Jim Martin 8

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Densities of Juvenile Atlantic Salmon and Other Species, and Related Data From Electroseining Studies in the Saint John River System, 1968-78

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Les numéros 1 à 25 de cette série ont été publiés à titre de Records statistiques, Service des pêches et de la mer. Les numéros 26-160 ont été publiés à titre de Rapports statistiques du Service des pêches et de la mer, Ministère des Pêches et de l'Environnement. Le nom de la série a été modifié à partir du numéro 161.

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Canadian Data Report of
Fisheries and Aquatic Sciences No. 178

January, 1980

DENSITIES OF JUVENILE ATLANTIC SALMON AND OTHER SPECIES, AND RELATED DATA FROM ELECTROSEINING STUDIES IN THE SAINT JOHN RIVER SYSTEM, 1968-78

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ABSTRACT

Francis, A.A. 1980. Densities of juvenile Atlantic salmon and other species, and related data from electroseining studies in the Saint John River system, 1968-78. Can. Data Rep. Fish. Aquat. Sci. No. 178. 102 p.

This report summarizes electrofishing data to determine densities of juvenile Atlantic salmon and other freshwater species throughout the Saint John River system, New Brunswick, 1968-78. Data on associated age-length relationships, physical and chemical water quality and hatchery stocking of juvenile Atlantic salmon are presented.

Key words: Saint John River system, electrofishing, fish densities, juvenile Atlantic salmon, other freshwater species, water quality, hatchery stocking.

RÉSUMÉ

Francis, A.A. 1980. Densities of juvenile Atlantic salmon and other species, and related data from electroseining studies in the Saint John River system, 1968-78. Can. Data Rep. Fish. Aquat. Sci. No. 178. 102 p.

Ce rapport contient en résumé des données sur la densité du saumon Atlantique juvenile et autres espèces d'eau douce qui habitent le réseau du flueve Saint-Jean, Nouveau Brunswick. Les données furent recueilles à la pêche électrique au cours des années 1968 à 1978 inclusivement. Les informations secondaires obtenus sur le rapport age et longueur, la qualité physique et chimique de l'eau et les ensemensements de saumoneaux de pisciculture sont aussi présentés.

Mots clés: réseau du fleuve Saint-Jean, pêche électric, densités des poissons, saumons Atlantique juveniles, autres espèces d'eau douce, qualité de l'eau, ensemensements de saumoneaux de pisciculture.

INTRODUCTION

This report provides a comprehensive summary of juvenile Atlantic salmon population densities, determined by electrofishing from 1968 to 1977 of the Saint John River system in New Brunswick (Fig. 1). The report also presents density data on fish species other than Atlantic salmon, and on the physical and chemical water quality at each sampling site.

Juvenile salmon distributions on the system from hatcheries in the Maritimes Region are recorded. Hatchery-stocked parr are included in the total parr population estimates, and the actual density of hatchery stock is given in footnote form.

A few stations were repeated in the same year and the mean density is used in each instance.

Small parr were distinguished from large parr by the fork-length measurement. Parr with a fork-length measurement of ten (10) centimetres and greater were classified as large parr.

Population density estimates for juvenile Atlantic salmon were determined by actual and calculated counts for comparison purposes. Actual counts were determined by using the actual number of fish captured per unit area. Calculated counts were computed by the catch per unit effort method described by Delury (1951).

Population densities of species other than Atlantic salmon were recorded by actual counts only.

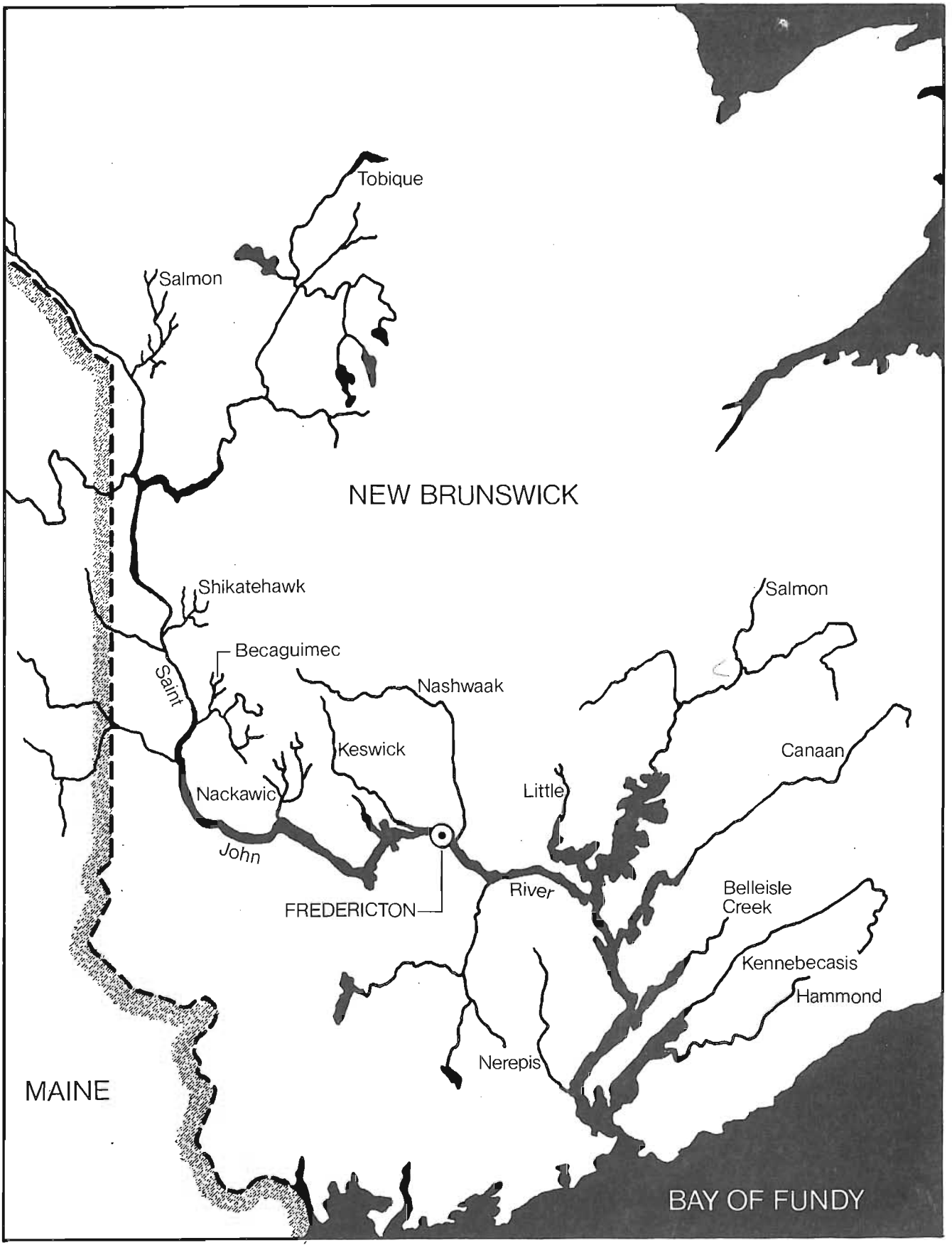
METHODS

Sampling stations were selectively chosen on most major tributaries (Figs. 2-15) of the Saint John River system for assessment of juvenile Atlantic salmon populations by electrofishing. At each station, small-mesh barrier nets were erected to enclose approximately 100 m^2 of stream bottom. The enclosed area was electrofished five (5) times in succession. No fish were returned to the area after each successive fishing. After electrofishing, the numbers and sizes of juvenile salmon taken were recorded. Fish species other than Atlantic salmon were identified and their numbers recorded.

The most commonly used fish shocker was the large generator-driven unit. This unit consists of a 500-volt generator, driven by a 4- to 5-horsepower Briggs and Stratton gasoline engine (Smith and Elson 1950). The Smith-Root Back Pack shocker was an alternate unit, used infrequently when sampling inaccessible areas, and mainly served as a back-up unit.

Physical and chemical water quality data were determined at each census location. Water temperatures were taken by pocket thermometers and by the Yellow Springs Instrument, Model 33, which also recorded the specific conductivity. The pH and dissolved-oxygen levels were determined by the use of the Hach Chemical Company Field Kit.

Fish samples were measured in centimetres (fork length only) on metric measuring boards, and a scale sample was taken for aging purposes. The Bausch and Lomb microprojector was used to read scale samples.

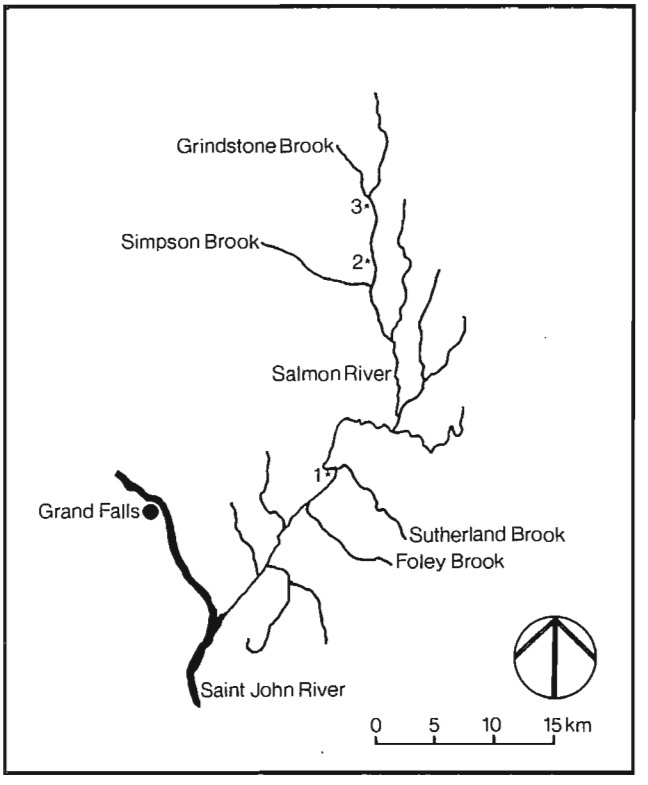


Map of the Saint John River system.

DESCRIPTION AND LOCATION OF SAMPLING SITES

The following information gives a fairly comprehensive description of the actual location and the physical make up of each sampling site. Except for those streams below the Nashwaak River, the data are presented starting with the uppermost tributary first and continuing downstream. Sampling sites are on tributary waters only. Individual station names are usually named after some permanent landmark, as a brook or the nearest village or town. Estimates of stream site components and bottom substrate are recorded in order of the greater amount first.

Salmon River (Grand Falls) System



Site Number: 1

Name of Stream: Salmon River

Name of Station: Salmon River (Sutherland Brook)

Topographic Reference: 47°05'N; 67°33'W (Scale 1:50,000) Saint Andre (21 0/4 and 21 N/1)

Distance to Confluence: 21.6 km (13.5 mi)'

Site Components: Riffle, run, flat and pool

Site Bottom Substrate: Cobble, pebble and gravel

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem, at the end of the Foley Brook Village Road and above the confluence of Sutherland Brook. The Foley Brook Road joins Route 108 just north of the Salmon River Bridge in New Denmark. The upper barrier of the sample area is located 13.8 m (46 ft) downstream from the centre of the Foley Brook Road where it intersects the river.

Site Number: 2

Name of Stream: Salmon River

Name of Station: Salmon River (above Simpson Brook)

Topographic Reference: 47°15'N; 67°30'W (Scale 1:50,000) Saint André (21 0/4 East Half)

Distance to Confluence: 55.2 km (34.5 mi)

Site Components: Run, flat and pool

Site Bottom Substrate: Cobble, pebble and gravel

Site Shade: Good

Site Cover: Poor

The site is located on the main stem, approximately 3.2 km (2 mi) upstream from the confluence of Simpson Brook. Area is reached via the Irving Co. Forest Road, leaving from Gate No. 1 on the Stewart Highway, Route 17, to Little River and the main Salmon River. The lower barrier is located 68.4 m (228 ft) upstream from the right bank bridge abutment of the Company Road at the river crossing. Distance from the site to Gate No. 1 (Irving's) is 18.9 km (11.8 mi). Gate No. 1 is 27.7 km (17.3 mi) north of the town of St. Leonard.

