was found in a pool near the mouth.

FISH POPULATIONS

Species Present: Atlantic salmon

Atlantic Salmon Angling Record - Simmons Brook

Year	Rod days	Grilse - Wt. No	lbs	kg	Salmon - Wt. No	lbs	kg	Total - Wt. No	lbs	kg
1968	19	16	71	32.2	3	21	9.5	19	92	41.7
1969	No Report									
1970	11	6	29	13.2	-	-	-	6	29	13.2
1971	38	22	80	36.3	4	39	17.7	26	119	54.0
1972	55	30	125	56.7	8	66	30.0	38	191	86.7
1973	5	5	20	9.1	-	-	-	5	20	9.1
1974										
1975										
1976										
1977										

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics).

Year	First fish	Last fish	Week of peak run
1968	June 30 - July 6	August 4 - 10	July 13 - 20 (1968)

Accessibility to Anglers:

Accessible by road approximately 3 miles (4.83 kilometers) upstream.

Surveys: Biological survey, 1966

Redd Counts: None to date.

References:

Anonymous. 1943. Nfld. Dept. Nat. Res. Res. Bull. #12.

Newfoundland Region, Rept. of Resource Dev. Br., 1967. Ann. Rept. for 1966.

SOUTH WEST BROOK
(Cinq Islands Brook)

Location: 47°36'35" N. 55°27'55" W. Cinq Island Bay, Fortune Bay.

Map Reference: Belleoram. 1 M/11 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 2.2 miles^2 (5.7 km^2). Mean width, 0.8 miles (1.28 km).

Perimeter: 7.5 miles (12.06 km). Axial length, 3.0 miles (4.82 km).

Maximum basin relief, 550 feet (167.64 m).

Geology:

About equal amounts of acidic intrusive rocks, Cambrian sedimentary and Ordovician sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main river: From mile 0 to mile 0.5 (0.8 km). Average width: 20 feet (6.09 m). Depth range: 6 to 12 inches (0.15-0.30 m).

Velocity: Medium.

Bottom types: Sand 12.5%; gravel 12.5%; rubble 20%; boulder 35% ; bedrock 20%.

Barriers to Fish Migration:

Main river.

Falls 50 yd (45.72 m) from mouth. Three sections looking upstream. Right hand side: Height; 10 feet (3.04 m). Width; 1 foot (0.30 m) Slope; 50°. Centre: Height; 8 feet (2.43 m). Width; 5 feet (1.52 m). Slope; 90°. Left hand side: Height; 10 feet (3.04 m). Width; 3 feet (0.91 m). Slope; 80°. Complete obstruction at low water.

Falls mile 0.5 (0.80 km). Three sections looking upstream. Right hand side: Height; 4 feet (1.22 km). Slope; 90°. Centre: Height; 10 feet (3.04 m). Slope; 80°. Left hand side: Height; 10 feet (3.04 m). Slope; 45°. Partial obstruction.

Photographs on file; Nos. 1019, 1020, 1021.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Brook trout.

Angling Data:

Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Biological survey, 1966.

Redd Counts:

None to date.

References:

Anonymous. 1943. Dept. of Nat. Res. Res. Bull. #12.

Newfoundland Region, Rept. of Resource Dev. Br., 1967. Ann. Rept. for 1966.

OLD BROOK (Old Bay Brook)

Location: 47° 34' 40" N. 55° 35' 25" W. Great Bay de l'Eau, Fortune Bay.

Map Reference: Gaultois. 1 M/12 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 15.3 miles^2 (39.62 kilometers^2). Mean width, 2.8 miles (4.50 kilometers).

Perimeter, 18.9 miles (30.41 kilometers). Axial length, 5.0 miles (8.04 kilometers)

Maximum basin relief, 1,100 feet (335.28 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

No obstructions.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout.

Angling Data:

Atlantic salmon angling record-partial count - Old Brook (Old Bay Brook)

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1954	5	1	3	1.4	-	-	-	1	3	1.4
1965	89	2	9	4.1	-	-	-	2	9	4.1
1966	13	2	6	2.7	-	-	-	2	6	2.7
1967	29	2	8	3.6	-	-	-	2	8	3.6
1968	28	25	72	32.7	-	-	-	25	72	32.7
1970	No report									
1971	57	107	331	150.3	-	-	-	107	331	150.3
1972	162	124	464	210.7	2	15	7.8	126	479	217.5
1973	56	61	237	107.7	-	-	-	61	137	107.7
1974										
1975										
1976										
1977										

Gene Frequency:

Not completed.

Timing of Run: (Based on angling statistics)

	Year	First fish	Last fish	Week of peak run
Average	1965-1968	July 7-13	August 6-12	July 13-20 (1968)

Accessibility to Anglers:

Surveys:

None to date.

Redd Counts: None to date.

References:

Anonymous. 1943. Dept. Nat. Res. Res. Bull. No. 12.

TAYLORS BAY RIVER (Taylors Brook)

Location: 47° 33' 28" N. 55° 38' 35" W. Taylor Bay, Great Bay de L'Eau, Fortune Bay.

MapReference: Gaultois. 1 M/12 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 12.0 miles^2 (31.08 kilometers^2). Mean width, 2.1 miles (3.37 kilometers).

Perimeter, 18.2 miles (29.28 kilometers). Axial length, 5.2 miles (8.36 kilometers).

Maximum basin relief, 1,050 feet (320.04 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

On the main river, falls at mile point 0.5 (.8 kilometer), 10 ft. high (3.04 meters), sloping; passable.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon.

Angling Data:

Atlantic salmon angling record, partial count - Taylors Bay River (Taylors Brook).

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1965	114	8	33	15.0	-	-	-	8	33	15.0
1966	44	5	16	7.3	-	-	-	5	16	7.3
1967	98	9	27	12.3	-	-	-	9	27	12.3
1968	34	55	131	59.5	-	-	-	55	131	59.5
1970	No report									
1971	39	71	211	95.8	-	-	-	71	211	95.8
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Gene frequency:

Not completed.

Timing of Run: (Based on angling statistics)

	Year	First fish	Last fish	Week of peak run
Average	1965-1968	July 7-13	August 7-13	July 13-20 (1968)

Accessibility to Anglers:

Surveys:

None to date.

Redd Counts: None to date.

References:

Anonymous. 1943. Nfld. Dept. Nat. Res. Res. Bull. No. 12.

SALMONIER BROOK

Location: 47° 41' 05" N. 55° 40' 45" W. Salmonier Cove, Hermitage Bay.

Map Reference: Gaultois. 1 M/12 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 30.9 miles^2, (80.03 kilometers^2). Mean width, 3.0 miles, (4.82 kilometers).

Perimeter, 30.8 miles, (49.55 kilometers).

Maximum basin relief, 1,235 feet, (376.42 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Nil

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

Angling Data:

Nil.

Gene Frequency: Not completed.

Timing of Run.

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

Anonymous. 1943. Dept. of Nat. Res. Res. Bull. No. 12

LITTLE RIVER

Location: 47° 50' 50" N 55° 42' 07" W. Bay D'Espoir.
Map Reference: St. Alban's. 1 M/13 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 70.8 miles^2, (183.4 kilometers^2). Mean width, 2.9 miles, (4.66 kilometers).

Perimeter, 59.2 miles, (95.25 kilometers). Axial length, 22.6 miles, (36.36 kilometers).

Maximum basin relief, 900 feet, (274.32 meters).

Geology:

Ordovician sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Main River:

Falls 80 ft., (24.38 meters) high, angle 90°, at mile point 3.0, (4.82 kilometers); complete obstruction.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon

Summary, angling data, Little River, Bay D'Espoir

Year	Rod Days	Grilse No	Grilse lbs	Grilse kg.	Salmon No	Salmon lbs	Salmon kg	Total No	Total lbs	Total kg
1971	2	5	20	9.1	-	-	-	5	20	9.1
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References: Anonymous. 1943. Nfld. Dept. Nat. Res. Res. Bull No. 12.

CONNE RIVER

Location: 47° 54' 45" N 55° 41' 40" W. Bay D'Espoir

Map Reference: St. Alban's. 1 M/13 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 232.6 miles^2 (602.43 kilometers^2). Mean width, 7.9 miles, (12.71 kilometers).

Perimeter, 87.7 miles, (141.10 kilometers). Axial length, 28.1 miles, (45.21 kilometers).

Maximum basin relief, 1,050 feet, (320.04 meters).

Geology:

About equal amounts of Ordovician sedimentary and acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Length of all streams in system, not including standing water, 120 miles, (193.08 kilometers).

Spawning areas:

21 miles (33.78 kilometers), of the main river has areas of suitable gravel.

Barriers to Fish Migration:

Eight rapids and four falls on the main river and Conne Branch from 2.3 miles, (3.70 kilometers), from mouth to 10.0 miles, (3.04 kilometers) upstream; partial obstructions.

Dam, 17.8 miles, (28.64 kilometers) from mouth of main river. Passable, but difficult at low waters.

Dam, 5 miles, (8.04 kilometers), upstream from Conne Pond; partial obstruction, impassable at low water.

Dam, 5.5 miles, (8.84 kilometers), from Conne Pond; partial obstruction, impassable at low water.

Partial obstruction known as Martins Hole is located approximately 3 miles, (4.83 kilometers) from mouth of main river.

Blasted in 1971.

Partial obstruction known as Brin Bag Hole is located 3-4 hundred yards (254.4-339.2 meters) upstream from the junction of Conne and Twillick Brook at Camp #3.

Water diverted toconcentrate flow at various places to make easier passage for salmon - 1971.

1972, a wider passage at entrance to Brin Bag Hole was blasted so that salmon would not enter the hole at higher water levels.

Bernards Falls - 1971, boulder removed from entrance of fishway baffle.

Twillick Brook, 1972 - four ledges were blasted at Camp #4 falls to confine water in a more direct route.

Twillick Brook, 1972 - channel blasted through Pikes Pool Falls to confine water especially at low levels.

Bernards Brook; series of concrete baffles were placed across river at Bernards Falls in 1963 - fish utilizing without difficulty

Photographs on file; No 137-149, 627, 741, 1087, 1131.

Water Quality Data, Sample Collected June, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.25	5.0	6.0	1.3	2.0	15.0	1.2	6.10

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout (sea run and resident).