Site Number: 3

Name of Stream: Salmon River

Name of Station: Salmon River (above Poitras Brook)

Topographic Reference: 47°17'N; 67°30'W (Scale 1:50,000) Grand River (21 0/5 East Half)

Distance to Confluence: 59.2 km (37.0 mi)

Site Components: Riffle, run, flat and pool

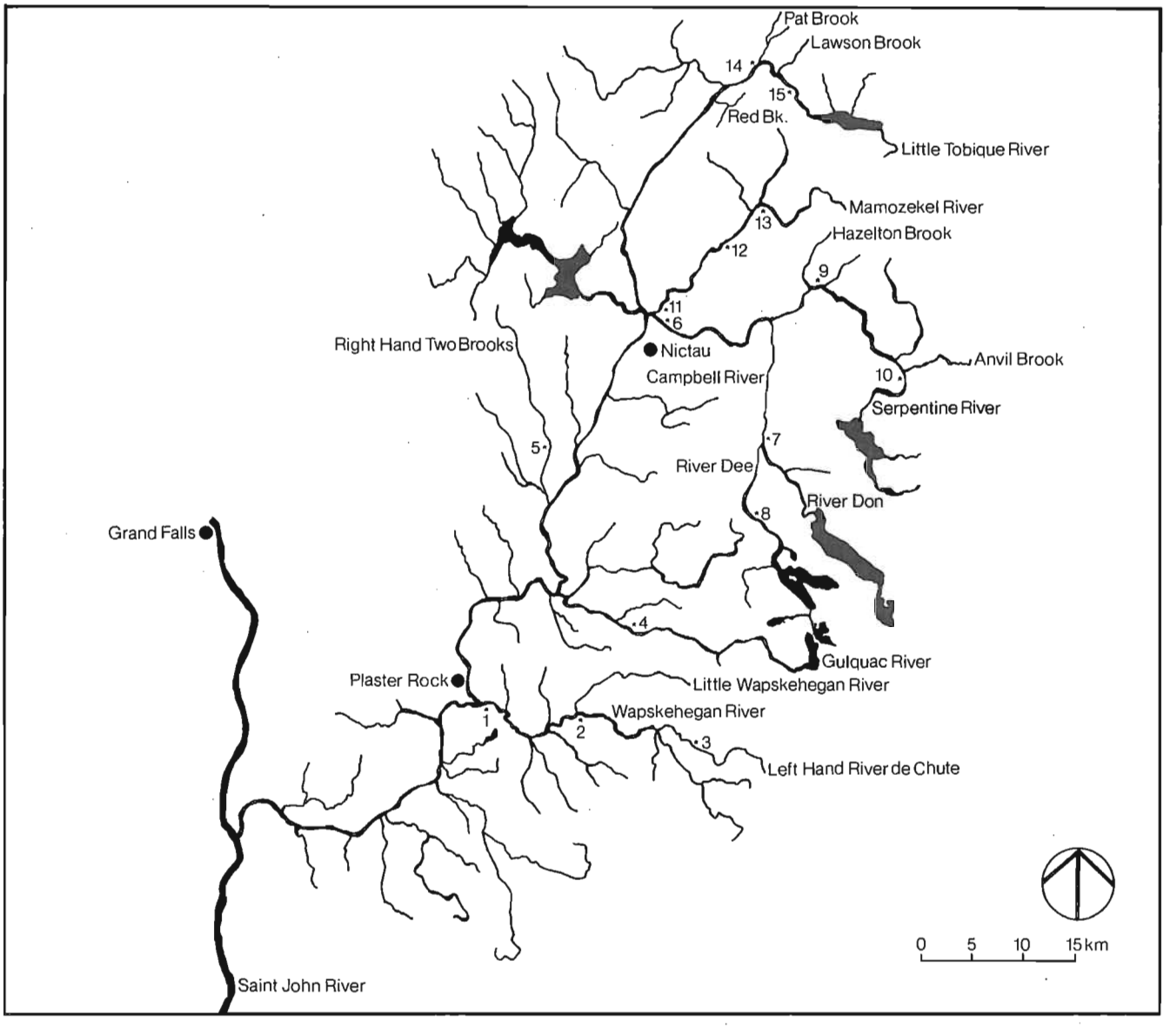
Site Bottom Substrate: Cobble, pebble and gravel

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem, 3.0 km (1.9 mi) above Poitras Brook and 1.1 km (0.7 mi) downstream from Grindstone Brook. The area is reached via the Irving Co. Forest Road, leaving at Gate No. 1 on the Stewart Highway, Route 17, to the Main Salmon River. The lower barrier of the site is 10.2 m (34 ft) upstream from a large cedar tree on the true left bank.

Tobique River System



Site Number: 1

Name of Stream: Wapskehegan River

Name of Station: Wapske fyke-net site

Topographic Reference: 46°53'N; 67°22'W (Scale 1:50,000) Plaster Rock (21 J/14 West Half)

Distance to Confluence: 0.8 km (0.5 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Cobble, pebble, gravel and boulder.

Site Shade: Fair

Site Cover: Fair

The site is located a short distance upstream from the highway bridge on Route 109 in the village of Wapske. Reached by taking the first haul road on the right, north of the bridge. Site is located between the true right bank and a small alder-covered island in midstream. The upper barrier of the sample site is 38.1 m (125 ft) downstream from the uppermost point of the island.

Site Number: 2

Name of Stream: Wapskehegan River

Name of Station: Wapske, bridge out

Topographic Reference: 46°53'N; 67°16'W (Scale 1:50,000) Plaster Rock (21 J/14 West Half)

Distance to Confluence: 16.0 km (10.0 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Cobble, pebble, gravel and boulder

Site Shade: Fair

Site Cover: Fair

The site is located on the main stem, a short distance upstream from the confluence of the Little Wapskehegan River. Reached via the first haul road bearing left above Oven Rock Brook on the Stewart Plains Road. The upper barrier of the site is 30.2 m (99 ft) upstream from the upper end of a fallen bridge abutment on opposite shore. A small rocky island divides the main stream, and the site is located on the true left portion of the river.

Site Number: 3

Name of Stream: Wapskehegan River

Name of Station: Left Hand River de Chute

Topographic Reference: 46°51'N; 67°05'W (Scale 1:50,000) Plaster Rock (21 J/14 East Half)

Distance to Confluence: 5.6 km (3.5 mi)

Site Components: Run, pool, riffle and flat

Site Bottom Substrate: Cobble, boulder, ledge, pebble and gravel

Site Shade: Fair

Site Cover: Fair

The site is located on the Left Hand River De Chute stream, a main tributary to the Wapskehegan River. The sample area includes the main stream immediately above and below the bridge on the Sadler Brook Road. The Sadler Brook Road is reached via the Renous Highway and is approximately 25.7 km (16 mi) from the town of Plaster Rock.

Site Number: 4

Name of Stream: Gulquac River

Name of Station: Gulquac

Topographic Reference: 46°58'N; 67°12'W (Scale 1:50,000) Plaster Rock (21 J/14 East Half)

Distance to Confluence: 9.6 km (6.0 mi)

Site Components: Riffle, run, flat and pool

Site Bottom Substrate: Cobble, pebble and boulder

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem immediately below (downstream) the new concrete bridge at Mile 4 on the Trousers Lake Road. The Trousers Lake Road is reached via the Renous Highway, Route 109, a distance of 16 km (10 mi) from the town of Plaster Rock. The upper barrier of the sample station is 74.1 m (243 ft) downstream from the bridge abutment, on the true left bank.

Site Number: 5

Name of Stream: Right Two Brooks

Name of Station: Right Two Brooks

Topographic Reference: 47°08'N; 67°1 'W (Scale 1:50,000) Riley Brook (21 0/3 West Half)

Distance to Confluence: 7.2 km (4.5 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Cobble, pebble, gravel and boulder

Site Shade: Good

Site Cover: Good

The site is located on the main stream, reached via a haul road 2.4 km (1.5 mi) bearing left in on the Burma Road from Route 385. The Burma Road joins Route 385 a distance of 34.4 km (21.5 mi) north of the town of Plaster Rock. The upper barrier of the site follows the centre line of the road that fords the stream, and is upstream 9.1 m (30 ft) from a very large spruce tree on the true right bank.

Site Number: 6

Name of Stream: Campbell River

Name of Station: Nictau Bridge

Topographic Reference: 47°15'N; 67°09'W (Scale 1:50,000) Riley Brook (21 0/3 East Half)

Distance to Confluence: 0.4 km (0.25 mi)

Site Components: Riffle, run, flat and pool

Site Bottom Substrate: Cobble, pebble, gravel and boulder

Site Shade: Poor

Site Cover: Poor

The site is located between a small island in midstream and the shoreline on the true left bank, a short distance below the Nictau Bridge. The site is reached via a haul road 0.4 km (0.25 mi) south of Nictau Bridge. The upper barrier of the sample area is 18.3 m (60 ft) downstream from a large yellow birch tree on the point of the island in midstream.

Site Number: 7

Name of Stream: Campbell River

Name of Station: Campbell Landing

Topographic Reference: 47°08'N; 67°00'W (Scale 1:50,000) Riley Brook (21 0/3 East Half)

Distance to Confluence: 32.0 km (20.0 mi)

Site Components: Run, riffle, flat and pool

Site Bottom Substrate: Cobble, pebble, gravel and boulder

Site Shade: Poor

Site Cover: Poor

The site is located on the main stream, opposite the abandoned log landing at the end of the Stewart Brook Road. The area is locally known as Britt Brook Landing. The site is approximately 0.4 km (0.25 mi) downstream from the forks of the River Dee and River Don. The Stewart Brook is reached via the Trousers Lake Road and the Renous Highway. The upper barrier of the site is located downstream 32.8 m (100 ft) from a large fir tree, 36 cm (14 in.) diameter, on the true right shoreline.

Site Number: 8

Name of Stream: Campbell River

Name of Station: River Dee (Shingle Gulch)

Topographic Reference: 47°05'N; 67°02'W (Scale 1:50,000) Riley Brook (21 0/3 East Half)

Distance to Confluence: 38.4 km (24.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, boulder and pebble

Site Shade: Fair

Site Cover: Good

The site is located on the main stem directly opposite an old abandoned logging camp at the end of the Shingle Gulch Road. The upper barrier of the site is 47 m (154 ft) downstream from a small bridge on the road just prior to entering the camp yard. The Shingle Gulch Road is reached via the Trousers Lake Road and the Renous Highway.

Site Number: 9

Name of Stream: Serpentine River

Name of Station: Hazelton Brook

Topographic Reference: 47°16'N; 66°56'W (Scale 1:50,000) Nepisiguit Lake (21 0/7 West Half)

Distance to Confluence: 6.4 km (4.0 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Cobble, boulder and pebble

Site Shade: Poor

Site Cover: Fair

The site is located on the main stem directly opposite a tree plantation. The lower barrier is 38.1 m (125 ft) upstream from the confluence of Hazelton Brook. This sample area is closed in by netting on three sides due to the extreme width of the river. Area includes that portion from midstream to the true right bank. Hazelton Brook is at Mile 18 on the Serpentine Road.

Site Number: 10

Name of Stream: Serpentine River

Name of Station: Anvil Brook

Topographic Reference: 47°14'N; 66°52'W (Scale 1:50,000) Serpentine Lake (21 0/2 West Half)

Distance to Confluence: 17.7 km (11.0 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Boulder, cobble, pebble and gravel

Site Shade: Fair

Site Cover: Good

The site is located on the main stem, 0.4 km (0.25 mi) above Anvil Brook, at a point on a turn where the Serpentine Road runs very close to the main stream. There are several very large boulders in the same area.

Site Number: 11

Name of Stream: Mamozekel River

Name of Station: Mamozekel Landing

Topographic Reference: 47°16'N; 67°07'W (Scale 1:50,000) Sisson (21 0/6 East Half)

Distance to Confluence: 1.6 km (1 mi)

Site Components: Riffle, run and pool

Site Bottom Substrate: Cobble, pebble, gravel and boulder

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem, opposite an abandoned log landing 1.6 km (1 mi) above the confluence. Sample area is enclosed by the use of netting on three sides due to extreme width of stream. The true left portion of the stream is sampled, and the upper barrier is located 228.7 m (750 ft) from the centre of the Nictau Lake Road.

Site Number: 12

Name of Stream: Mamozekel River

Name of Station: Mamozekel (opposite Serpentine Road)

Topographic Reference: 47°19'N; 67°02'W (Scale 1:50,000) Sisson (21 0/6 East Half)

Distance to Confluence: 16.0 km (10.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, gravel, pebble and boulder

Site Shade: Good

Site Cover: Good

The site is located on the main stem at Mile 11 on the Nictau Lake Road and directly opposite the Serpentine Road. A small picnic site and clearing is adjacent to the site. The lower barrier is 2 m (6.6 ft) upstream from the confluence of Eleven-mile Brook.

Site Number: 13

Name of Stream: Mamozekel River

Name of Station: Mamozekel (South Branch)

Topographic Reference: 47°21'N; 67°01'W (Scale 1:50,000) Sisson (21 0/6 East Half)

Distance to Confluence: 19.2 km (12.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, boulder, pebble and gravel

Site Shade: Good

Site Cover: Good

The site is located on the South Branch of the Mamozekel River, directly above the confluence of the North Branch. The lower barrier, on the true left bank, is 8.2 m (27 ft) upstream from the bridge abutment on the Nictau Lake Road. This sample station was located approximately 45.5 m (50 yd) downstream on the main stem in 1968 and 1969.

Site Number: 14

Name of Stream: Little Tobique River

Name of Station: Pat's Crossing

Topographic Reference: 47°28'N; 67°01'W (Scale 1:50,000) Sisson (21 0/6 East Half)

Distance to Confluence: 48.0 km (30.0 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Pebble, cobble, boulder, gravel and ledge

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem, 37 km (23 mi) by road above the Nictau Gate and 4.8 km (3 mi) above Red Brook, at a ford commonly known as Pat's Crossing. The upper barrier of the site is located directly at the downstream end of the bridge abutment on the true right bank.

Site Number: 15

Name of Stream: Little Tobique River

Name of Station: Above Lawson Brook

Topographic Reference: 47°27'N; 66°57'W (Scale 1:50,000) Nepisiguit Lake (21 0/7 West Half)

Distance to Confluence: 56.0 km (35.0 mi)

Site Components: Run, pool, riffle and flat

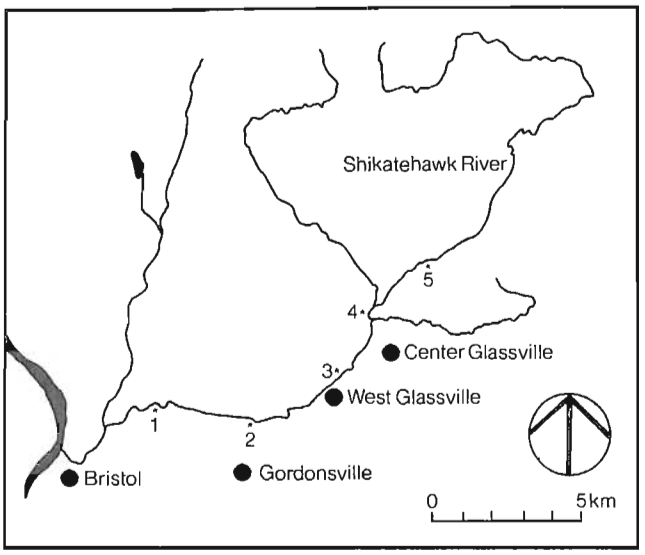
Site Bottom Substrate: Cobble, pebble and gravel

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem, at a distance of 3.9 km (2.4 mi) upstream from Lawson Brook, at a ford (crossing) on the stream. The lower barrier is 3.1 m (10 ft) downstream from the crossing, measured on the true left bank.

Shikatehawk River System



Site Number: 1

Name of Stream: Shikatehawk River

Name of Station: Lockharts Mill

Topographic Reference: 46°29'N; 67°33'W (Scale 1:50,000) Florenceville (21 J/5 East Half)

Distance to Confluence: 3.2 km (2.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, boulder and pebble

Site Shade: Good

Site Cover: Good

The site is located on the main stem, immediately above the covered bridge at Lockhart's Mill. The area is reached via the first gravel road bearing north on Route 107 from the town of Bristol. The lower barrier is on the true left bank, 2.7 m (9 ft) upstream from the bridge abutment.

Site Number: 2

Name of Stream: Shikatehawk River

Name of Station: Gordonsville

Topographic Reference: 46°29'N; 67°30'W (Scale 1:50,000) Florenceville (21 J/5 East Half)

Distance to Confluence: 8.0 km (5.0 mi)

Site Components: Riffle and pool

Site Bottom Substrate: Cobble, boulder, pebble and gravel

Site Shade: Fair

Site Cover: Good

The site is located on the main stem, above the covered bridge in Gordonsville on Route 570. The lower barrier is upstream 15.2 m (50 ft) from the bridge abutment on the true left bank.

Site Number: 3

Name of Stream: Shikatehawk River

Name of Station: West Glassville

Topographic Reference: 46°30'N; 67°27'W (Scale 1:50,000) Juniper (21 J/11 West Half)

Distance to Confluence: 13 km (8.0 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Cobble, pebble and boulder

Site Shade: Fair

Site Cover: Fair

The site is located on the main stem, a distance of 0.8 km (0.5 mi) upstream from the high bridge on the main river in West Glassville. The area is reached via a sporting camp road, a short distance south of the bridge, heading upstream along the true left bank. The lower barrier is 8.4 m (28 ft) downstream on the true left bank from a 33-cm (13-in.) diameter fir tree.

Site Number: 4

Name of Stream: Shikatehawk River

Name of Station: Centre Glassville

Topographic Reference: 46°31'N; 67°26'W (Scale 1:50,000) Juniper (21 J/11 West Half)

Distance to Confluence: 15.2 km (9.5 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Cobble, pebble and gravel

Site Shade: Poor

Site Cover: Fair

The site is located on the main stem, above the bridge and a short distance below the confluence of the North Shikatehawk Stream in Centre Glassville. Area reached via a gravel road going in northerly direction from the town of Glassville on Route 107. The lower barrier of the site on the true right bank is 27.9 m (93 ft) upstream from the bridge abutment.

Site Number: 5

Name of Stream: Shikatehawk River

Name of Station: Kenneth

Topographic Reference: 46°32'N; 67°26'W (Scale 1:50,000) Juniper (21 J/11 West Half)

Distance to Confluence: 17 km (10.5 mi)

Site Components: Riffle, run, pool and flat

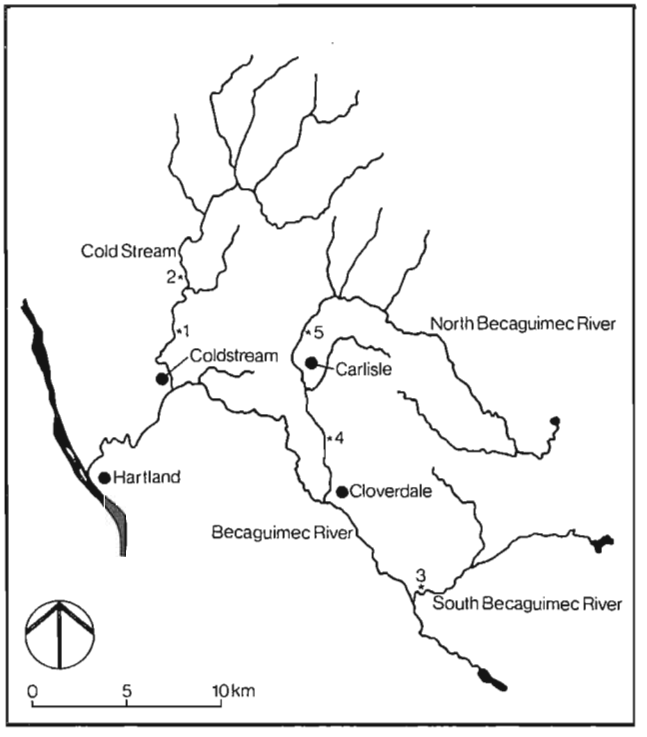
Site Bottom Substrate: Cobble, pebble and boulder

Site Shade: Good

Site Cover: Good

The site is located on the main stem at Kenneth, approximately 1.6 km (1 mi) above the confluence of the North Branch Shikatehawk River. The site is located just above an old abandoned river crossing. The lower barrier is upstream a distance of 2.7 m (9 ft) from the old bridge abutment on the true right bank.

Becaguimec River System



Site Number: 1

Name of Stream: Becaguimec River

Name of Station: Coldstream (Bannon)

Topographic Reference: 46°22'N; 67°28'W (Scale 1:50,000) Coldstream (21 J/16 West Half)

Distance to Confluence: 4.0 km (2.5 mi)

Site Components: Riffle, run, flat and pool

Site Bottom Substrate: Cobble, pebble and boulder

Site Shade: Fair

Site Cover: Good

The site is located on the Cold Stream, a tributary of the Becaguimec River, below the concrete bridge in Bannon. Bannon is reached via Route 570 from the village of Coldstream. The upper barrier of the sample area is 81 m (270 ft) downstream on the true left bank from the concrete bridge.

Site Number: 2

Name of Stream: Becaguimec River

Name of Station: Coldstream (East Coldstream)

Topographic Reference: 46°24'N; 67°27'W (Scale 1:50,000) Coldstream (21 J/16 West Half)

Distance to Confluence: 8.0 km (5.0 mi)

Site Components: Run, riffle and flat

Site Bottom Substrate: Cobble, pebble and gravel

Site Shade: Poor

Site Cover: Fair

The site is located in East Coldstream on the Cold Stream, a tributary of the Becaguimec River. The site is directly upstream from the bridge in East Coldstream. The lower barrier of the site is 7.8 m (26 ft) upstream from the bridge abutment on the true left bank.

Site Number: 3

Name of Stream: Becaguimec River

Name of Station: South Branch (County Line)

Topographic Reference: 46°15'N; 67°18'W (Scale 1:50,000) Millville (21 J/3 West Half)

Distance to Confluence: 0.8 km (0.5 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Cobble, pebble, boulder, sand and silt

Site Shade: Good

Site Cover: Good

The site is located on the South Becaguimec River, near the York-Carleton County Line and immediately above the bridge on Route 104. The lower barrier is 6.1 m (20 ft) upstream on the true right bank from the bridge abutment.

Site Number: 4

Name of Stream: Becaguimec River

Name of Station: North Branch (Cloverdale)

Topographic Reference: 46°19'N; 67°22'W (Scale 1:50,000) Coldstream (21 J/6 West Half)

Distance to Confluence: 5.2 km (3.25 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, pebble, gravel and boulder

Site Shade: Good

Site Cover: Fair

The site is above the first bridge on the North Becaguimec River, north of the junction of Routes 104 and 575. The lower barrier is located 11.4 m (38 ft) upstream from the bridge abutment on the true left bank.

Site Number: 5

Name of Stream: Becaguimec River

Name of Station: North Branch (Carlisle)

Topographic Reference: 46°22'N; 67°23'W (Scale 1:50,000) Coldstream (21 J/6 West Half)

Distance to Confluence: 9.6 km (6.0 mi)

Site Components: Run, riffle, flat and pool

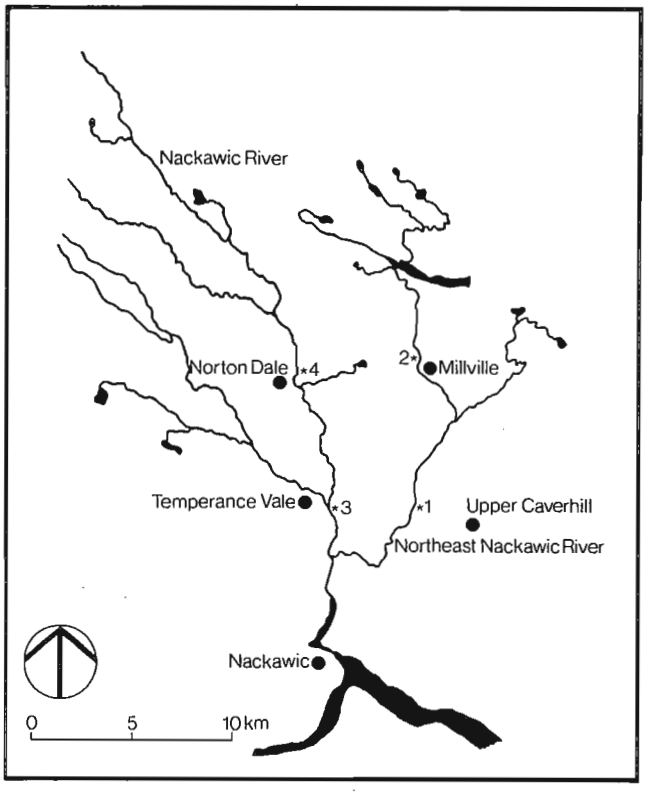
Site Bottom Substrate: Cobble, pebble, ledge and boulder

Site Shade: Good

Site Cover: Good

The site is located on the North Becaguimec River, approximately 2.4 km (1.5 mi) above the covered bridge in Carlisle. The lower barrier is located 11.1 m (37 ft) downstream from the centre line of a river crossing in the area.

Nackawic River System



Site Number: 1

Name of Stream: Nackawic River

Name of Station: Northeast Nackawic River (Upper Caverhill)

Topographic Reference: 46°04'N; 67°11'W (Scale 1:50,000) Millville (21 J/3 East Half)

Distance to Confluence: 9.6 km (6.0 mi)

Site Components: Run, pool, flat and riffle

Site Bottom Substrate: Cobble, boulder, pebble, gravel and ledge

Site Shade: Fair

Site Cover: Very good

The site is located on the Northeast Nackawic River, immediately below the bridge at Upper Caverhill. The area is reached via the Valley Forest Products forest road, and the site is a short distance on the main stream within sight of the road at Mile 4. The upper barrier is located 15.9 m (53 ft) downstream from the bridge abutment on the true left bank.

Site Number: 2

Name of Stream: Nackawic River

Name of Station: Northeast Nackawic River (Millville)

Topographic Reference: 46°08'N; 67°11'W (Scale 1:50,000) Millville (21 J/3 East Half)

Distance to Confluence: 19.2 km (12.0 mi)

Site Components: Riffle, run, flat and pool

Site Bottom Substrate: Cobble, pebble and gravel

Site Shade: Fair

Site Cover: Fair

The site is located on the Northeast Nackawic River, directly above the bridge at Millville. The area is reached via the Howland Ridge Road in Millville. The lower barrier of the site is 15 m (49 ft) upstream from the bridge abutment on the true left bank.