Atlantic salmon angling record - Conne River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	155	261	1544	701.0	18	118	53.6	279	1662	754.6
1953	445	138	414	188.0	26	213	96.7	164	627	284.7
1954	134	120	431	195.7	23	179	81.3	143	610	277.0
1955	99	303	1120	508.5	37	251	114.0	340	1371	622.5
1956	-	476	1606	729.1	36	253	114.9	512	1859	844.0
1957	413	369	1250	567.5	23	166	75.4	392	1416	642.9
1958	610	480	1783	809.5	55	388	176.2	535	2171	985.7
1959	555	393	1353	614.3	18	125	56.8	411	1478	671.1
1960	89	387	1287	584.3	-	-	-	387	1287	584.3
1961	644	491	1635	742.3	-	-	-	491	1635	742.3
1962	769	873	3078	1397.4	11	72	32.7	884	3150	1430.1
1963	855	1007	3961	1798.3	10	91	41.3	1017	4052	1839.6
1964[1]	1073	1296	4675	2122.5	25	196	90.0	1321	4871	2212.5
1965	1242	983	3291	1494.1	39	292	132.6	1022	3583	1626.7
1966	1436	879	2628	1193.1	43	358	162.5	922	2986	1355.6
1967	1629	570	1902	863.5	3	25	11.4	573	1927	874.9
1968	2379	1724	4982	2261.8	49	378	171.6	1773	5360	2433.4
1969	2909	1751	5202	2361.7	38	284	128.9	1789	5486	2490.6
1970	2909	1673	5589	2537.4	66	522	237.0	1739	6111	2774.4
1971	3483	1707	5456	2477.0	33	261	118.5	1740	5717	2595.5
1972	3194	2509	7755	3520.8	42	295	133.9	2551	8050	3654.7
1973	3346	2136	6433	2924.1	10	74	33.6	2146	6507	2957.7
1974										
1975										
1976										
1977										
MEAN										
1964-68	1552	1090	3496	1588.9	31.8	249.8	113.5	1122	3746	1702.6
1969-73	2968	1955	6087	2766.8	37.8	287.2	130.5	1993	6374	2897.3

[1]Angling data, 1964-73, estimated to be 85-90% accurate.(R.Morris, personal communication).

Miscellaneous Information:

There appears to be three separate runs of salmon to this river; May 10 to May 30, salmon 6 to 10 lbs; June 10 to June 25, grilse 4 to 5 lbs; July 1 to July 30, grilse 2 to 3 lbs. There are two communities at the mouth of river, Morrisville, population 180 (1961) and Conne River, population 319 (1962).

Log driving during the years (1942 to 1958) had an adverse effect on salmon populations.

Gene Frequency:

Not completed.

Timing of Run: (Based on angling statistics).

	Year	First fish	Last fish	Week of peak run
Average	1965-1969	May 24-30	September 1-7	June 29-July 13 (1968)

Accessibility to Anglers:

Accessible at mouth by road and boat. From three miles upstream the river is accessible at many points by both vehicle and foot trail; this condition exists to Conne Pond.

Twillick Tributary accessible by road at mouth and at Twillick Steady.

Bernard's tributary accessible at mouth by road.

Surveys:

Engineering survey of obstructions in 1967.

Biological survey, 1966.

Redd Counts:

None to date.

References:

Anonymous. Summary of Stream Obstructions. MS report, Fisheries Service, St. John's, Newfoundland.

Anonymous. 1961. Salmon and Trout Management Program. MS report, Fisheries Service, St. John's, Newfoundland.

Mercer, K.M. 1961. A Report on a Reconnaissance Survey on salmon, Gray and Conne Rivers. MS report, Fisheries Service, St. John's, Newfoundland.

SOUTHEAST BROOK

Location: 47°55'15" N. 55°44'45" W. Bay d'Espoir.

Map Reference: St. Alban's. 1 M/13 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 32.6 miles^2 (84.43 km^2). Mean width, 2.7 miles (4.34 km).

Perimeter: 30.8 miles (49.55 km). Axial length, 10.9 miles (17.53 km).

Maximum basin relief, 900 feet (274.32 m).

Geology:

Ordovician sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected June, 1973.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.9	8.0	10.0	0.8	3.0	31.0	2.2	9.76

FISH POPULATIONS

Species Present: Atlantic Salmon

Summary, angling data, Southeast Brook

Year	Rod Days	Grilse No	Grilse lbs	Grilse kg	Salmon No	Salmon lbs	Salmon kg	Total No	Total lbs	Total kg
1971	31	28	119	54.0	-	-	-	38	119	54.0
1972	No report									
1973	75	77	235	106.8	-	-	-	77	235	106.8
1974										
1975										
1976										
1977										

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

NORTH WEST BROOK

Location: 47° 57' 50" N. 55° 47' 25" W. Bay D'Espoir.

Map Reference: St. Alban's. 1 M/13 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 42.9 miles^2, (111.11 kilometers^2). Mean width, 3.3 miles, (5.30 kilometers).

Perimeter, 36.7 miles, (59.05 kilometers). Axial length, 11.4 miles, (18.34 kilometers).

Maximum basin relief, 900 feet, (274.32 meters).

Geology:

Predominantly gneissis with some acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Total length of all streams, including standing water, 18 miles, (28.96 kilometers).

Main river: average width: 80 ft., (24.38 meters), (reduced to 25 ft. (7.62 meters), during low water levels). Range of channel depth: 3 - 6 inches, (.07-.15 meters)

Bottom Types:

From mouth to mile point 2.5, (4.02 meters); Gravel and sand; velocity: slow.

From mile point 2.5 to 6.0, (4.02-9.65 kilometers); Bedrock and boulders; velocity: fast.

Above mile point 6, (9.65 kilometers). The river is slow moving as it drains small ponds, lakes and marshland.

Barriers to Fish Migration:

Main River:

Falls, 25 ft., (7.62 meters), high, at mile point 2.5, (4.02 kilometers) partial obstruction. Cut off dam and powerhouse for the Bay D'Espoir power development constructed at mile point 4.0, (6.43 kilometers). This poses a complete obstruction to salmon.

Photographs on file; Nos. 133, 134, 1084.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout.
No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

Mercer, K.M. 1961. Report on a Reconnaissance Survey of North West Brook (Bay d'Espoir). Unpublished MS.

Riche, L. G. 1966. A Preliminary Investigation of the White Bear River. MS report, Fisheries Service, St. John's, Newfoundland.

LONG REACH BROOK

Location: 47° 44' 40" N. 56° 05' 10" W. Northern Arm, Bay d'Espoir.

Map Reference: Facheux Bay. 11 F/9 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 1.6 miles^2 (4.14 kilometers^2). Mean width, .7 miles (1.12 kilometers).

Perimeter, 4.6 miles (7.40 kilometers). Axial length, 1.7 miles (2.73 kilometers).

Maximum basin relief, 1,000 ft. (304.80 meters).

Geology:

About equal amounts of Ordovician sedimentary and acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon.

Atlantic salmon angling record; partial count - Long Reach Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1965	27	2	7	3.2	-	-	-	2	7	3.2
1966	12	5	20	9.1	-	-	-	5	20	9.1
1967	6	1	4	1.8	-	-	-	1	4	1.8
1968	20	1	3	1.4	-	-	-	1	3	1.4
1970	No report									
1971	21	15	45	20.4	-	-	-	15	45	20.4
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Gene Frequency:

Not completed.

Timing of Run: (Based on angling statistics).

Year	First fish	Last fish	Week of peak run
1966	July 3-9	July 3-9	-
1968	June 30-July 5	June 30-July 5	-

Accessibility to Anglers:

Surveys:

None to date.

Redd Counts:

None to date.

SALMON RIVER

Location: 47° 48' 45" N. 56° 00' 20" W. Bay Est., Bay D'Espoir.

Map Reference: D'Espoir Brook. 11 P 16 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 1045.7 miles^2, (2708.36 kilometers^2). Mean width, 14.7 miles, (23.65 kilometers).

Perimeter, 225.1 miles, (362.18 kilometers). Axial length, 51.7 miles, (83.18 kilometers).

Maximum basin relief, 1,250 feet, (381.00 meters).

Geology:

About equal amounts of acidic intrusive rocks, Ordovician sedimentary and gneissis with small amounts of Ordovician volcanic and ultrabasic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Total length of all streams not including standing water equals 300 miles, (482.70 kilometers).

Main river: From mouth to Long Pond, mile point 12.0 (19.3 kilometers); Deep valley bordered by high, almost vertical, mountains.

Velocity: Swift and turbulant. Bottom type: Boulder and bedrock.

Above Long Pond:

Velocity: Slow - medium. Bottom type: Rubble, gravel and mud.

Barriers to Fish Migration:

Main River:

Falls at mile point 1.4 (2.25 kilometers); complete obstruction. Fishway constructed along side of falls in 1947. Effectiveness: poor, due to lack of flow control.

Falls and rapids between mile points 2.0 and 3.3 (3.21-5.30 kilometers); partial obstruction.

Rapids at mile point 3.5-3.6 (5.63-5.79 kilometers); complete obstruction.

Falls and rapids between mile points 3.8-4.1 (6.11-6.59 kilometers); partial obstruction.

Falls and rapids at mile points 5.5 and 5.8 (8.84-9.33 kilometers); complete obstruction.

Rapids between mile points 6.5 and 11.8 (10.45-18.98 kilometers); partial obstruction.

Dam constructed at mile point 8.8 (14.16 kilometers), a short distance down river from Long Pond. This dam is a part of the Bay D'Espoir power development and cuts off most of the water flowing down Salmon River from Long Pond. Consequently, this section of the river supports a very small fish population.

The Bay D'Espoir power development will use Long Pond as the main reservoir increasing its size from _____sq. miles (sq. kilometers) to _____sq. miles (sq. kilometers). Water will be diverted from Long Pond to the power house at North West Brook, S-1349.

Falls at mile point 40 (64.36 kilometers); partial obstruction.

Photographs on file; Nos. 869, 1005-1007, 1010, 1084.