Site Number: 3

Name of Stream: Nackawic River

Name of Station: Nackawic Main Stream (Temperence Vale)

Topographic Reference: 46°04'N; 67°15'W (Scale 1:50,000) Millville (21 J/3 East Half)

Distance to Confluence: 7.2 km (4.5 mi)

Site Components: Riffle and pool

Site Bottom Substrate: Cobble, gravel and pebble

Site Shade: Fair

Site Cover: Fair

The site is located on the main stem, immediately above the highway bridge in the village of Temperence Vale. Area is reached via Route 595 or 605.

Site Number: 4

Name of Stream: Nackawic River

Name of Station: Nackawic Main Stream (Norton Dale)

Topographic Reference: 46°07'N; 67°16'W (Scale 1:50,000) Millville (21 J/3 West Half)

Distance to Confluence: 15.3 km (9.5 mi)

Site Components: Riffle, run and flat

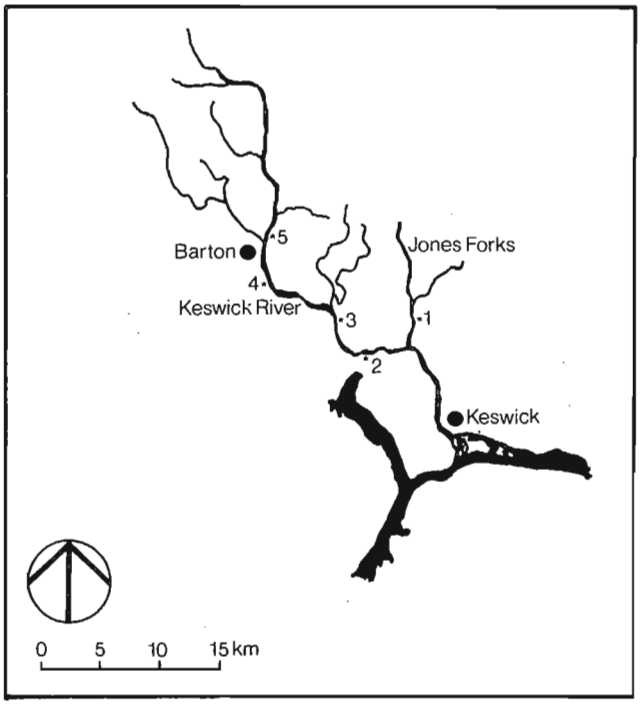
Site Bottom Substrate: Cobble, pebble, gravel and boulder

Site Shade: Fair

Site Cover: Fair

The site is located on the main stem, immediately above the bridge on Route 585 in Norton Dale. Norton Dale is reached via Route 585 and Route 104 from the village of Millville, and by Route 595 from the town of Nackawic.

Keswick River System



Site Number: 1

Name of Stream: Keswick River

Name of Station: Jones Forks (Jones Forks)

Topographic Reference: 46°04'N; 66°52'W (Scale 1:50,000) Burtt's Corner (21 J/2 West Half)

Distance to Confluence: 1.6 km (1.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, pebble and boulder

Site Shade: Poor

Site Cover: Good

The site is located on Jones Forks directly above the bridge on Route 617. Jones Forks is a tributary that enters the Keswick River near the village of Burtt's Corner. The lower barrier of the site is 11.7 m (39 ft) upstream from the bridge abutment on the true left bank.

Site Number: 2

Name of Stream: Keswick River

Name of Station: Keswick River (Zealand Station)

Topographic Reference: 46°03'N; 66°55'W (Scale 1:50,000) Burtt's Corner (21 J/2 West Half)

Distance to Confluence: 17.6 km (11.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, gravel, pebble and boulders

Site Shade: Poor

Site Cover: Fair

The site is located on the main stem approximately 0.8 km (0.5 mi) downstream from the river bridge in Zealand Station. The site area covers the main stream directly opposite a large sand and gravel bar. The river flows very close to the highway (Route 104), and is separated by a small grassy field.

Site Number: 3

Name of Stream: Keswick River

Name of Station: Keswick River (Stoneridge)

Topographic Reference: 46°05'N; 66°57'W (Scale 1:50,000) Burtt's Corner (21 J/2 West Half)

Distance to Confluence: 25.6 km (16.0 mi)

Site Components: Run, riffle, flat and pool

Site Bottom Substrate: Cobble, gravel and pebble

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem, opposite the railway crossing and immediately above the covered bridge in the village of Upper Stoneridge. The lower barrier of the site is 27.4 m (90 ft) distance from and directly opposite the railway crossing.

Site Number: 4

Name of Stream: Keswick River

Name of Station: Keswick River (Hayne)

Topographic Reference: 46°06'N; 67°01'W (Scale 1:50,000) Millville (21 J/13 East Half)

Distance to Confluence: 30.4 km (19.0 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Boulder, cobble, pebble and gravel

Site Shade: Good

Site Cover: Good

The site is located on the main stem directly above the covered bridge in Hayne. The lower barrier of the site is 14.7 m (49 ft) upstream from the bridge abutment on the true right bank. Hayne is reached via highway Routes 610 and 104.

Site Number: 5

Name of Stream: Keswick River

Name of Station: Keswick River (Barton)

Topographic Reference: 46°08'N; 67°02'W (Scale 1:50,000) Millville (21 J/13 East Half)

Distance to Confluence: 34.4 km (21.5 mi)

Site Components: Run, riffle and flat

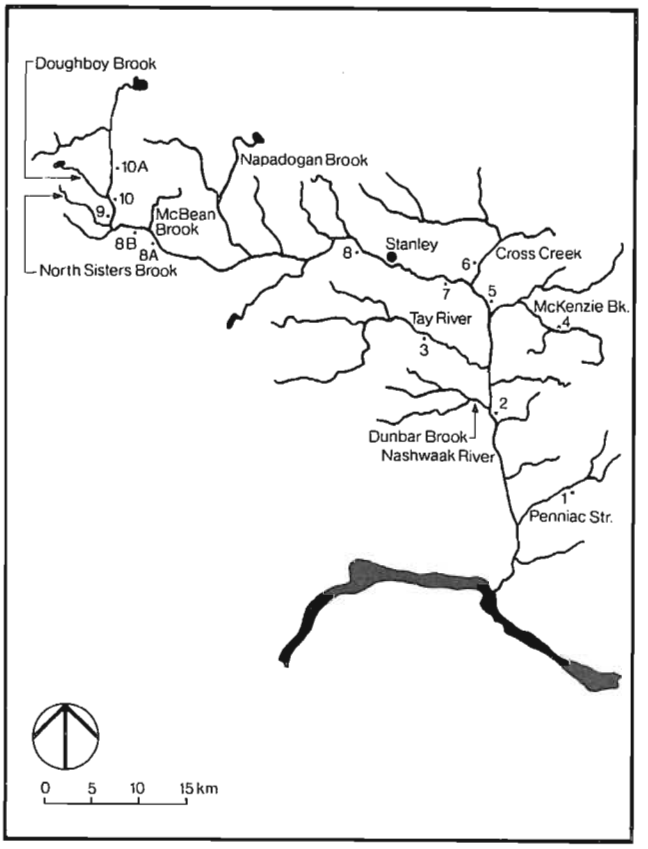
Site Bottom Substrate: Cobble, gravel, pebble and boulder

Site Shade: Good

Site Cover: Good

The site is located on the main stem, directly above the confluence of the West Keswick River in Barton. A ford (river crossing) crosses the main stream just above the confluence of the West Keswick, and the lower barrier is located 1.8 m (6 ft) downstream from this ford, measured on the true right bank.

Nashwaak River System



Site Number: 1

Name of Stream: Nashwaak River

Name of Station: Penniac Stream (Penniac)

Topographic Reference: 46°03'N; 66°33'W (Scale 1:50,000) Burtt's Corner (21 J/2 East Half)

Distance to Confluence: 4.8 km (3.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Boulder, cobble and pebble

Site Shade: Good

Site Cover: Very good

The site is located on the main stem of the Penniac Stream, immediately below the first river crossing above the village of Penniac. Penniac is reached via Route 628 from the town of Marysville. The upper barrier of the site is 5.4 m (18 ft) downstream from the bridge abutment on the true right bank.

Site Number: 2

Name of Stream: Nashwaak River

Name of Station: Main Nashwaak River (above Durham Bridge)

Topographic Reference: 46°09'N; 66°37'W (Scale 1:50,000) Burtt's Corner (21 J/2 East Half)

Distance to Confluence: 27.2 km (17.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Pebble, cobble and gravel

Site Shade: Fair

Site Cover: Fair

The site is located on the main stem above the village of Durham Bridge. The area is reached via a gravel road bearing left approximately 1.6 km (1 mi) travelling north of Durham Bridge. The road leads to an abandoned farm, and ends at a large field where a path goes to the river. The site is located between the true left bank and a small island in midstream. The lower barrier of the site is a short distance upstream from the lower end of the island.

Site Number: 3

Name of Stream: Nashwaak River

Name of Station: Tay River (Tay River)

Topographic Reference: 46°12'N; 66°40'W (Scale 1:50,000) Burtt's Corner (21 J/2 East Half)

Distance to Confluence: 4.8 km (3.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, boulder, pebble and gravel

Site Shade: Good

Site Cover: Good

The site is located on the Tay River, a tributary of the Nashwaak River. The area is reached via the Tay Valley Road that intersects Route 8 in the village of Taymouth. The site is located above the first abandoned river crossing (bridge out) on the Tay Valley Bible Camp Road. The lower barrier is 39 m (130 ft) upstream from the bridge abutment on the true left bank.

Site Number: 4

Name of Stream: Nashwaak River

Name of Station: MacKenzie Brook (MacKenzie Brook)

Topographic Reference: 46°13'N; 66°31'W (Scale 1:50,000) Burtt's Corner (21 J/2 East Half)

Distance to Confluence: 8.0 km (5.0 mi)

Site Components: Riffle, run and pool

Site Bottom Substrate: Cobble, pebble, gravel and boulder

Site Shade: Fair

Site Cover: Fair

The site is located immediately above the bridge on the MacKenzie Brook in Zionville. MacKenzie Brook is a tributary of the Nashwaak River. The road to Zionville intersects Route 8 at Taymouth. The upper barrier of the site is 6 m (20 ft) downstream from the bridge abutment (bridge out) on the true left bank.

Site Number 5:

Name of Stream: Nashwaak River

Name of Station: Main Nashwaak River (above Nashwaak Bridge)

Topographic Reference: 46°14'N; 66°37'W (Scale 1:50,000) Burtt's Corner (21 J/2 East Half)

Distance to Confluence: 38.4 km (24.0 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Cobble, boulder and pebble

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem, a short distance above the bridge in the village of Nashwaak Bridge. The site is enclosed by netting on three sides due to the extreme width of the river. The site is located on the true right bank portion of the stream, and is approximately 91.4 m (100 yds) upstream from the bridge abutment on the true right bank.

Site Number: 6

Name of Stream: Nashwaak River

Name of Station: Cross Creek (Cross Creek)

Topographic Reference: 46°16'N; 66°39'W (Scale 1:50,000) Napadogan (21 J/7 East Half)

Distance to Confluence: 1.6 km (1.0 mi)

Site Components: Run, riffle, pool and flat

Site Bottom Substrate: Boulder, cobble and pebble

Site Shade: Good

Site Cover: Good

The site is located on Cross Creek, immediately above the steel bridge in Cross Creek Station. Cross Creek is a tributary of the Nashwaak River. The lower barrier of the site is 9.1 m (30 ft) upstream from a lone poplar tree on the true right bank, immediately above the steel bridge.

Site Number: 7

Name of Stream: Nashwaak River

Name of Station: Main Nashwaak River (below Stanley)

Topographic Reference: 46°16'N; 66°40'W (Scale 1:50,000) Napadogan (21 J/7 East Half)

Distance to Confluence: 43.2 km (27.0 mi)

Site Components: Run, riffle and pool

Site Bottom Substrate: Boulder, cobble, gravel and pebble

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem, 0.4 km (0.25 mi) downstream from McLaggan Bridge on Route 107. The area is enclosed by netting on three sides due to the extreme width of the river. The sample area is located on the true right bank portion of the stream. This location is 5.4 km (3.4 mi) above the village of Nashwaak Bridge on Route 107.

Site Number: 8

Name of Stream: Nashwaak River

Name of Station: Main Nashwaak River (above Stanley)

Topographic Reference: 46°18'N; 66°46'W (Scale 1:50,000) Napadogan (21 J/7 West Half)

Distance to Confluence: 52.8 km (33.0 mi)

Site Components: Riffle, run, flat and pool

Site Bottom Substrate: Cobble, boulder, pebble and gravel

Site Shade: Poor

Site Cover: Fair

The site is located on the main stem a distance of 2.4 km (1.5 mi) on the Ryan Brook Road above the village of Stanley. The sample area is enclosed by netting on three sides due to the extreme width of the river. The true left bank portion of the stream is sampled.

Site Number: 8A

Name of Stream: Nashwaak River

Name of Station: Main Nashwaak River (below McBean Brook)

Topographic Reference: 46°19'N; 67°05'W (Scale 1:50,000) Coldstream (21 J/6 East Half)

Distance to Confluence: 84.0 km (52.5 mi)

Site Components: Riffle, run and pool

Site Bottom Substrate: Boulder, cobble, sand and silt.