Water Quality Data, Sample Collected February 29, 1972

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
5.77	1.66	3.6	1.25	2.5	15.0	0.8	-

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout, Arctic char, eels, ouananiche, threespined sticklebacks.

Atlantic Salmon Angling Record Partial count - Salmon River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1962	8	9	38	17.3	-	-	-	9	38	17.3
1970	No report									
1971	No report									
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Summary, Fishway Counting Trap Data, Salmon River.

Year	Grilse Under 6 lbs. 2.7 kg	Salmon 6 lbs. and Over	Total No. fish
1949-50	29	16	45
1960	25	1	26

Note: Counting Trap installed in September in 1949.

Gene Frequency:

Not completed.

Timing of Run: (Based on counting trap data).

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

A Reconnaissance Survey done in 1961.

Redd Counts:

None to date.

References:

Anonymous. Summary of Stream Obstructions. Progress Rept. No. 13. Fisheries Service, St. John's, Newfoundland.

Anonymous. 1960. Salmon & Trout Management Program. MS report, Fisheries Service, St. John's, Newfoundland.

Anonymous. 1961. Counting Fence & Counting Trap Data. MS rept. Fisheries Service, St. John's, Newfoundland.

Mercer, K.M. 1961. Report on a Reconnaissance Survey of Salmon, Grey & Conne River. Progress Rept. No. 9. Fisheries Service, St. John's, Newfoundland.

Riche, L.G. 1966. A Preliminary Investigation of the White Bear River. Progress rept. No. 39. Dept. of Env., Fisheries and Marine Service, Resource Dev. Br., St. John's, Newfoundland. 51 p.

FIRST BROOK

Location: 47° 46' 25" N. 56° 07' 30" W. North Bay, Bay D'Espoir

Map Reference: D'Espoir Brook. 11 P/16 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 14.0 miles^2, (36.26 kilometers^2). Mean width, 1.6 miles, (2.57 kilometers).

Perimeter, 24.2 miles, (38.93 kilometers). Axial length, 9.2 miles, (14.80 kilometers).

Maximum basin relief, 1,025 feet, (312.42 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

HUGHES BROOK

Location: 47° 50' 40" N. 56° 09' 20" W. North Bay, Bay D'Espoir.

Map Reference: D'Espoir Brook. 11 P/16 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 9.3 miles^2, (24.08 kilometers^2). Mean width, 1.6 miles, (2.57 kilometers).

Perimeter, 14.0 miles, (22.52 kilometers). Axial length, 4.6 miles, (7.40 kilometers).

Maximum basin relief, 1,025 feet, (312.42 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos. 40, 41, 581.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:
No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

S-36-1424

Location: 47^{o} 52' 20" N. 56^{o} 09' 50" W. North Bay, Bay D'Espoir.

Map Reference: D'Espoir Brook. 11 P/16 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 110.1 miles^2, (285.16 kilometers^2), Mean width, 5.9 miles, (9.49 kilometers).

Perimeter, 59.0 miles, (94.93 kilometers). Axial length, 13.5 miles, (21.72 kilometers).

Maximum basin relief, 1,150 feet, (350.52 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

D'ESPOIR BROOK (Bay du Nord Brook)

Location: 47°53'22" N. 56°10'50" W. North Bay, Bay d'Espoir.

Map Reference: D'Espoir Brook. 11 P/16 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 110.1 miles^2 (285.16 km^2). Mean width, 5.9 miles (9.49 km).

Perimeter: 59.0 miles (94.93 km). Axial length, 13.5 miles (21.72 km).

Maximum basin relief, 1,150 feet (350.52 m).

Geology:

Almost entirely acidic intrustive rocks with some gneissis.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Main River:

Falls at mile 1.5 (2.41 km). Height; 70 feet (21.33 m). Complete obstruction.

Falls, 80 feet (24.40 m) high; complete obstruction.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon.

Angling Data:

Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

None to date.

Redd Counts:

None to date.

References:

Anonymous. 1943. Dept. Nat. Res. Res. Bull. No. 12

Palmer, C.H. 1928. The Salmon Rivers of Newfoundland. Boston Farrington Co.

ALLAN COVE BROOK

Location: 47°42'08" N. 56°16'40" W. Facheux Bay.

Map Reference: Facheux Bay. 11 P/9 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 15.7 miles^2 (40.66 km^2). Mean width, 1.8 miles (2.89 km).

Perimeter: 25.2 miles (40.54 km). Axial length, 7.7 miles (12.38 km).

Maximum basin relief, 1,100 feet (335.28 m).

Geology:

Almost entirely acidic intrusive rocks with small amounts of gneissis and Ordovician sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Main River:

Falls mile 3 (4.82 km). Height; 60 feet (18.28 m). Complete obstruction.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Harndess ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon.

Angling Data:

Atlantic Salmon Angling Record, Partial Count - Allan Cove Brook.

Year	Rod days	Grilse No	Grilse lbs	Grilse kg	Salmon No	Salmon lbs	Salmon kg	Total No	Total lbs	Total kg
1956	-	6	18	8.2	-	-	-	6	18	8.2
1965	2	2	7	3.2	-	-	-	2	7	3.2
1966	10	13	42	19.1	1	8	3.6	14	50	22.7
1967	13	16	52	23.6	-	-	-	16	52	23.6
1968	15	4	12	5.4	-	-	-	4	12	5.4
1969	27	24	72	32.7	1	7	3.2	25	79	35.9
1970	39	1	3	1.4	-	-	-	1	3	1.4
1971	No report									
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Gene Frequency:

Not completed

Timing of Run: (Based on angling statistics).

	Year	First fish	Last fish	Week of peak run
Average	1966-1969	June 26-July 2	July 26-August 1	July 20-27 (1968)

Accessibility to Anglers:

Accessible at mouth only by water.

Surveys:

None to date.

Redd Counts:

None to date.

References:

Anonymous. 1943. Dept. Nat. Res. Res. Bull. No. 12.

BOTTOM BROOK (Facheux Bay River)

Location: 47°47'41' N. 56°19'36" W. Bottom of Facheux Bay.

Map Reference: d'Espoir Brook. 11 P/16 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 67.6 miles^2 (175,08 km^2). Mean width, 4.7 miles (7.56 km).

Perimeter: 45.6 miles (73.37 km). Axial length, 14.3 miles (23.00 km).

Maximum basin relief, 1,150 feet (350.52 m).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Main River:

Falls at mile 4 (6.43 km). Height: 100-120 feet (38.48-36.57 m).

Complete obstruction.

Photographs on file; Nos. 200.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout (sea run).

Atlantic Salmon Angling Data - Partial Count - Bottom Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1966	1	-	-	-	1	8	3.6	1	8	3.6
1968	9	1	5	2.3	-	-	-	1	5	2.3
1970	No report									
1971	No report									
1972	No report									
1973										
1974										
1975										
1976										
1977										

Gene Frequency:

Not completed

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
1966	July 17-23	July 17-23	-
1968	August 11-17	August 11-17	one fish angled August 17

Accessibility to Anglers:

Surveys:

None to date.

Redd Counts:

None to date.

References:

Anonymous. 1943. Dept. Nat. Res. Res. Bull. No. 12. St. John's, Newfoundland.

Palmer, C.H. 1928. The Salmon Rivers of Newfoundland. Farrington Co., Boston.

BRENT COVE BROOK

Location: 47°41'55" N. 56°20'55" W. Facheux Bay.

Map Reference: Facheux Bay. 11 P/9 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 17.0 miles^2 (44.03 km^2). Mean width, 2.8 miles (4.50 km).

Perimeter, 20.1 miles (32.34 km). Axial length, 6.3 miles (10.13 km).

Maximum basin relief, 1,100 feet (335.28 m).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; No.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

Atlantic salmon.

Angling Data:

Atlantic salmon-partial count- Brent Cove Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1966	10	1	3	1.4	2	24	10.9	3	27	12.3
1968	7	4	12	5.4	-	-	-	4	12	5.4
1970	No report									
1971	No report									
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Gene Frequency:

Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
1966	May 29-June 4	July 24-30	-
1968	July 14-20	July 14-20	July 14-20 (1968)

Accessibility to Anglers:

Surveys:

None to date.

Redd Counts:

None to date.

References:

MORGAN BROOK

Location: 47° 43' 18" N 56° 30' 50". Hare Bay.
Map Reference: La Hune. 11 P/10 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 68.7 miles^2, (177.93 kilometers^2). Mean width, 3.5 miles, (5.63 kilometers).

Perimeter, 58.6 miles, (94.28 kilometers). Axial length, 16.6 miles, (26.70 kilometers).

Maximum basin relief, 1,250 feet, (381.00 meters).

Geology:

Almost entirely acidic intrusive rocks with some gneissis.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Falls at mile 0. Height; 60-70 feet (18.5-21.6 m). Complete obstruction.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon

Atlantic salmon angling record partial count - Morgan Brook and Dolland Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1954	14	9	32	14.5	-	-	-	9	32	14.5
1955	8	7	24	10.9	-	-	-	7	24	10.9
1956	-	56	190	86.3	-	-	-	56	190	86.3
1957	21	8	24	10.9	1	8	3.6	9	32	14.5
1958	18	7	26	11.8	-	-	-	7	26	11.8
1959	28	19	69	31.3	-	-	-	19	69	31.3
1960	14	9	37	16.8	1	9	4.1	10	46	20.9
1962	46	33	148	67.2	-	-	-	33	148	67.2
1963	14	27	114	51.8	1	7	3.2	28	121	55.0
1964	31	54	225	102.2	2	15	6.8	56	240	109.0
1965	41	47	203	92.2	5	35	15.9	52	238	108.1
1966	116	109	465	211.1	15	112	50.8	124	577	261.9
1967	97	30	134	60.8	22	139	63.1	52	273	123.9
1968	56	75	325	147.6	7	52	23.6	82	377	171.2
1970	No report									
1971	4	10	30	13.6	-	-	-	10	30	13.6
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

Location: 47° 43' 30" N 56° 34' 50" W. Northwest Arm, Hare Bay.

Map Reference: La Hune. 11 P/10 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 1.4 miles^2, (3.62 kilometers^2). Mean width, 0.7 miles, (1.12 kilometers).

Perimeter, 5.1 miles, (8.20 kilometers). Axial length, 2.0 miles, (3.21 kilometers).

Maximum basin relief, 1,278 feet, (389.53 meters).

Geology:

About equal amounts of gneissis and acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

DOLLAND BROOK

Location: 47° 43' 40" N 56° 35' 10" W. North West Arm, Hare Bay.
Map Reference: La Hune. 11 P/10 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 265.6 miles^2, (687.90 kilometers^2). Mean width, 7.4 miles, (11.90 kilometers).

Perimeter, 117.1 miles, (188.41 kilometers). Axial length, 32.5 miles, (52.29 kilometers).

Maximum basin relief, 1,350 feet, (411.48 meters).

Geology:

Predominantly acidic intrusive rocks with some gneissis.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon.

Atlantic salmon angling report - partial count-Dolland Brook & Morgan Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs.	kg	No	lbs	kg	No	lbs	kg
1954	14	9	32	14.5	-	-	-	9	32	14.5
1955	8	7	24	10.9	-	-	-	7	24	10.9
1956	-	56	190	86.3	-	-	-	56	190	86.3
1957	21	8	24	10.9	1	8	3.6	9	32	14.5
1958	18	7	26	11.8	-	-	-	7	26	11.8
1959	28	19	69	31.3	-	-	-	19	69	31.3
1960	14	9	37	16.8	1	9	4.1	10	46	20.9
1962	46	33	148	67.2	-	-	-	33	148	67.2
1963	14	27	114	51.8	1	7	3.2	28	121	55.0
1964	31	54	225	102.2	2	15	6.8	56	240	109.0
1965	41	47	203	92.2	5	35	15.9	52	238	108.1
1966	116	109	465	211.1	15	112	50.8	124	577	261.9
1967	97	30	134	60.8	22	139	63.1	52	273	123.9
1968	56	75	325	147.6	7	52	23.6	82	377	171.2
1970	No report									
1971	4	10	30	13.6	-	-	-	10	30	13.6
1972	No report									
1973										
1974										
1975										
1976										
1977										

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

Location: 47° 43' 08" N 56° 34' 30" W. Northwest Arm, Hare Bay.

Map Reference: La Hune. 11 P/10 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 17.2 miles^2, (44.54 kilometers^2). Mean width, 3.0 miles, (4.82 kilometers).

Perimeter, 24.5 miles, (39.42 kilometers). Axial length, 5.2 miles, (8.36 kilometers).

Maximum basin relief, 1,350 feet, (411.48 meters).

Geology:

About equal amounts of gneissis and acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

GREY RIVER

Location: 47° 41' 30" N. 57° 00' 15" W. North East Arm.

Map Reference: Ramea. 11 P/11 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 924.3 miles^2, (2393.93 kilometers^2). Mean width, 11.4 miles, (18.34 kilometers).

Perimeter, 213.2 miles, (343.03 kilometers). Axial length, 63.5 miles, (102.17 kilometers).

Maximum basin relief 1,540 feet, (469.39 meters).

Geology:

Predominantly acidic intrusive rocks with some gneissis.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Length of all streams in system, not including standing water, 280 miles, (450.52 kilometers). Length of tributaries 230 miles, (444.08 kilometers).

Main river:

From mouth to mile point 5, (8.04 kilometers), (Salmon Bk. Junction):

Depth range: 1 - 2 ft., (.3 - .6 meters). Width range: 300 - 900 ft., (91.44 - 247.32 meters).

Velocity: Swift. Bottom types: (In wide sections) large rubble mixed with gravel and sand. (In narrow sections) bedrock and large boulders.

From mile point 5, (8.04 kilometers), to mile point 12 (19.32 kilometers) (Smoky Falls):

Width range: 300 - 600 ft. (91.44 - 182.88 meters). Velocity: Mostly sluggish. Bottom types: Large and small boulders mixed with rubble.

From mile point 12, (3.65 kilometers), to mile point 30, (9.14 kilometers), (Meelpaeg Lake):

Width range: 400 - 1,500 ft., (121.92 - 457.20 meters).

Salmon Brook Tributary:

Total length of stream, 45 miles, (72.40 kilometers). Width range: 30 - 300 ft. (9.14 - 91.44 meters).

From mouth to mile point 3, (4.82 kilometers):

Bottom type: Layer of small and large boulders sparsely covering granite bedrocks.

From mile point 3, (4.82 kilometers), to mile point 11, (17.69 kilometers), Salmon Pond):

Bottom type: Gravel, sand and rubble broken by stretches of rapids and falls. There are a total of 11 small streams entering Salmon Brook, three of which are large enough to be utilized by salmon.

Spawning area:

Accessible areas -

Main river: Below Smoky Falls, one mile section, (1.61 kilometers).

Salmon Brook Tributary: From mouth to mile point 11, (17.69 kilometers), (Salmon Pond), 75% of total area. 40% of tributaries (10 miles), (16.1 kilometers), flowing into Salmon Brook, suitable for spawning.

Inaccessible areas -

Main river: From Smoky Falls (mile point 9) (14.48 kilometers), to Meelpaeg Lake (mile point 30), (48.30 kilometers). It is estimated that 50% of this section is suitable for spawning.

Full evaluation of spawning areas in this watershed have not been made to date. From an aerial survey unlimited spawning areas were observed above Smoky Falls.

Barriers to Fish Migration:

Main river:

From mile point 3 to mile point 11.5, (4.82 to 18.50 kilometers), 2 rapids and 3 falls; partial obstruction.

Smoky Falls, at mile point 12, (19.30 kilometers), upper section, 50 ft. high, (15.24 meters), 1,500 ft. (457.20 meters), long, 200 - 300 ft., (60.96-91.44 meters), wide. Lower section, 40 - 60 ft., (12.19 - 18.28 meters), high, 40 - 60 ft. (12.19 - 18.28 meters) long, angle 90°; complete obstruction.

Salmon River Tributary (main stream of tributary):

Falls at mile point 7 (11.26 kilometers); partial obstruction.

Falls at mile point 7.5, (12.06 kilometers); partial obstruction.

Low flood levels on Salmon Brook pose temporary hold up to salmon.

Photographs on file; Nos. 53, 63, 64, 66, 82, 164, 323, 331, 486, 487, 632, 633, 1129 1130.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, ouananiche, brook trout, eels.

Atlantic salmon angling record - Grey River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	18	125	625	283.8	1	10	4.5	126	635	288.3
1953	36	163	762	345.9	2	18	8.2	165	780	354.1
1954	77	109	545	247.4	2	22	10.0	111	567	257.4
1955	46	58	290	131.7	1	10	4.5	59	300	136.2
1956	-	74	370	168.0	2	19	8.6	76	389	176.6
1957	37	57	285	129.4	2	22	10.0	59	307	139.4
1958	47	50	210	95.3	4	35	15.9	54	245	111.2
1959	122	147	544	247.0	6	48	21.8	153	592	268.8
1960	62	248	1116	506.7	9	90	40.9	257	1206	547.6
1961	60	41	204	92.6	59	470	213.4	100	674	306.0
1962	113	315	1408	639.2	18	156	70.8	333	1564	710.0
1963	32	73	372	168.9	7	70	31.8	80	442	200.7
1964[1]	103	192	896	406.8	2	24	10.9	194	920	417.7
1965	67	198	968	439.5	4	35	15.9	202	1003	455.4
1966	98	312	1381	627.0	1	8	3.6	313	1389	630.6
1967	70	100	387	175.7	-	-	-	100	387	175.7
1968	70	119	467	212.0	1	9	4.1	120	476	216.1
1969	140	280	1117	507.1	3	21	9.5	283	1138	516.6
1970	102	257	1006	456.7	2	16	7.3	259	1022	464.0
1971	97	125	492	223.4	1	7	3.2	126	499	226.6
1972	30	70	290	131.7	1	12	5.4	71	302	137.1
1973	49	88	412	187.3	2	18	8.2	90	430	195.5

Atlantic salmon angling record - Grey River. (cont'd.)

Year	Rod days	Grilse No	Grilse lbs	Grilse kg	Salmon No	Salmon lbs	Salmon kg	Total No	Total lbs	Total kg
1974										
1975										
1976										
1977										
MEAN										
1964-68	82	184	820	372.6	1.6	15.2	6.9	186	835	379.5
1969-73	84	164	663	301.4	1.8	14.8	6.7	166	678	308.3

[1]Angling data, 1964-73, estimated to be 90% accurate. (R.Morris, personal communication).

Miscellaneous Information:

Headwaters of Grey River were diverted to Bay d'Espoir for hydro power. The dam was constructed on Grey River a short distance downstream from Pudops Lake, with provisions made to prevent an adverse effect on fish migration.

Gene Frequency:

Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 15-21	August 11-17	July 13-20 (1968)

Accessibility to Anglers:

Accessible at mouth by water.

Surveys:

Engineering survey on gage and cableway installations, 1969.

Biological survey, 1961.

Redd Counts:

None to date.

References:

Mercer, K.M. 1961. Report on a Reconnaissance Survey of Salmon, Grey, and Conne Rivers. Progress Rept. No. 9. Fisheries Service, Resource Dev. Br., St. John's, Newfoundland.

Shawmont Engineering Nfld. Ltd. 1964. Preliminary Report on the Bay d'Espoir Development. Report No. SM-1-64. St. John's, Newfoundland.

S-37-1667

Location: 47^{o} 39' 40" N 57^{o} 04' 20" W. Northwest Arm, Grey

Map Reference: Ramea. 11 P/11 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 44.3 miles^2, 114.73 kilometers^2). Mean width, 3.9 miles, (6.27 kilometers).

Perimeter, 35.9 miles, (57.76 kilometers). Axial length, 10.6 miles, (17.05 kilometers).

Maximum basin relief, 1,350 feet, (411.48 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

WHITE BEAR RIVER

Location: 47° 46' 50" N. 57° 16' 15" W. White Bear Bay.

Map Reference: White Bear River. 11P/14 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 782.5 miles^2, (2026.68 kilometers^2). Mean width, 12.3 miles, (19.79 kilometers). Post diversion basin area 330 miles^2 (854.70 km). Perimeter, 211.3 miles, (339.98 kilometers). Axial length, 54.0 miles, (86.88 kilometers).

Maximum basin relief, 2,083 feet, (634.89 meters).