Site Shade: Fair

Site Cover: Poor

The site is located on the main stem, approximately 1.4 km (0.9 mi) below the confluence of McBean Brook. The area is reached via the Valley Forest Products Napadogan Road and the Nashwaak River Road. The sample area is enclosed by netting on three sides due to the extreme width of the river. The lower barrier of the site is 109.5 m (365 ft) upstream from an old, abandoned tar-papered hovel on the true left bank.

Site Number: 8B

Name of Stream: Nashwaak River

Name of Station: Main Nashwaak River (above McBean Brook)

Topographic Reference: 46°20'N; 67°08'W (Scale 1:50,000) Coldstream (21 J/6 East Half)

Distance to Confluence: 91.2 km (57.0 mi)

Site Components: Riffle, run and pool

Site Bottom Substrate: Boulder, cobble, pebble, gravel and sand

Site Shade: Fair

Site Cover: Good

The site is located on the main stem a distance of 2.6 km (1.6 mi) above the McBean Brook Bridge on the Nashwaak River Road. The area is reached via the Valley Forest Products Napadogan Road. A river cable crossing leads to Messer's camp on the opposite shore, and the upper barrier of the site is 4.8 m (16 ft) upstream from this cable line on the true right bank.

Site Number: 9

Name of Stream: Nashwaak River

Name of Station: Main Nashwaak River (Cedar Bridge)

Topographic Reference: 46°20'N; 67°10'W (Scale 1:50,000) Coldstream (21 J/6 East Half)

Distance to Confluence: 94.4 km (59.0 mi)

Site Components: Riffle, run and pool

Site Bottom Substrate: Boulder, cobble, pebble and gravel

Site Shade: Fair

Site Cover: Good

The site is located on the main stem directly above Cedar Bridge (crossing) on the Nashwaak River Road. Cedar Bridge is the first river crossing upstream from the confluence of the North Sisters Brook. The lower barrier is 23.7 m (79 ft) upstream from the bridge abutment on the true right bank.

Site Number: 10

Name of Stream: Nashwaak River

Name of Station: Main Nashwaak River (Doughboy Brook)

Topographic Reference: 46°21'N; 67°10'W (Scale 1:50,000) Coldstream (21 J/6 East Half)

Distance to Confluence: 96.0 km (60.0 miles)

Site Components: Flat, run, riffle and pool

Site Bottom Substrate: Cobble, boulder, pebble and gravel

Site Shade: Poor

Site Cover: Good

The site is located on the main stem directly downstream from the confluence on Doughboy Brook. The area is reached via the Nashwaak River Road. The upper barrier of the site is 51 m (170 ft) downstream from the confluence of Doughboy Brook on the true right bank.

Site Number: 10A

Name of Stream: Nashwaak River

Name of Station: Main Nashwaak River (below Gorby Gulch)

Topographic Reference: 46°24'N; 67°10'W (Scale 1:50,000) Coldstream (21 J/6 East Half)

Distance to Confluence: 101.6 km (63.5 mi)

Site Components: Run, riffle and pool

Site Bottom Substrate: Boulder, cobble, ledge, sand and silt

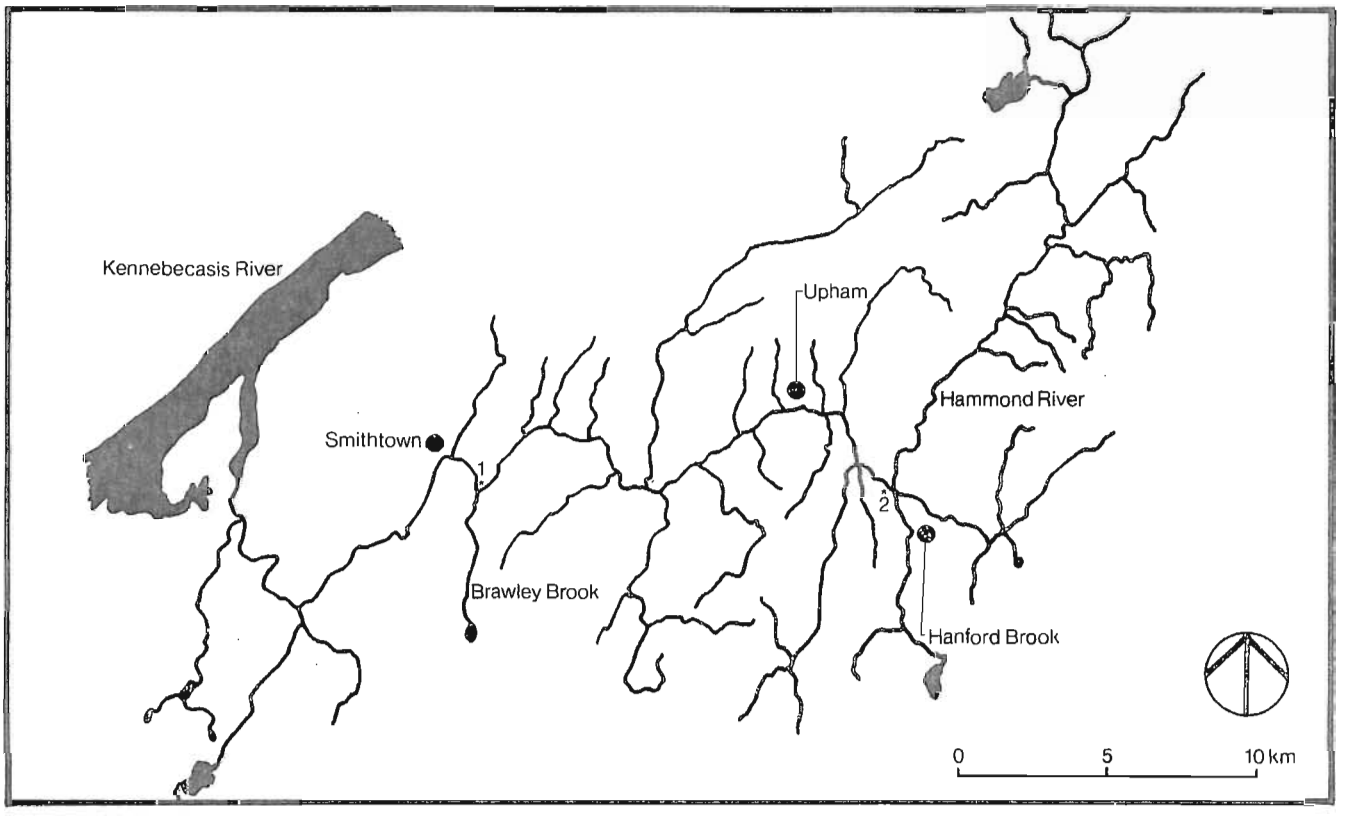
Site Shade: Fair

Site Cover: Fair

The site is located on the main stem a distance of 4 km (2.5 mi) upstream from the confluence of Doughboy Brook. The area is reached via the Nashwaak River Road and the Irving Forest Company Road to Deersdale. The site is situated opposite an abandoned log landing, and is directly above and below a large, exposed bed rock on the true right bank shoreline.

Tributaries Below the Nashwaak River

Hammond River



Site Number: 1

Name of Stream: Hammond River

Name of Station: Hammond River (Smithtown)

Topographic Reference: 45°28'N; 65°48'W (Scale 1:50,000) Loch Lomond (21 H/5 West Half)

Distance to Confluence: 17.6 km (11.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, gravel and pebble

Site Shade: Poor

Site Cover: Good

The site is located on the main stem a short distance above the covered bridge in Smithtown. The site is enclosed by netting on three sides due to extreme width of the river, and is situated on the true right portion of the stream directly opposite the confluence of Brawley Brook. The lower barrier is 16.5 m (55 ft) upstream from a very large rock on the true right shoreline.

Site Number: 2

Name of Stream: Hammond River

Name of Station: Hammond River (Hanford Brook)

Topographic Reference: 45°28'N; 65°38'W (Scale 1:50,000) Loch Lomond (21 H/5 East Half)

Distance to Confluence: 38.4 km (24.0 mi)

Site Components: Riffle, run, flat and pool

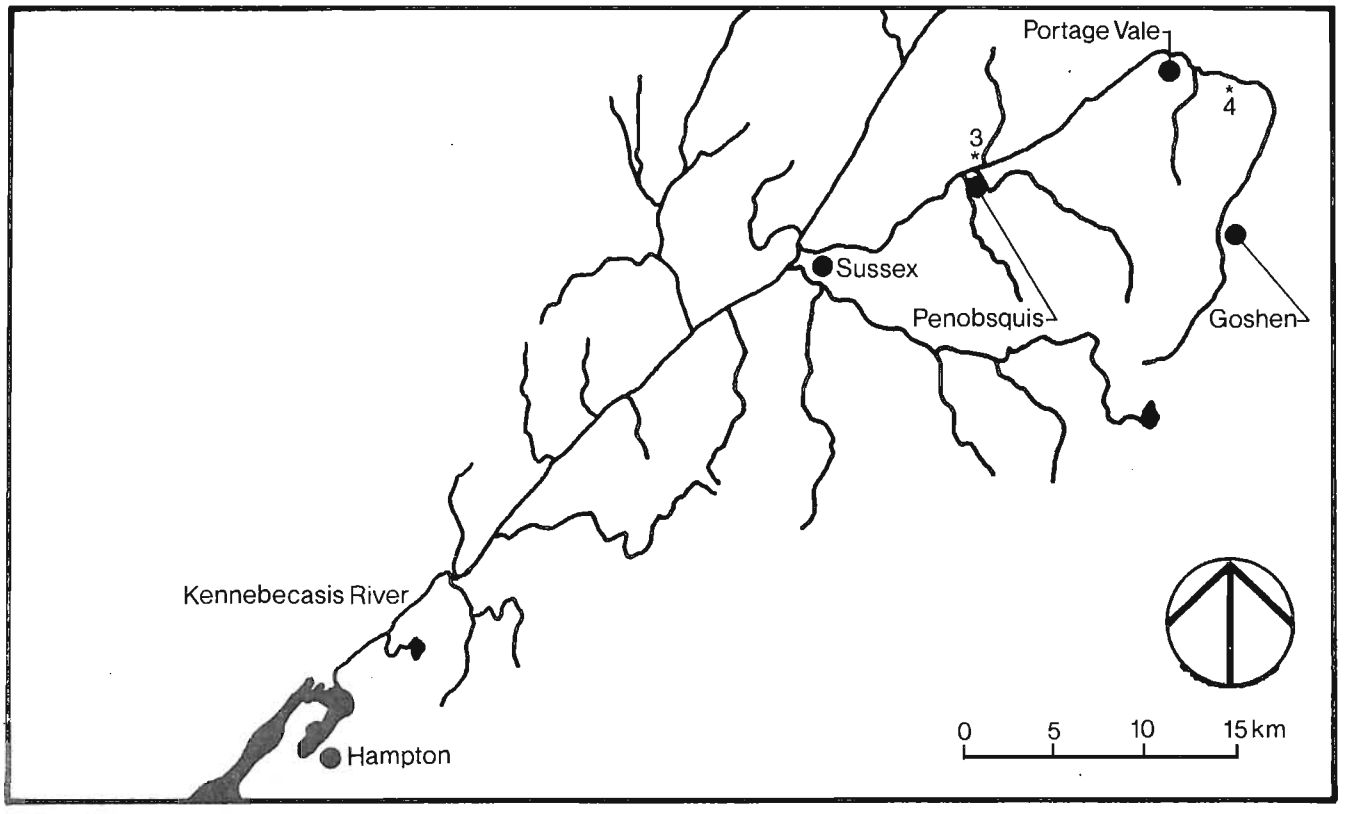
Site Bottom Substrate: Cobble, gravel, pebble and boulder

Site Shade: Poor

Site Cover: Good

The site is located on the main stem a short distance above the high steel bridge in the settlement of Hanford Brook. The upper barrier of the site is 12.3 m (41 ft) downstream from the confluence of Hanford Brook on the true left bank.

Kennebecasis River



Site Number: 3

Name of Stream: Kennebecasis River

Name of Station: Kennebecasis River (Penobsquis)

Topographic Reference: 45°47'N; 65°22'W (Scale: 1:50,000) Petitcodiac (21 H/14 West Half)

Distance to Confluence: 56.0 km (35.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, gravel and pebble

Site Shade: Fair

Site Cover: Good

The site is located on the main stem approximately 0.8 km (0.5 mi) upstream from the confluence of the South Branch Kennebecasis River in Penobsquis. The station is reached via an abandoned gravel road leading to a chicken factory, across the main stem opposite the Trans Canada Highway. The site is located downstream from the crossing (bridge out). The upper barrier of the site is 14.4 m (48 ft) downstream from the bridge abutment on the true left bank.

Site Number: 4

Name of Stream: Kennebecasis River

Name of Station: Kennebecasis River (Goshen)

Topographic Reference: 45° 50'N; 65°12'W (Scale: 1:50,000) Petitcodiac (21 H/14 East Half)

Distance to Confluence: 75.2 km (47.0 mi)

Site Components: Riffle, run, pool and flat

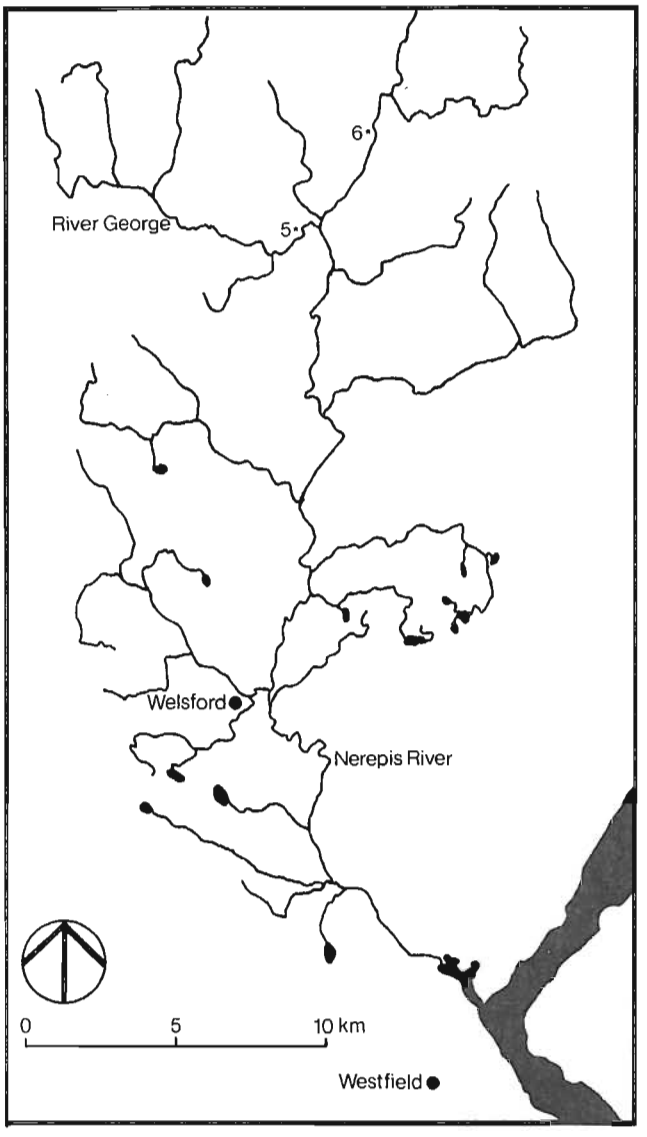
Site Bottom Substrate: Cobble, gravel and pebble

Site Shade: Good

Site Cover: Fair

The site is located on the main stem, above the bridge on the main highway between the villages of Portage Vale and Goshen. The lower barrier of the site is 10.5 m (35 ft) upstream from the bridge abutment on the true left bank.

Nerepis River



Site Number: 5

Name of Stream: Nerepis River

Name of Station: Nerepis River (River George)

Topographic Reference: 45°35'N; 66°20'W (Scale: 1:50,000) Hampstead (21 G/9 West Half)

Distance to Confluence: 32.0 km (20.0 mi)

Site Components: Run and pool

Site Bottom Substrate: Cobble, pebble and boulder

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem of River George, immediately below the bridge on the Clones Road. River George is a main tributary of the Nerepis River. The upper barrier of the site is 8.7 m (29 ft) downstream from the bridge abutment on the true right bank.

Site Number: 6

Name of Stream: Nerepis River

Name of Station: Nerepis River (Dunn Road)

Topographic Reference: 45°37'N; 66°18'W (Scale: 1:50,000) Hampstead (21 G/9 West Half)

Distance to Confluence: 37.6 km (23.5 mi)

Site Components: Pool, flat and run

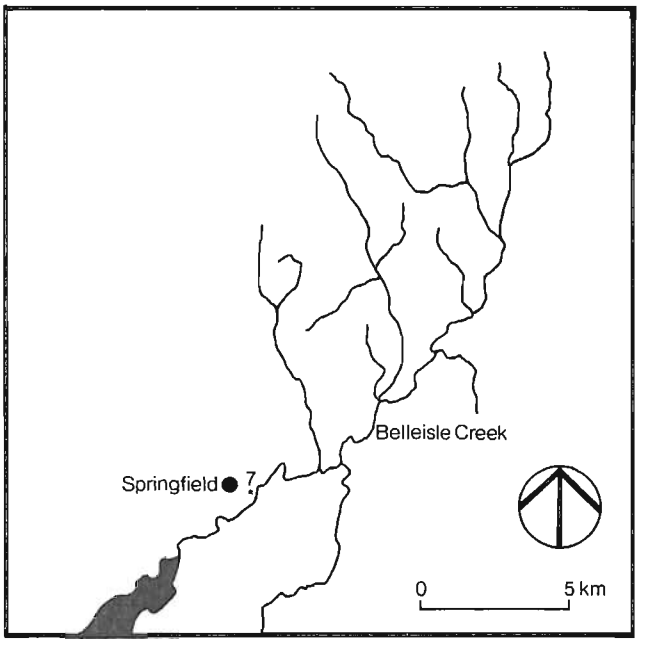
Site Bottom Substrate: Cobble, sand, pebble and boulder

Site Shade: Fair

Site Cover: Fair

The site is located on the main stem, immediately above the bridge on the Dunn Road. The lower barrier is 4.5 m (15 ft) upstream from the bridge abutment in mid-stream.

Belleisle Creek



Site Number: 7

Name of Stream: Belleisle Creek

Name of Station: Belleisle Creek (Springfield)

Topographic Reference: 45°40'N; 65°49'W (Scale: 1:50,000) Sussex (21 H/12 West Half)

Distance to Confluence: 4.8 km (3.0 mi)

Site Components: Riffle, run, flat and pool

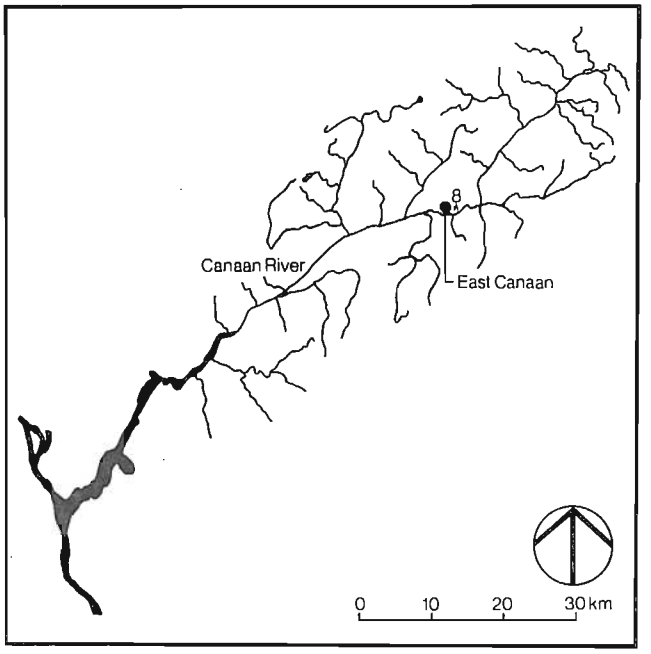
Site Bottom Substrate: Cobble, gravel, pebble and boulder

Site Shade: Fair

Site Cover: Good

The site is located on the main stem, immediately above the bridge on Route 124 in Springfield. The lower barrier of the site is 18.9 m (63 ft) upstream from the bridge abutment on the true left bank.

Canaan River



Site Number: 8

Name of Stream: Canaan River

Name of Station: Canaan River (East Canaan)

Topographic Reference: 46°04'N; 65°22'W (Scale: 1:50,000) Salisbury (21 I/3 West Half)

Distance to Confluence: 50.4 km (31.5 mi)

Site Components: Riffle, run and flat

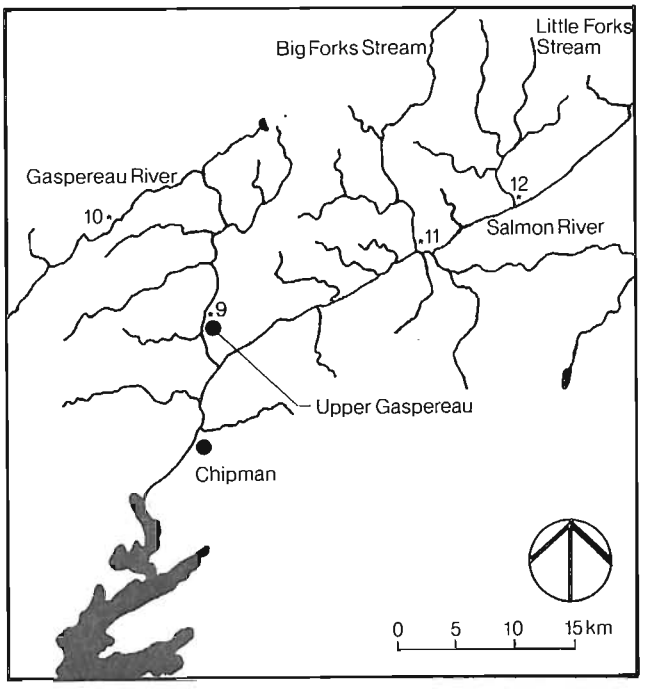
Site Bottom Substrate: Cobble, boulder, gravel and sand

Site Shade: Poor

Site Cover: Good

The site is located on the main stem, immediately above the highway bridge on Route 112 in East Canaan. The sample area is enclosed by netting on three sides due to extreme width of the river, and is situated on the true right portion of the stream. The lower barrier is 60.9 m (200 ft) upstream from the bridge abutment on the true right bank of the river.

Salmon River (Chipman)



Site Number: 9

Name of Stream: Salmon River (Chipman)

Name of Station: Gaspereau River (Upper Gaspereau)

Topographic Reference: 46°17'N; 65°52'W (Scale: 1:50,000) Salmon River Road (21 I/5 West Half)

Distance to Confluence: 6.4 km (4.0 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, pebble, gravel and boulder

Site Shade: Poor

Site Cover: Good

The site is located on the Gaspereau River a short distance above the covered bridge in the village of Upper Gaspereau. The Gaspereau River is a tributary of Salmon River. The site is on the main stem of the Gaspereau River. The lower barrier is 9 m (30 ft) downstream from a very large, lone birch tree on the true left bank.

Site Number: 10

Name of Stream: Salmon River (Chipman)

Name of Station: Gaspereau River (below bridge on Route 123)

Topographic Reference: 46°22'N; 65°57'W (Scale: 1:50,000) Salmon River Road (21 I/5 West Half)

Distance to Confluence: 30.4 km (19 mi)

Site Components: Run and flat

Site Bottom Substrate: Gravel, sand, silt and cobble

Site Shade: Fair

Site Cover: Poor

The site is located on the main Gaspereau River, a short distance downstream from the highway bridge on Route 123 above McKean Brook. Route 123 runs from Chipman to Doaktown. The upper barrier is 91.4 m (300 ft) downstream from the bridge abutment on the true right bank.

Site Number: 11

Name of Stream: Salmon River (Chipman)

Name of Station: Salmon River (Big Forks Stream)

Topographic Reference: 46° 20'N; 65°37'W (Scale: 1:50,000) Salmon River Road (21 I/5 East Half)

Distance to Confluence: 1.2 km (0.75 mi)

Site Components: Riffle, run, pool and flat

Site Bottom Substrate: Cobble, gravel, pebble and boulder

Site Shade: Good

Site Cover: Good

The site is located on the Big Forks Stream, a tributary of the Salmon River. The site is immediately above the concrete bridge no. 148 on Route 116. The lower barrier of the site is 7.5 m (25 ft) upstream from the bridge abutment on the true right bank.

Site Number: 12

Name of Stream: Salmon River (Chipman)

Name of Station: Salmon River (Little Forks Stream)

Topographic Reference: 46°22'N; 65°31'W (Scale: 1:50,000) Salmon River Road (21 I/5 East Half)

Distance to Confluence: 0.8 km (0.5 mi)

Site Components: Pool, riffle, run and flat

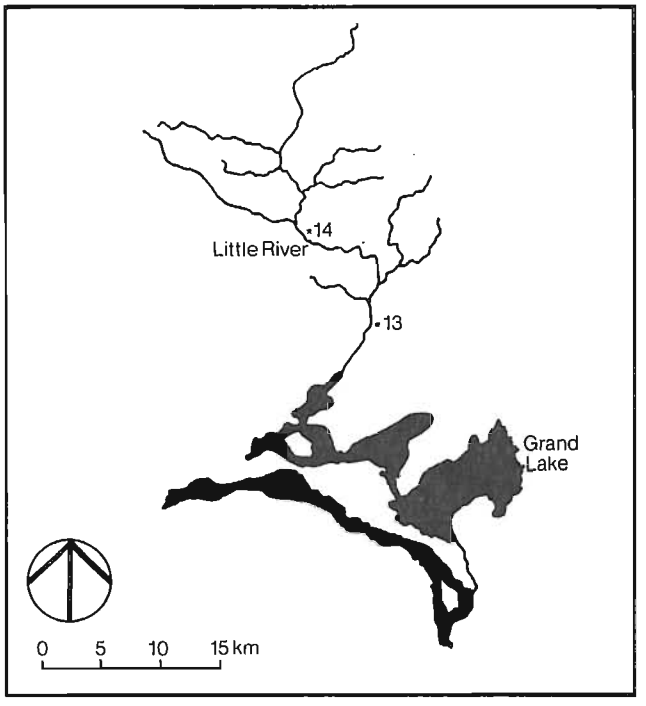
Site Bottom Substrate: Gravel, pebble and cobble

Site Shade: Good

Site Cover: Good

The site is located on the Little Forks Stream, a tributary of the Salmon River. The sample area is immediately below the concrete bridge on Route 116. The upper barrier of the site is 6.9 m (23 ft) downstream from the bridge abutment on the true right bank.