Geology:

Predominantly acidic intrusive with some gneissis.

Vegetational Cover:

Balsom fir predominant along the river bank in the lower drainage, while stunted black spruce are dominant in upper sections.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Total length of all tributaries not including standing water is 530 miles, (852.77 kilometers). The main river, which is that part of the system from White Bear Lake to the sea is 24 miles, (38.61 kilometers).

Main river sections:

From mouth to mile point 9.5, (15.28 kilometers), (Trib. #8): Width range: 150 - 250 ft. (45.72 - 76.20 meters).
Velocity: Medium with short rapids. Bottom types: Mostly boulder with bedrock, rubble and gravel.
From trib. #8 to mile point 17.5, (28.15 kilometers), (Trib. #15): Width range: 50 - 175 ft., (15.24 - 53.38 meters). Velocity: Rapid. Bottom types: Bedrock with some boulder.
From trib. #18 to mile point 24, (38.61 kilometers), (White Bear Lake): Width range: 200 - 300 ft., (60.96 - 91.44 meters). Velocity: Medium - slow. Bottom types: Mixed boulder - rubble bottom.

Tributaries:

Granite Lake Brook: Draining Granite Lake and enter the main channel near White Bear Lake. Total length 10 miles. Width range: 200 - 400 ft., (60.96 - 121.92 meters). Velocity: Slow, steadies are common. Bottom types: Mostly mixed boulder - rubble type.
Gravel and sand are less common.

Burnt Pond Brook: Total length not including standing water is 38 miles, (61.14 kilometers). Drainage area 308 square miles, (797.72 sq. kilometers). This brook is characterized by short stretches of wide channels alternating with large bodies of standing water, such as Burnt Pond, Rock Ridge Pond and Spruce Pond. These bodies of water are situated on the main channel and have a total length of 18 miles, (28.96 kilometers).
Bottom types: Boulder - rubble in the main channel, with gravel being more abundant in the secondary streams.

Spawning areas:

Big Indian Brook (Trib. #2) $\frac{1}{4}$ mile, (0.40 kilometers), of spawning gravel.
Trib. #17 which enters the main river at mile point 17, (27.35 kilometers), 2 - 3 miles, (3.21 - 4.82 kilometers), of gravel.
Those areas are believed to be the main salmon spawning areas. There are other gravel patches scattered throughout the system.

Barriers to Fish Migration:

Main River:
Rapids - falls, 100 yds. long (91.44 meters), 40' - 50' (12.19 - 15.24 meters) wide gorge at mile point 12.0 (19.30 kilometers). In 1972, some boulders were removed, concentrating the water into one channel, facilitating migration.
Several 5'-8' (1.52-2.43 kilometers), (series of steps) at mile point 12.5 (20.11 kilometers). In 1972, falls were blasted, diverting total flow down one channel. A small rock ridge and an overhanging lip were also removed. Falls, 20' (6.09 meters) high, at mile point 13.3 (21.39 kilometers). In 1972, extensive blasting carried out at this location, diverting the flow to a new channel. Large boulders removed and some benches blasted into the rock to create a series of pools. Migrants should now by-pass this area without difficulty.

Tributary Streams:

Tributary #2, Big Indian Brook:

Falls at mile 2.4 (3.86 km), complete obstruction. Falls at mile 4 (6.4 km); complete obstruction.

Tributary #4, Spirit Brook:

Falls at mile 0.8 (1.3 km); complete obstruction.

Falls at mile 7.6 (12.2 km); complete obstruction.

Tributary #7:

Falls at mile 0.25 (0.4 km); complete obstruction.

Tributary #8:

Falls at mile 0.1 and 0.2 (0.1 and 0.3 km); partial obstruction.

Falls at mile 0.25 (0.40 km); complete obstruction.

Tributary #12:

Falls at mile 3.25 (5.22 km); complete obstruction.

Tributary #17:

Falls at mile 3.25 (5.22 km); complete obstruction.

Miscellaneous Information:

White Bear River is included in the Baie d'Espoir power development. A dam has been built on the main river, a few miles downstream from White Bear Lake. This poses a complete obstruction and causes a considerable drop in flow below the dam. The dam caused considerable flooding in the upper regions of the river. Consequently, Burnt Pond, White Bear Lake and Granite Lake are merged into one large body of water. The water is diverted from the Eastern end of Granite Lake via canal to the Grey River reservoir and thence to Salmon River reservoir.

The Newfoundland and Labrador Power Commission has agreed to maintain a minimum flow of 250 c.f.s. at the mouth of the river during the months of June to September inclusive. This will be accomplished by the release of 150 c.f.s. from Burnt Dam during the period. The

Power Commission has also agreed to provide funds (up to a maximum of $75,000.) for the installation of fish passage facilities at natural obstructions to compensate for the rearing area lost due to flow reduction on the main river.

POTENTIAL POPULATION ESTIMATION

Estimated Atlantic salmon smolt production and adult sea survival, White Bear River, Pre-Diversion Status.

If smolt production per 100 yd^2 (83.7 m^2) is: Smolts produced		1 18,300	2 36,600	3 54,900
Adult return if sea survival is:	5%	915	1,830	2,745
	10%	1,830	3,660	5,490
	15%	2,745	5,490	8,235
	20%	3,660	7,320	10,980
	25%	4,575	9,150	13,725

Estimated Atlantic salmon smolt production and adult sea survival, White Bear River, Post-Diversion Status.

If smolt production per 100 yd^2 (83.7 m^2) is: Smolts produced		1 38,500	2 77,000	3 115,500
Adult return if sea survival is:	5%	1,925	3,850	5,775
	10%	3,850	7,700	11,550
	15%	5,775	11,550	17,325
	20%	7,700	15,400	23,100
	25%	9,425	19,250	28,875

FISH POPULATIONS

Species Present: Atlantic salmon (anadromous and landlocked), brook trout (anadromous and resident), alewife, eel.

Atlantic salmon angling record - White Bear River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	97	53	248	112.6	5	38	17.3	58	286	129.9
1953	49	42	186	84.4	2	15	6.8	44	201	91.2
1954	12	-	-	-	3	35	15.9	3	35	15.9
1955	19	14	56	25.4	1	12	5.4	15	68	30.8
1956	-	3	12	5.4	-	-	-	3	12	5.4
1957	11	10	39	17.7	5	52	23.6	15	91	41.3
1958	24	14	54	24.5	3	24	10.9	17	78	35.4
1959	98	40	157	71.3	-	-	-	40	157	71.3
1960	77	21	109	49.5	8	73	33.1	29	182	82.6
1961	133	58	262	118.9	11	124	56.3	69	386	175.2
1962	167	151	673	305.5	11	101	45.9	162	774	351.4
1963	167	106	465	211.1	16	165	74.9	122	630	286.0
1964[1]	150	91	399	181.1	8	57	25.9	99	456	207.0
1965	127	67	282	128.0	3	26	11.8	70	308	139.8
1966	144	135	559	253.8	8	61	27.7	143	620	281.5
1967	143	49	196	89.0	6	54	24.5	55	250	113.5
1968	106	71	268	121.7	1	7	3.2	72	275	124.9
1969	129	69	261	118.5	7	63	28.6	76	324	147.1
1970	66	34	133	60.4	2	14	6.4	36	147	66.8
1971	130	46	170	77.2	1	8	3.6	47	178	80.8
1972	140	141	587	266.5	5	44	20.0	146	631	286.5
1973	207	171	738	335.5	3	38	17.3	174	776	352.7
1974										
1975										
1976										
1977										
MEAN										
1964-68	134	83	341	154.9	5.2	41.0	18.6	88	382	173.5
1969-73	134	92	378	171.7	3.6	33.4	15.2	96	411	186.9

[1]Angling data, 1964-73, estimated to be 100% accurate.(R.Morris, personal communication).

Photographs on file:

Nos. 606, 874, 875, 879, 880, 298, 299, 305, 314, 320, 321, 482, 886-891, 924, 925, 1128.

Water Qualty Data:

Sample collected August, 1972.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.
6.4	3.0	5.0	3.1	2.5	17.0	1.0	3.7

Gene Frequency:

Frequency of Tf4 (TfA transferrin allele) 0.37

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 14-20	August 23-29	July 6-13 (1968)

Accessibility to Anglers:

Accessible only by water at mouth of river.

Surveys:

Preliminary survey of river and profiles of falls in 1969.

Biological surveys, 1965, 1969, 1971, 1972, 1973.

Redd Counts:

None to date.

References:

Anonymous. 1943. Dept. Nat. Res. Res. Bull. No. 12

LeDrew, B. 1973. White Bear River Overview. MS unpublished rept. Fisheries and Marine Service, Resource Dev. Br., St. John's, Nfld.

Riche, L.G. 1966. A Preliminary Investigation of the White Bear River. Progress Rept. No. 39. Fisheries Service, Resource Dev. Br., St. John's, Nfld.

KNOWLES BROOK

Location: 47° 45' 58" N 57° 18' 23" W. White Bear Bay.
Map Reference: White Bear River. 11 P/14 West.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 17.0 miles^2, (44.03 kilometers^2). Mean width, 4.3 miles, (6.91 kilometers).

Perimeter, 18.7 miles, (30.08 kilometers). Axial length, 6.4 miles, (10.29 kilometers).

Maximum basin relief, 1,375 feet, (419.10 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

NORTHWEST BROOK

Location: 47° 44' 10" N 57° 18' 48" W. White Bear Bay.

Map Reference: Ramea. 11 P/11 West.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 4.1 miles^2, (10.61 kilometers^2). Mean width, 1.2 miles, (1.93 kilometers).

Perimeter, 11.0 miles, (17.69 kilometers). Axial length, 3.1 miles, (4.98 kilometers).

Maximum basin relief, 1,375 feet, (419.10 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available in this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First Fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

S-37-1772

BAY DE LOUP RIVER

Location: 47° 39' 40" N. 57° 31' 18" W. Bay de Loup.

Map Reference: Burgeo. 11 P/12 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 21.3 miles^2 (55.17 kilometers^2). Mean width, 2.2 miles (3.53 kilometers).

Perimeter, 25.2 miles (40.54 kilometers). Axial length, 9.4 miles (15.12 kilometers).