Little River



Site Number: 13

Name of Stream: Little River

Name of Station: Little River (Minto Highway)

Topographic Reference: 46°01'N; 66°13'W (Scale: 1:50,000) Minto (21 J/1 East Half)

Distance to Confluence: 7.2 km (4.5 mi)

Site Components: Run, flat, riffle and pool

Site Bottom Substrate: Cobble, pebble and boulder

Site Shade: Poor

Site Cover: Poor

The site is located on the main stem, immediately below the highway bridge on Route 10 (the Minto Highway). The site is between a small island in mid-stream and the true right bank. The lower barrier of the site is 5.4 m (18 ft) upstream from an old abandoned bridge abutment on the true right bank.

Site Number: 14

Name of Stream: Little River

Name of Station: Little River (Upper Little River)

Topographic Reference: 46°04'N; 66°13'W (Scale: 1:50,000) Minto (21 J/1 West Half)

Distance to Confluence: 17.6 km (11 mi)

Site Components: Run, flat and riffle

Site Bottom Substrate: Ledge, cobble, gravel, sand and boulder

Site Shade: Fair

Site Cover: Fair

The site is located on the main stem, a distance of 9.6 km (6.0 mi) upstream from Site Number 13. The area is reached via a good secondary gravel road that runs in a Northernly direction from Route Number 10 (Minto Highway) at Albright's Corner. This road follows along the true left bank of the stream and the site location is found by taking a woods camp trail leading to the stream 5.4 (3.4 mi) in on the gravel road. The upper barrier of the sample area is located 9 m (30 ft) downstream from the confluence of a small unnamed brook on the true left bank immediately above the woods camp yard.

MEAN POPULATION DENSITIES OF JUVENILE ATLANTIC SALMON BY TRIBUTARY

The following tables include mean population densities by tributary, of fry, small parr, large parr and total parr on a yearly basis.

The results were determined by actual and calculated counts per 100 m^2.

TABLE 1. Mean densities of Atlantic salmon fry (actual counts per 100 m^2) in the Saint John River system, 1968-78. (Figures in parentheses are the numbers of sites used in calculating the means.)

Location	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Salmon River (Grand Falls)	–	–	–	–	–	–	–	14.6(3)	7.0(3)	23.7(3)	24.4(3)
Tobique River	0.1(5)	0.0(2)	5.6(15)	6.8(15)	5.8(13)	12.3(15)	6.3(15)	27.5(15)	28.2(15)	22.5(15)	33.4(15)
Shikatehawk River	13.6(1)	0.0(1)	–	43.6(5)	11.2(5)	22.0(5)	15.4(5)	23.1(5)	27.7(4)	–	27.5(1)
Becaguimec River	13.3(2)	0.4(2)	–	23.5(5)	2.0(5)	70.0(5)	6.1(5)	25.5(5)	45.9(5)	32.3(5)	61.4(5)
Nackawic River	–	0.0(2)	–	–	0.0(1)	–	0.0(1)	19.1(2)	24.0(2)	0.0(2)	4.3(1)
Keswick River	42.7(5)	20.6(5)	6.7(2)	26.4(5)	6.6(5)	17.1(5)	45.9(5)	36.1(5)	12.7(5)	–	–
Nashwaak River	14.3(3)	6.2(8)	7.9(3)	19.8(10)	7.8(10)	16.2(10)	23.3(13)	26.0(10)	19.6(10)	14.5(10)	8.0(8)
Hammond River	–	–	–	–	–	–	39.3(2)	25.7(2)	27.6(2)	19.1(2)	14.2(2)
Kennebecasis River	1.8(1)	1.1(1)	–	–	–	–	43.8(2)	40.2(2)	29.5(2)	20.5(2)	78.7(2)
Nerepis River	–	–	–	–	–	–	13.3(2)	4.4(2)	9.5(2)	14.1(2)	–
Belleisle Creek	–	–	–	–	–	–	5.6(1)	1.2(1)	5.7(1)	7.4(1)	9.3(1)
Canaan River	0.0(1)	0.0(1)	–	–	–	–	–	–	0.3(1)	1.4(1)	–
Gaspereau River	–	–	–	–	–	–	54.2(1)	45.6(1)	1.1(2)	0.0(2)	9.4(1)
Salmon River (Chipman)	–	–	–	–	–	–	36.7(2)	19.6(2)	18.9(2)	34.7(2)	36.5(1)
Little River	–	–	–	–	–	–	5.1(1)	2.7(1)	6.2(2)	7.2(2)	4.1(1)

TABLE 2. Mean densities of Atlantic salmon small parr (actual counts per 100 m^2) in the Saint John River system, 1968-78. (Figures in parentheses are the numbers of sites used in calculating the means.)

Location	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Salmon River (Grand Falls)	–	–	–	–	–	–	–	0.0(3)	0.1(3)	0.2(3)	5.6(3)
Tobique River	2.3(5)	0.0(2)	0.1(15)	1.7(15)	0.4(13)	0.5(15)	2.4(15)	4.1(15)	4.6(15)	6.7(15)	4.7(15)
Shikatehawk River	26.4(1)	0.0(1)	–	0.1(5)	0.0(5)	0.0(5)	23.5(5)	15.4(5)	6.0(4)	–	20.6(1)
Becaguimec River	30.1(2)	7.6(2)	–	0.1(5)	0.0(5)	0.0(5)	8.1(5)	6.0(5)	1.1(5)	4.8(5)	10.1(5)
Nackawic River	–	0.7(2)	–	–	0.0(1)	–	1.1(1)	15.1(2)	0.5(2)	0.8(2)	0.0(1)
Keswick River	23.8(5)	9.7(4)	5.4(1)	1.9(5)	0.1(5)	0.0(5)	1.0(5)	7.1(5)	3.7(5)	–	–
Nashwaak River	7.7(3)	3.8(8)	1.9(3)	2.6(10)	1.0(10)	0.1(13)	1.0(13)	10.0(10)	5.1(10)	7.5(10)	4.1(8)
Hammond River	–	–	–	–	–	–	0.4(2)	4.6(2)	1.8(2)	4.7(2)	2.1(2)
Kennebecasis River	0.0(1)	0.0(1)	–	–	–	–	0.0(2)	1.6(2)	2.0(2)	2.6(2)	0.2(2)
Nerepis River	–	–	–	–	–	–	0.0(2)	0.6(2)	0.5(2)	2.0(2)	–
Belleisle Creek	–	–	–	–	–	–	0.0(1)	1.2(1)	0.0(1)	0.5(1)	0.8(1)
Canaan River	0.0(1)	0.0(1)	–	–	–	–	–	–	0.0(1)	0.4(1)	–
Gaspereau River	–	–	–	–	–	–	4.4(1)	4.8(1)	0.0(2)	0.7(2)	0.0(1)
Salmon River (Chipman)	–	–	–	–	–	–	0.9(2)	0.5(2)	2.4(2)	3.1(2)	3.2(1)
Little River	–	–	–	–	–	–	0.0(1)	0.0(1)	0.2(2)	0.9(2)	0.0(1)

TABLE 3. Mean densities of Atlantic salmon large parr (actual counts per 100 m^2) in the Saint John River system, 1968-78. (Figures in parentheses are the numbers of sites used in calculating the means.)

Location	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Salmon River (Grand Falls)	–	–	–	–	–	–	–	0.6(3)	1.0(3)	0.4(3)	0.7(3)
Tobique River	9.9(5)	0.7(2)	0.4(15)	1.8(15)	1.4(13)	2.4(15)	1.2(15)	1.8(15)	2.2(15)	1.6(15)	1.8(15)
Shikatehawk River	27.9(1)	1.1(1)	–	2.8(5)	15.1(5)	6.1(5)	22.7(5)	13.1(5)	6.0(4)	–	7.5(1)
Becaguimec River	22.4(2)	12.8(2)	–	1.6(5)	18.1(5)	2.6(5)	7.1(5)	7.5(5)	5.5(5)	10.2(5)	5.4(5)
Nackawic River	–	14.7(2)	–	–	0.0(1)	–	19.8(1)	8.2(2)	6.8(2)	11.3(2)	4.3(1)
Keswick River	3.4(5)	6.2(4)	5.7(1)	4.9(5)	9.3(5)	2.5(5)	8.9(5)	8.1(5)	1.6(5)	–	–
Nashwaak River	6.7(3)	8.8(8)	5.9(3)	5.0(10)	9.1(10)	4.8(10)	7.0(13)	6.4(10)	2.1(10)	1.7(10)	2.3(8)
Hammond River	–	–	–	–	–	–	7.6(2)	4.4(2)	3.9(2)	4.9(2)	2.1(2)
Kennebecasis River	2.3(1)	0.0(1)	–	–	–	–	2.6(2)	6.2(2)	4.8(2)	4.6(2)	3.6(2)
Nerepis River	–	–	–	–	–	–	5.1(2)	4.0(2)	1.0(2)	2.1(2)	–
Belleisle Creek	–	–	–	–	–	–	7.9(1)	10.6(1)	1.7(1)	2.1(1)	2.2(1)
Canaan River	2.9(1)	0.4(1)	–	–	–	–	–	–	0.0(1)	0.0(1)	–
Gaspereau River	–	–	–	–	–	–	15.4(1)	4.8(1)	0.7(2)	0.5(2)	0.0(1)
Salmon River (Chipman)	–	–	–	–	–	–	8.0(2)	4.2(2)	4.4(2)	1.6(2)	5.6(1)
Little River	–	–	–	–	–	–	0.7(1)	1.7(1)	1.0(2)	0.5(2)	0.0(1)

TABLE 4. Mean densities of Atlantic salmon total parr (actual counts per 100 m^2) in the Saint John River system, 1968-78. (Figures in parentheses are the numbers of sites used in calculating the means.)

Location	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Salmon River (Grand Falls)	–	–	–	–	–	–	–	0.6(3)	1.1(3)	0.7(3)	6.3(3)
Tobique River	12.3(5)	0.7(2)	0.5(15)	3.6(15)	1.8(13)	2.9(15)	3.7(15)	5.9(15)	6.6(15)	8.3(15)	6.5(15)
Shikatehawk River	54.3(1)	1.1(1)	–	3.0(5)	15.1(5)	6.1(5)	46.2(5)	28.4(5)	12.0(4)	–	28.1(1)
Becaguimec River	52.6(2)	20.4(2)	–	1.7(5)	18.1(5)	2.6(5)	15.2(5)	13.5(5)	6.7(5)	15.0(5)	15.4(5)
Nackawic River		15.4(2)	–	–	0.0(1)	–	21.0(1)	23.4(2)	7.2(2)	12.0(2)	4.3(1)
Keswick River	27.2(5)	25.4(5)	7.7(2)	6.8(5)	9.4(5)	2.5(5)	9.9(5)	15.2(5)	5.3(5)	–	–
Nashwaak River	14.4(3)	12.7(8)	7.8(3)	7.7(10)	10.2(10)	4.8(10)	8.0(13)	16.3(10)	7.3(10)	9.6(10)	6.4(8)
Hammond River	–	–	–	–	–	–	8.0(2)	9.0(2)	5.7(2)	9.6(2)	4.2(2)
Kennebecasis River	2.3(1)	0.0(1)	–	–	–	–	2.6(2)	7.7(2)	6.9(2)	7.2(2)	3.8(2)
Nerepis River	–	–	–	–	–	–	5.1(2)	4.5(2)	1.6(2)	4.2(2)	–
Belleisle Creek	–	–	–	–	–	–	7.9(1)	11.8(1)	1.7(1)	2.6(1)	3.0(1)
Canaan River	2.9(1)	0.4(1)	–	–	–	–	–	–	0.0(1)	0.4(1)	–
Gaspereau River	–	–	–	–	–	–	19.8(1)	9.5(1)	0.7(2)	1.2(2)	0.0(1)
Salmon River (Chipman)	–	–	–	–	–	–	8.9(2)	4.7(2)	6.7(2)	4.7(2)	8.7(1)
Little River	–	–	–	–	–	–	0.7(1)	1.7(1)	1.5(2)	1.3(2)	0.0(1)

TABLE 5. Mean densities of Atlantic salmon fry (calculated totals per 100 m^2) in the Saint John River system, 1968-78. (Figures in parentheses are the numbers of sites used in calculating the means.)