Maximum basin relief, 1,375 feet (419.10 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main river: from mouth to falls at mile point 2 (3.21 kilometers); Average width: 50 ft. (15.24 meters). Depth range: 2 to 4 ft. (.1 - 1.21 meters).

Number of pools in section; 8. Velocity: Rapid.

Spawning area:

Main River: from mouth to mile point 2 (3.21 kilometers).

Small patches of gravel, scattered throughout section.

Barriers to Fish Migration:

Main river, between mile points 2 and 2.5 (3.21 - 4.02 kilometers); falls 35 ft. (10.66 meters) high, 90° angle; complete obstruction.

Falls 15 ft (4.57 meters) high, 90° angle; partial obstruction.

Falls 20 ft. (6.09 meters) high, 90° angle, complete obstruction.

Photographs on file; Nos. 836, 892

Water Quality Data.

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

Atlantic salmon, brook trout (sea run and resident), eels.

Angling Data:

Atlantic salmon; partial count. Bay de Loup River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1962	31	16	60	27.2	-	-	-	16	60	27.2
1964	8	4	20	9.1	-	-	-	4	20	9.1
1965	4	6	19	8.6	-	-	-	6	19	8.6
1968	23	12	41	18.6	-	-	-	12	41	18.6
1970	No report									
1971	No report									
1972	No report									
1973										
1974										
1975										
1976										
1977										

Gene Frequency:

Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
1965	July 11-17	July 11-17	-
1968	July 21-28	Aug. 15-24	July 20-27

Accessibility to Anglers:

Surveys:

Biological survey, 1965

Redd Counts:

None to date.

References:

SEAL BROOK

Location: 47°39'35" N. 57°31'58" W. Bay de Loup.

Map Reference: Burgeo. 11 P/12 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 8.6 miles^2 (22.3 km^2). Mean width, 1.3 miles (2.09 km).

Perimeter: 16.7 miles (26.87 km). Axial length, 6.4 miles (10.29 km).

Maximum basin relief, 1,000 feet (304.80 m).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file;

Water Quality Data:

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

Angling Data:

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

None to date.

Redd Counts:

None to date.

References:

KELLY BROOK

Location: 47° 39' 06" N 57° 33' 03" W. Bay de Loup.
Map Reference: Burgeo. 11 P/12 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 0.7 miles^2, (1.12 kilometers^2). Mean width, 0.4 miles, (.64 kilometers)

Perimeter, 4.7 miles, (7.56 kilometers). Axial length, 1.9 miles, (3.05 kilometers).

Maximum basin relief, 550 feet, (167.64 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

KINGS HARBOUR BROOK

Location: 47° 38' 35" N 57° 34' 40" W.

Map Reference: Burgeo. 11 P/12 East

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 49.5 miles^2, (128.20 kilometers^2), Mean width, 2.7 miles, (4.34 kilometers).

Perimeter 49.4 miles, (79.48 kilometers), Axial length, 17.4 miles, (27.99 kilometers).

Maximum basin relief, 1,400 feet, (426.72 meters).

Geology:

About equal amounts of gneissis and acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file, Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

Atlantic salmon, brook trout.

Angling Data:

Atlantic salmon; partial count - King's Harbour River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1962	10	5	18	8.2	-	-	-	5	18	8.2
1965	8	15	51	23.2	-	-	-	15	51	23.2
1966	2	2	6	2.7	-	-	-	2	6	2.7
1967	5	12	36	16.3	-	-	-	12	36	16.3
1968	43	42	157	71.3	-	-	-	42	157	71.3
1969	6	7	20	9.1	-	-	-	7	20	9.1
1970	7	7	24	10.9	-	-	-	7	24	10.9
1971	No report									
1972	No report									
1973	No report									
1974										
1975										
1976										
1977										

Gene Frequency:

Not completed.

Timing of run: (Based on angling statistics)

	Year	First fish	Last fish	Week of peak run
	1965	July 4-10	July 11-17	-
Average	1967-69	July 2-8	Aug. 1-7	July 20-27 (1968)

Accessibility to Anglers:

Surveys:

None to date.

Redd Counts:

None to date

References:

GRANDY BROOK

Location: 47° 41' 00" N 57° 41' 20" W. Barachois Bay.
Map Reference: Burgeo. 11 P/12 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 101.8 miles^2, (263.66 kilometers^2). Mean width, 10.5 miles, (16.89 kilometers).

Perimeter, 84.0 miles, (135.15 kilometers). Axial length, 26.2 miles, (42.15 kilometers).

Maximum basin relief, 2,085 feet, (635.50 meters).

Geology:

Acidic intrusive rocks.

Vegetational Cover:

River valley is covered predominantly with scrub spruce.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Total length of tributaries: 164 miles, (263.87 kilometers).

Total length of main river: 24 miles, (38.61 kilometers).

Total streams length: 188 miles (302.49 kilometers).

Main river:

From mouth to headwaters (24 miles), (38.61 kilometers).

Width range: 50 - 100 ft. (15.24-30.48 meters). Depth range: 3 - 5 ft. (.90-1.52 meters).

Velocity: Medium

Bottom types: Gravel 5%, Rubble 50%, Boulder 30%, Bedrock 15%.

Spawning areas:

Patches of spawning gravel in headwater region.

Barriers to Fish Migration:

Main river:

8 small falls in upper section; partial obstruction.

Tributary #12 (Trib. draining from Top Pond):

6 falls, 10 ft. (16.09 meters) high, 20° angle; partial obstruction.

Photographs on file; Nos.

Water Quality Data, Sample Collected October, 1972

pH	Alkalinity (total) ppm	Total Hardness ppm	Turbidity JTU	Chlorides ppm	Spec.Cond. @ 25° C in mhos/cm	Calcium ppm	HCO_3 Biocarbonate ppm
5.02	-	8.0	3.4	4.0	17.0	0.5	-

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout, eels, smelt, alewife.

Atlantic salmon angling record - Grandy Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	40	85	335	152.1	8	60	27.2	93	395	179.3
1953	129	70	303	137.6	3	25	11.4	73	328	149.0
1954	43	12	48	21.8	2	16	7.3	14	64	29.1
1955	46	20	80	36.3	-	-	-	20	80	36.3
1956	-	76	314	142.6	2	14	6.4	78	328	149.0
1957	149	117	468	212.5	2	17	7.7	119	485	220.2
1958	151	175	674	306.0	5	40	18.2	180	714	324.2
1959	252	177	740	336.0	10	89	40.4	187	829	376.4
1960	236	165	672	305.1	3	22	10.0	168	694	315.1
1961	288	266	1290	585.7	3	23	10.4	269	1313	596.1
1962	469	286	1256	570.2	11	95	43.1	297	1351	613.3
1963	424	331	1547	702.3	10	84	38.1	341	1631	740.4
1964[1]	378	356	1501	681.5	14	92	41.8	370	1593	723.3
1965	343	164	585	265.6	5	39	17.7	169	624	283.3
1966	387	404	1470	667.4	5	35	15.9	409	1505	683.3
1967	368	310	953	432.7	5	38	17.3	315	991	450.0
1968	519	373	1106	502.1	1	10	4.5	374	1116	506.6
1969	573	600	1841	835.8	10	87	39.5	610	1928	875.3
1970	420	391	1376	624.7	1	14	6.4	392	1390	631.1
1971	631	282	1043	473.5	4	31	14.1	286	1074	487.6
1972	456	280	969	440.5	13	124	56.4	293	1093	496.8
1973	630	651	2222	1010.0	2	20	9.1	653	2242	1019.1

Atlantic salmon angling record - Grandy Brook. (cont'd.)

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1974										
1975										
1976										
1977										
MEAN										
1964-68	399	321	1123	510.5	6.0	42.8	19.5	327	1166	529.9
1969-73	542	441	1490	677.4	6.0	55.2	25.1	447	1545	702.5

[1]Angling data, 1964-73, estimated to be 85-90% accurate. (R. Morris, personal communication).

Miscellaneous information:

Number of major lakes in watershed: 5

Largest lake "Top Pond": 3 sq.miles, (7.77 sq. kilometers)

Location of largest lake: Tributary #12

There are no large lakes on the main river.

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-69	June 19 - 25	September 4 - 10	July 13 - 20 (1968)

Accessibility to Anglers:

Accessible at mouth by water. Foot trail follows right bank to approximately seven miles (11.3 kilometers) upstream.

Surveys:

Biological survey, 1965.

Redd Counts: None to date.

References:

RATTLING BROOK

Location: 47° 39' 40" N 57° 43' 30" W. Big Barasway, Barasway Bay.

Map Reference: Burgeo. 11 P/12 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 4.4 miles^2, (11.39 kilometers^2). Mean width, 1.2 miles, (1.93 kilometers).

Perimeter, 11.0 miles, (17.69 kilometers). Axial length, 4.1 miles, 6.59 kilometers).

Maximum basin relief, 750 feet, (228.60 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

S-38-1802

FIRST BROOK

Location: 47° 38' 30" N 57° 48' 20" W.

Map Reference: Burgeo. 11 P/12 West.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 15.4 miles^2, (39.88 kilometers^2), Mean width, 1.7 miles, (2.73 kilometers).

Perimeter, 19.2 miles, (30.89 kilometers), Axial length, 8.8 miles, (14.15 kilometers).

Maximum basin relief, 800 feet, (243.84 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

S-38-1804

MIDDLE BROOK

Location: 47° 38' 50" N 57° 49' 38" W.

Map Reference: Burgeo. 11 P/12 West.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 3.1 miles^2, (8.02 kilometers^2). Mean width, 1.2 miles, (1.93 kilometers).

Perimeter, 6.9 miles, (11.10 kilometers). Axial length, 2.8 miles, (4.50 kilometers).

Maximum basin relief, 350 feet, (106.68 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

S-38-1807

CUTTS BROOK

Location: 47° 39' 35" N 57° 50' 55" W.

Map Reference: Burgeo. 11 P/12 West.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 16.1 miles^2, (41.69 kilometers^2). Mean width, 2.1 miles, (3.37 kilometers).

Perimeter, 20.5 miles, (32.98 kilometers). Axial length, 7.7 miles, (12.38 kilometers).

Maximum basin relief, 900 feet, (274.32 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date

References:

S-38-1813

NORTH EAST BROOK

Location: 47° 43' 25" N 57° 52' 03" W. North East Arm, Connoire Bay.

Map Reference: Burgeo. 11 P/12 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 18.6 miles^2, (48.17 kilometers^2). Mean width, 2.6 miles, (4.18 kilometers).

Perimeter, 24.1 miles, (38.77 kilometers). Axial length, 8.9 miles, (14.32 kilometers).

Maximum basin relief, 1,100 feet, (335.28 meters).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Nil.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date.

Redd Counts: None to date.

References:

Anonymous. 1943. Dept. Nat. Res. Res. Bull. No. 12.

S-38-1819

CONNOIRE BROOK (North West Brook)

Location: 47°45'00" N. 57°54'35" W. North West Arm, Connoire Bay.

Map Reference: Burgeo. 11 P/12 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 120.0 miles^2 (310.80 km^2). Mean width, 6.5 miles (104.5 km).

Perimeter: 60.4 miles (97.18 km). Axial length, 17.2 miles (27.67 km).

Maximum basin relief, 1,900 feet (579.12 m).

Geology:

About equal amounts of acidic intrusive rocks and gneissis.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Bottom types:

Main River: (% of total area):

Rubble and gravel 75%; boulders 15%; bedrock 10%.

Spawning Areas:

Plenty of good spawning ground throughout main stream.

Barriers to Fish Migration:

Main River:

Falls at mile 0.25 (0.40 km). Height; 75 feet (22.86 m). Slope; 90°. Complete obstruction.

Falls at mile 10 (16.1 km). Height; 25 feet (7.62 m). Complete obstruction.

Photographs on file:

No 838

Water Quality Data:

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

Brook trout.

Angling Data:

Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys:

Biological survey, 1965.

Redd Counts:

None to date.

References:

Palmer, C.H. 1928. Salmon Rivers of Newfoundland. Farrington Co., Boston.

COUTEAU RIVER

Location: 47°44'40" N. 58°01'35" W. Couteau Bay.

Map Reference: LaPoile. 11 0/9 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 51.1 miles^2 (132.34 km^2). Mean width, 2.8 miles (4.50 km).

Perimeter: 44.2 miles (71.11 km). Axial length, 16.2 miles (26.06 km).

Maximum basin relief, 1,900 feet (579.12 m).

Geology:

About equal amounts of gneissis and acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main River:

Width range: 50 to 75 feet; (15.24-22.86 m). Depth range: 2 to 4 feet (0.6-1.21 m).

Spawning Areas:

Good spawning ground above and below impassable falls.

Barriers to Fish Migration:

Main River:

Falls at mile 0.3 (0.48 km). Height; 10 feet (3.1 m). Slope; 45°. Partial obstruction.

Falls at mile 8 (12.87 km); complete obstruction.

Falls at mile 9, (14.48 km); complete obstruction.

Photographs on file:

Nos. 840, 841.

Water Quality Data:

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

Atlantic salmon, brook trout, smelt, eels.

Angling Data:

Nil.

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Accessible by water at mouth.

Surveys:

Biological survey, 1965.

Redd counts:

None to date.

References:

CINQ CERF RIVER (Brook) S-38-1849

Location: 47° 42' 20" N. 58° 09' 05" W. Cinq Cerf Bay.

Map Reference: LaPoile. 11 0/9 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area 79.1 miles^2 (204.86 kilometers^2). Mean width, 4.5 miles (7.24 kilometers).

Perimeter, 60.3 miles (97.02 kilometers). Axial length, 19.0 miles (30.57 kilometers).

Maximum basin relief, 1,900 feet (579.12 meters).

Geology:

About half gneissis with some acidic intrusive rocks, Devonian volcanic and Devonian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main River: From mouth to mile point 10 (16.09 kilometers); Average width: 150 ft. (45.72 meters). Depth range: 3 to 6 ft. (0.9-1.82 meters). Water velocity range: Medium to sluggish. Bottom types: Mixed rubble and gravel, 90%; boulder 8%: bedrock 2% From falls at mile point 10.75 (17.29 kilometers) to headwaters: Average width: 50 ft. (15.24 meters). Bottom types: Bedrock 50%; boulder, 50%.

Spawning Areas:

Main river: From mouth to mile point 10 (16.09 kilometers) 10% of total area considered to be good spawning ground

Barriers to Fish Migration:

Main River: Falls at mile point 4, (6.43 kilometers), 20 ft. (6.09 meters) high, 39 ft. (11.88 meters) long, 50 ft. (15.24 meters) wide, 45° angle; partial obstruction (series of natural steps on one side).

Falls at mile point 10 (16.09 kilometers), 5 to 8 ft. (1.52-2.43 meters) high; partial obstruction.

Falls at mile point 10.5 (16.89 kilometers), 100 ft. (30.48 meters) high; 90° angle; complete obstruction.

Falls at mile point 10.75 (17.29 kilometers), 100 ft. (30.48 meters) high, 90° angle; complete obstruction.

Photographs on file; Nos. 860, 861, 863,

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout, eels.

Atlantic salmon angling record - Cinq Cerf River (Brook).

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	66	61	292	132.6	13	99	44.9	74	391	177.5
1953	37	33	166	75.4	13	97	44.0	46	263	119.4
1954	16	11	49	22.2	1	7	3.2	12	56	25.4
1955	7	6	27	12.3	-	-	-	6	27	12.3
1956	-	8	35	15.9	1	10	4.5	9	45	20.4
1957	34	79	344	156.2	-	-	-	79	344	156.2
1958	76	40	159	72.2	5	40	18.2	45	199	90.4
1959	40	45	214	97.2	9	65	29.5	54	279	126.7
1960	25	46	192	87.2	8	53	24.1	54	245	111.3
1961	26	15	64	29.1	2	16	7.3	17	80	36.4
1962	45	87	350	158.9	-	-	-	87	350	158.9
1963	33	38	154	69.9	9	62	28.1	47	216	98.0
1964[1]	108	70	258	117.1	2	15	6.8	72	273	123.9
1965	79	30	106	48.1	1	8	3.6	31	114	51.7
1966	65	122	438	198.9	1	8	3.6	123	446	202.5
1967	140	104	394	178.9	2	14	6.4	106	408	185.3
1968	245	187	693	314.6	2	15	6.8	189	708	321.4
1969	205	226	850	385.9	4	31	14.1	230	881	400.0
1970	112	146	582	264.2	-	-	-	146	582	264.2
1971	122	68	273	123.9	1	8	3.6	69	281	127.5
1972	116	125	567	257.4	5	35	15.9	130	602	273.3
1973	146	119	468	212.7	1	10	4.5	120	478	217.3
1974										
1975										
1976										
1977										
MEAN										
1964-68	127	103	378	171.7	1.6	12.0	5.4	104	390	177.2
1969-73	140	137	548	249.1	2.2	16.8	7.6	139	565	256.7

[1]Angling data, 1964-73, estimated to be 100% accurate. (R.Morris, personal communication).

Gene Frequency:

Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 12-18	August 25-31	July 6-13 (1968)

Accessibility to Anglers:

Accessible by water at mouth.

Surveys:

Biological survey, 1965.

Redd Counts:

None to date.

References:

EAST BAY RIVER

Location: 47°46'03" N. 58°15'05" W. East Bay, LaPoile.

Map Reference: LaPoile. 11 O/16 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 22.2 miles^2 (57.49 km^2). Mean width, 2.6 miles (4.18 km).

Perimeter: 26.0 miles (41.83 km). Axial length, 7.8 miles (12.55 km).

Maximum basin relief, 1,300 feet (396.24 m).

Geology:

About half gneissis with the remainder consisting of Devonian volcanic and acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main River:

From mile 0 to mile 1 (1.609 km). Average width: 50 feet (15.24 m). Average depth; 2 feet (0.6 m). Velocity: Medium.

Barriers to Fish Migration:

Main River:

Falls at mile 1 (1.609 km). Height: 100 feet (30.48 m). Completed obstruction. Falls consists of three steps, height; 60,20 and 20 feet (18.3, 6.1 and 6.1 m) respectively.

Photographs on file:

Water Quality Data:

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μmhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

Brook trout, eels.

Angling Data:

Nil

Gene Frequency:

Not completed.

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Accessible only by water at mouth.

Surveys:

Biological survey, 1965.

Redd Counts:

None to date.

References:

LAPOILE RIVER

Location: 47° 48' 00" N. 58° 19' 20" W. Bottom of Lapoile Bay.

Map Reference: LaPoile River. 11 0/16 West half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 227.2 miles^2 (588.44 kilometers^2). Mean width, 7.8 miles (12.55 kilometers).

Perimeter, 90.4 miles (145.45 kilometers). Axial length, 24.8 miles (39.90 kilometers).

Maximum basin relief, 2,050 feet (624.84 meters).

Geology:

Predominantly Devonian sedimentary with some acidic intrusive rocks, gneissis and basic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main river: Width range: 50 to 75 ft. (15.24 - 22.86 meters).

Velocity: Medium.

Bottom types: Rubble and gravel, 3%; boulder 90%; bedrock 7%.

Spawning Areas:

Patches of suitable gravel scattered throughout main river.

Barriers to Fish Migration:

Main River: 3 small falls (approx.) half-way upstream; partial obstruction.

Falls 17½ miles (approx.) (28.15 kilometers) upstream from mouth; complete obstruction.

Photographs on file:

Nos. 609, 900.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon (sea run and resident), brook trout, smelt, eels.

Atlantic salmon angling record - Lapoile River.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	79	31	113	51.3	29	220	100.0	60	333	151.3
1953	41	23	91	41.3	10	89	40.4	33	180	81.7
1954	56	7	26	11.8	5	37	16.8	12	63	28.6
1955	12	14	63	28.6	2	16	7.3	16	79	35.9
1956	-	15	57	25.9	2	17	7.7	17	74	33.6
1957	24	33	111	50.4	2	15	6.8	35	126	57.2
1958	60	87	376	170.7	6	50	22.7	93	426	193.4
1959	41	44	157	71.3	9	69	31.3	53	226	102.6
1960	44	37	131	59.5	7	57	25.9	44	188	85.4
1961	33	28	122	55.4	7	42	19.1	35	164	74.5
19[illegible]	64	43	146	66.3	9	69	31.3	52	215	97.6
19[illegible]3	130	84	291	132.1	9	77	35.0	93	368	167.1
1964[1]	106	85	306	138.9	7	59	26.8	92	365	165.7
1965	122	63	221	100.3	21	158	71.7	84	379	172.0
1966	61	84	278	126.2	8	58	26.3	92	336	152.5
1967	95	46	173	78.5	10	83	37.7	56	256	116.2
1968	195	76	265	120.3	12	88	40.0	88	353	160.3
1969	136	88	311	141.2	13	91	41.3	101	402	182.5
1970	164	124	406	184.3	8	57	25.9	132	463	210.2
1971	127	34	116	52.7	-	-	-	34	116	52.7
1972	78	91	353	160.3	-	-	-	91	353	160.3
1973	126	84	290	131.8	4	37	16.8	84	327	148.7
1974										

Atlantic salmon angling record - Lapoile River. (cont'd.)

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1975										
1976										
1977										
MEAN										
1964-68	116	71	249	112.8	11.6	89.2	40.5	82	338	153.5
1969-73	126	84	295	134.2	5.0	37.0	16.8	88	332	151.0

[1]Angling data, 1964-73, estimated to be 95-100% accurate.(R.Morris, personal communication).

Gene Frequency:

Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 21-27	July 28-August 3	July 6-13 (1968)

Accessibility to Anglers:

Accessible by water at mouth.

Surveys:

Biological survey, 1965.

Redd Counts:

None to date.

References:

BROAD COVE BROOK

Location: 47° 43' 35" N 58° 22' 35" W. LaPoile Bay.
Map Reference: LaPoile. 11 0/9 West.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 30.4 miles^2, (78.73 kilometers^2). Mean width, 2.6 miles (4.18 kilometers).

Perimeter, 31.2 miles, (50.20 kilometers). Axial length, 12.6 miles, (20.27 kilometers).

Maximum basin relief, 1,650 feet, (502.92 meters).

Geology:

Almost entirely acidic intrusive rocks with some Devonian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration:

Falls at mile 0.25 (0.4 km). Height: 80 feet (24.4).

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers: Accessible by water at mouth.

Surveys: None to date.

Redd Counts: None to date.

References:

FARMERS BROOK

Location: 47°39'50" N. 58°30'10" W. Farmers Arm near Garia Bay.

Map Reference: Rose Blanche, 11 O/10 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area: 34.2 miles^2 (88.57 km^2). Mean width, 2.8 miles (4.50 km).

Perimeter: 29.7 miles (47.78 km). Axial length, 12.6 miles (20.27 km).

Maximum basin relief, 1,250 feet (381.00 m).

Geology:

Acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main River:

Width range: 50 to 70 feet (15.25-21.35 m).

Bottom types: Rubble, 20%; boulder, 60%; bedrock, 20%.

Spawning areas:

Between ponds number 5 and 6, good gravel.

Barriers to Fish Migration:

Main River:

Falls at mile 0. Height; 7 feet (2.1 m). Length: 30 feet (9.14 m). Partial obstruction.

Photographs on file:

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout.

Atlantic salmon angling record - Farmers Brook.

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kg	No	lbs	kg
1952	24	61	248	112.6	-	-	-	61	248	112.6
1953	25	75	300	136.2	-	-	-	75	300	136.2
1954	45	60	240	109.0	-	-	-	60	240	109.0
1955	29	27	108	49.0	-	-	-	27	108	49.0
1956	-	81	324	147.1	-	-	-	81	324	147.1
1957	43	161	644	292.4	-	-	-	161	644	292.4
1958	160	106	424	192.5	-	-	-	106	424	192.5
1959	58	108	430	195.2	-	-	-	108	430	195.2
1960	84	138	541	245.6	-	-	-	138	541	245.6
1961	46	60	242	108.9	-	-	-	60	242	108.9
1062	118	306	1126	511.2	-	-	-	306	1126	511.2
1963	93	214	819	371.8	-	-	-	214	819	371.8
1964[1]	104	207	779	353.7	-	-	-	207	779	353.7
1965	117	249	937	425.4	-	-	-	249	937	425.4
1966	91	265	985	447.2	-	-	-	265	985	447.2
1967	62	104	394	178.9	-	-	-	104	394	178.9
1968	90	149	595	270.1	-	-	-	149	595	270.1
1969	121	120	456	207.0	-	-	-	120	456	207.0
1970	108	180	667	302.8	-	-	-	180	667	302.8
1971	32	31	121	54.9	-	-	-	31	121	54.9
1972	67	152	581	263.8	-	-	-	152	581	263.8
1973	76	62	285	129.5	-	-	-	62	285	129.5
1974										
1975										
1976										
1977										
MEAN										
1964-68	93	195	738	335.1	-	-	-	195	738	335.1
1969-73	81	109	422	191.6	-	-	-	109	422	191.6

[1]Angling data, 1964-73, estimated to be 100% accurate. (R.Morris, personal communication).

Gene Frequency: Not completed

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-1969	June 23-29	July 24-30	July 13-20 (1968)

Accessibility to Anglers:

Surveys:

Biological survey, 1965.

Redd Counts: None to date.

References:

GARIA RIVER

Location: 47° 43' 25" N. 58° 32' 10" W. Bottom of Garia Bay.

Map Reference: Rose Blanche. 11 0/10 East half.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 88.0 miles^2 (227.92 kilometers^2). Mean width, 5.1 miles (8.20 kilometers).

Perimeter, 50.9 miles (81.89 kilometers). Axial length, 16.9 miles (27.19 kilometers).

Maximum basin relief, 1,950 feet (594.36 meters).

Geology:

About half gneissis with the remainder consisting of acidic intrusive rocks and some Devonian sedimentary.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Channel Characteristics:

Main river: width range: 20 - 30 ft. (approx.) (6.09-9.14 meters).

Depth range: 2 to 3 ft. (0.6-0.9 meters). Velocity: Rapid.

Spawning areas:

Main river from mouth to mile point 10 (16.09 kilometers), scattered patches of spawning gravel.

Barriers to Fish Migration:

Main river: Falls at approximately mile point 10 (16.09 kilometers), 20 ft. (6.09 meters) high; complete obstruction.

Four other falls on mainriver; partial obstruction.

Photographs on file; Nos. 865, 866

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present: Atlantic salmon, brook trout, eels.

Atlantic salmon angling record - Garia River.

Year	Rod days	Grilse No	Grilse lbs	Grilse kg	Salmon No	Salmon lbs	Salmon kg	Total No	Total lbs	Total kg
1952	9	21	90	40.9	-	-	-	21	90	40.9
1953	5	6	24	10.9	3	28	12.7	9	52	23.6
1954	6	2	-	-	1	-	-	3	-	-
1955	2	1	4	1.8	-	-	-	1	4	1.8
1956	-	21	93	42.2	2	18	8.2	23	111	50.4
1957	12	11	51	23.2	-	-	-	11	51	23.2
1958	9	5	21	9.5	-	-	-	5	21	9.5
1959	22	18	72	32.7	2	17	7.7	20	89	40.4
1960	64	13	48	21.8	-	-	-	13	48	21.8
1961	181	81	366	166.2	9	67	30.4	90	433	196.6
1962	101	53	231	104.9	12	89	40.4	65	320	145.3
1963	210	100	431	195.7	2	15	6.8	102	446	202.5
1964[1]	243	83	335	152.1	6	54	24.5	89	389	176.6
1965	274	141	542	246.1	2	15	6.8	143	557	252.9
1966	147	76	299	135.7	3	29	13.2	79	328	148.9
1967	237	49	205	93.1	1	9	4.1	50	214	97.2
1968	215	51	203	92.2	9	64	29.1	60	267	121.3
1969	53	48	178	80.8	-	-	-	48	178	80.8
1970	No report									
1971	234	80	294	133.5	1	14	6.4	81	308	139.9
1972	228	131	457	207.5	9	76	34.5	140	533	242.0
1973	192	67	231	105.0	-	-	-	67	231	105.0

Atlantic salmon angling record - Garia River. (cont'd.)

Year	Rod days	Grilse			Salmon			Total		
		No	lbs	kg	No	lbs	kgms	No	lbs	kg
1974										
1975										
1976										
1977										
MEAN										
1964-68	223	80	317	143.8	4.2	34.2	15.5	84	351	159.4
1969-73	177	82	290	131.7	2.5	22.5	10.2	84	313	141.9

[1]Angling data, 1964-73, estimated to be 100% accurate. (R.Morris, personal communication).

Gene Frequency: Not completed.

Timing of Run: (Based on angling statistics)

Year	First fish	Last fish	Week of peak run
Average 1966-69	June 16-22	Aug. 20-26	July 13-20 (1968)

Accessibility to Anglers: Accessible by water at mouth.

Surveys:
Biological survey, 1965

Redd Counts: None to date.

References:

NORTHWEST BROOK

Location: 47° 42' 05" N. 58° 34' 10" W. Garia Bay

Map Reference: Rose Blanche. 11 0/10 East.

CHARACTERISTICS OF DRAINAGE BASIN

Geomorphological Factors:

Basin area, 46.0 miles^2, (119.14 kilometers^2). Mean width, 2.8 miles, (4.50 kilometers)

Perimeter, 46.6 miles, (74.97 kilometers). Axial length, 16.4 miles, (26.38 kilometers).

Maximum basin relief, 2,000 feet, (609.60 meters).

Geology:

Almost entirely gneissis with some acidic intrusive rocks.

CHARACTERISTICS OF STREAMS IN DRAINAGE BASIN

Barriers to Fish Migration.

Photographs on file; Nos.

Water Quality Data, Sample Collected

pH	Total Alkalinity ppm.	Total Hardness ppm.	Turbidity JTU	Cl ppm.	Conductivity at 25°C (μ mhos/cm)	Ca ppm.	HCO_3 ppm.

FISH POPULATIONS

Species Present:

No angling data available on this stream.

Gene Frequency: Not completed

Timing of Run:

Year	First fish	Last fish	Week of peak run

Accessibility to Anglers:

Surveys: None to date

Redd Counts: None to date

References:

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