Location	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Salmon River (Grand Falls)	–	–	–	–	–	–	–	15.7(3)	6.8(3)	28.3(3)	25.0(3)
Tobique River	0.1(5)	0.0(2)	6.9(15)	7.9(15)	6.6(13)	27.1(15)	7.2(15)	34.5(15)	52.8(15)	28.7(15)	42.9(15)
Shikatehawk River	13.7(1)	0.0(1)	–	49.2(5)	11.1(5)	22.5(5)	16.3(5)	27.4(5)	54.8(3)	–	148.8(1)
Becaguimec River	14.1(2)	0.3(2)	–	23.7(5)	2.9(5)	94.3(5)	6.2(5)	35.8(5)	48.9(5)	39.0(5)	70.3(5)
Nackawic River	–	0.0(2)	–	–	0.0(1)	–	0.0(1)	25.7(2)	24.8(2)	0.0(2)	4.9(1)
Keswick River	48.8(5)	26.7(4)	7.2(2)	41.9(5)	7.3(5)	20.9(5)	51.2(5)	41.1(5)	16.2(5)	–	–
Nashwaak River	16.1(3)	6.6(8)	8.0(3)	22.7(10)	9.0(10)	19.5(10)	26.4(13)	33.0(10)	21.5(10)	17.4(10)	98.7(8)
Hammond River	–	–	–	–	–	–	41.1(2)	26.5(2)	28.7(2)	21.9(2)	17.2(2)
Kennebecasis River	1.8(1)	1.1(1)	–	–	–	–	45.7(2)	47.9(2)	46.0(2)	28.0(2)	97.8(2)
Nerepis River	–	–	–	–	–	–	14.0(2)	4.5(2)	21.2(2)	16.9(2)	–
Belleisle Creek	–	–	–	–	–	–	6.6(1)	1.7(1)	6.1(1)	8.5(1)	11.3(1)
Canaan River	0.0(1)	0.0(1)	–	–	–	–	–	–	0.3(1)	1.6(1)	–
Gaspereau River	–	–	–	–	–	–	62.7(1)	46.6(1)	2.2(2)	0.0(2)	13.5(1)
Salmon River (Chipman)	–	–	–	–	–	–	33.9(2)	22.2(2)	21.5(2)	35.7(2)	48.2(1)
Little River	–	–	–	–	–	–	5.3(1)	2.9(1)	10.5(2)	8.5(2)	4.5(1)

TABLE 6. Mean densities of Atlantic salmon small parr (calculated totals per 100 m^2) in the Saint John River system, 1968-78. (Figures in parentheses are the numbers of sites used in calculating the means.)

Location	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Salmon River (Grand Falls)	–	–	–	–	–	–	–	0.0(3)	0.1(3)	0.3(3)	6.5(3)
Tobique River	2.7(5)	0.0(2)	0.0(15)	1.9(15)	0.4(13)	0.4(15)	2.5(15)	6.5(15)	5.3(15)	9.0(15)	5.4(15)
Shikatehawk River	27.0(1)	0.0(1)	–	0.1(5)	0.0(5)	0.0(5)	24.6(5)	16.9(5)	6.8(3)	–	54.7(1)
Becaguimec River	30.2(2)	8.2(2)	–	0.2(5)	0.0(5)	0.0(5)	8.5(5)	6.4(5)	1.2(5)	4.9(5)	10.3(5)
Nackawic River	–	0.8(2)	–	–	0.0(1)	–	1.3(1)	15.8(2)	0.5(2)	0.8(2)	0.0(1)
Keswick River	24.7(5)	14.7(3)	0.0(1)	2.0(5)	0.1(5)	0.0(5)	1.1(5)	7.4(5)	4.0(5)	–	–
Nashwaak River	8.7(3)	5.0(8)	0.0(3)	2.7(10)	1.0(10)	0.1(10)	1.1(13)	10.3(10)	6.2(10)	9.3(10)	4.7(8)
Hammond River	–	–	–	–	–	–	0.4(2)	4.5(2)	1.9(2)	4.6(2)	2.2(2)
Kennebecasis River	0.0(1)	0.0(1)	–	–	–	–	0.0(2)	1.7(2)	2.0(2)	2.7(2)	0.2(2)
Nerepis River	–	–	–	–	–	–	0.0(2)	0.5(2)	0.5(2)	1.9(2)	–
Belleisle Creek	–	–	–	–	–	–	0.0(1)	1.2(1)	0.0(1)	0.5(1)	1.1(1)
Canaan River	0.0(1)	0.0(1)	–	–	–	–	–	–	0.0(1)	0.4(1)	–
Gaspereau River	–	–	–	–	–	–	4.6(1)	4.9(1)	0.0(2)	1.7(2)	0.0(1)
Salmon River (Chipman)	–	–	–	–	–	–	2.3(2)	0.5(2)	2.4(2)	2.9(2)	3.0(1)
Little River	–	–	–	–	–	–	0.0(1)	0.0(1)	0.2(2)	0.8(2)	0.0(1)

TABLE 7. Mean densities of Atlantic salmon large parr (calculated totals per 100 m^2) in the Saint John River system, 1968-78. (Figures in parentheses are the numbers of sites used in calculating the means.)

Location	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Salmon River (Grand Falls)	–	–	–	–	–	–	–	0.7(3)	0.9(3)	0.5(3)	0.6(3)
Tobique River	10.1(5)	0.7(2)	0.4(15)	2.7(15)	1.5(13)	4.2(15)	1.5(15)	2.0(15)	3.0(15)	2.1(15)	1.9(15)
Shikatehawk River	28.3(1)	1.1(1)	–	2.6(5)	15.2(5)	6.8(5)	22.1(5)	15.0(5)	6.0(3)	–	15.9(1)
Becaguimec River	22.6(2)	13.4(2)	–	1.5(5)	18.5(5)	2.8(5)	7.4(5)	8.0(5)	6.1(5)	10.9(5)	5.6(5)
Nackawic River	–	15.0(2)	–	–	0.0(1)	–	20.8(1)	8.5(2)	6.7(2)	11.7(2)	4.3(1)
Keswick River	4.3(5)	9.6(3)	0.0(1)	5.9(5)	10.0(5)	2.4(5)	9.6(5)	8.4(5)	2.2(5)	–	–
Nashwaak River	7.9(3)	9.8(8)	0.4(3)	5.4(10)	9.3(10)	5.5(10)	7.2(13)	7.3(10)	1.9(10)	1.8(10)	2.3(8)
Hammond River	–	–	–	–	–	–	7.4(2)	6.0(2)	3.8(2)	6.1(2)	2.2(2)
Kennebecasis River	2.3(1)	0.0(1)	–	–	–	–	2.6(2)	6.2(2)	4.8(2)	4.6(2)	3.6(2)
Nerepis River	–	–	–	–	–	–	5.3(2)	4.3(2)	1.5(2)	2.8(2)	–
Belleisle Creek	–	–	–	–	–	–	7.8(1)	10.9(1)	2.6(1)	2.1(1)	2.4(1)
Canaan River	3.1(1)	0.4(1)	–	–	–	–	–	–	0.0(1)	0.0(1)	–
Gaspereau River	–	–	–	–	–	–	15.2(1)	5.0(1)	0.7(2)	0.6(2)	0.0(1)
Salmon River (Chipman)	–	–	–	–	–	–	9.6(2)	4.3(2)	4.9(2)	0.8(2)	8.3(1)
Little River	–	–	–	–	–	–	0.8(1)	1.8(1)	1.2(2)	0.5(2)	0.0(1)

TABLE 8. Mean densities of Atlantic salmon total parr (calculated totals per 100 m^2) in the Saint John River system, 1968-78. (Figures in parentheses are the numbers of sites used in calculating the means.)

Location	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Salmon River (Grand Falls)	–	–	–	–	–	–	–	0.7(3)	1.0(3)	0.9(3)	7.3(3)
Tobique River	12.9(5)	0.7(2)	0.9(15)	4.6(15)	2.3(13)	3.8(15)	3.9(15)	7.0(15)	7.9(15)	10.9(15)	7.2(15)
Shikatehawk River	55.3(1)	1.1(1)	–	2.9(5)	15.2(5)	6.8(5)	46.6(5)	31.8(5)	12.1(3)	–	74.8(1)
Becaguimec River	52.9(2)	21.9(2)	–	1.6(5)	18.5(5)	2.8(5)	15.9(5)	14.3(5)	6.9(5)	15.8(5)	15.8(5)
Nackawic River	–	15.7(2)	–	–	0.0(1)	–	22.4(1)	24.1(2)	7.2(2)	12.5(2)	4.3(1)
Keswick River	28.4(5)	31.0(4)	8.7(2)	7.8(5)	10.2(5)	2.4(5)	10.6(5)	15.8(5)	5.9(5)	–	–
Nashwaak River	16.5(3)	14.0(8)	9.7(3)	8.1(10)	10.4(10)	5.6(10)	8.2(13)	16.9(10)	7.8(10)	11.1(10)	6.8(8)
Hammond River	–	–	–	–	–	–	7.7(2)	9.9(2)	5.6(2)	10.1(2)	4.3(2)
Kennebecasis River	2.3(1)	0.0(1)	–	–	–	–	2.6(2)	8.4(2)	7.4(2)	7.8(2)	3.9(2)
Nerepis River	–	–	–	–	–	–	5.3(2)	4.6(2)	1.6(2)	4.6(2)	–
Belleisle Creek	–	–	–	–	–	–	7.8(1)	11.5(1)	2.6(1)	2.7(1)	3.9(1)
Canaan River	3.1(1)	0.4(1)	–	–	–	–	–	–	0.0(1)	0.4(1)	–
Gaspereau River	–	–	–	–	–	–	19.8(1)	9.8(1)	0.7(2)	0.5(2)	0.0(1)
Salmon River (Chipman)	–	–	–	–	–	–	11.8(2)	4.7(2)	7.1(2)	7.6(2)	9.3(1)
Little River	–	–	–	–	–	–	0.8(1)	1.8(1)	1.5(2)	1.3(2)	0.0(1)

POPULATION DENSITIES OF JUVENILE ATLANTIC SALMON BY SAMPLING SITE

The following table presents population densities of fry, small parr, large parr and total parr for each individual sampling site. Results were determined by actual counts and calculated totals per 100 m^2. Sampling dates and site locations are indicated.

TABLE 9. Population densities of juvenile Atlantic salmon by sampling site.

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
SALMON RIVER (GRAND FALLS) SYSTEM									
Site No. 1 - Salmon River (Sutherland Brook)									
4 Aug 75	250	41.6	45.0	0.0	0.0	0.4	0.4	0.4	0.4
14 Sep 76	416	20.9	20.3	0.2	0.2	2.6	2.5	2.9	2.7
23 Aug 77	288	31.3	31.4	0.7	0.9	1.0	1.2	1.7	2.4
20 Jul 78	255	41.2	44.1	3.5	3.5	0.8	0.4	4.3	4.1
Site No. 2 - Salmon River (above Simpson Brook)									
6 Aug 75	305	0.0	0.0	0.0	0.0	0.3	0.4	0.3	0.4
20 Aug 76	344	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4 Aug 77	360	7.2	8.1	0.0	0.0	0.0	0.0	0.0	0.0
22 Aug 78	389	6.7	4.5	1.5	1.7	0.3	0.3	1.8	2.2
Site No. 3 - Salmon River (above Poitras Brook)									
6 Aug 75	282	2.1	2.0	0.0	0.0	1.1	1.2	1.1	1.2
30 Jun 76	383	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3
3 Aug 77	337	32.6	45.3	0.0	0.0	0.3	0.3	0.3	0.3
19 Jul 78	294	25.2	26.3	11.9	14.2	1.0	1.0	12.9	15.7
TOBIQUE RIVER SYSTEM									
Site No. 1 - Wapskehegan River (Wapske fyke-net site)									
22 Jul 70	683	0.4	0.5	0.0	0.0	0.3	0.2	0.3	0.2
16 Jul 71	326	1.8	2.4	0.9	1.4	2.8	3.8	3.7	8.3
20 Jul 72	353	7.6	7.7	0.0	0.0	0.0	0.0	0.0	0.0
24 Jul 73	355	8.4	12.2	0.3	0.2	0.6	2.0	0.8	2.3
3 Jul 74	389	4.4	4.2	2.8	2.8	1.5	2.4	4.4	4.9
8 Jul 75	339	32.7	45.0	3.2	3.4	0.0	0.0	3.2	3.4
29 Jun 76	357	52.7	372.6	1.4	1.5	0.0	0.0	1.4	1.5
13 Jul 77	273	41.0	46.0	8.8	9.9	0.7	2.7	9.5	11.2
2 Aug 78	309	15.9	16.0	11.7	11.8	2.9	3.0	14.6	14.7
Site No. 2 - Wapskehegan River (Wapske, bridge out)									
23 Jul 70	377	2.4	2.5	0.5	0.0	1.3	0.0	1.9	6.7
21 Jul 71	406	1.2	1.2	3.2	3.6	2.7	2.8	5.9	6.3
10 Aug 72	397	16.4	18.9	0.2	0.2	3.3	3.7	3.5	3.8
21 Aug 73	380	39.2	217.0	0.3	0.3	2.9	23.4	3.2	10.3
30 Jul 74	355	22.2	24.9	3.4	3.5	0.0	0.0	3.4	3.5
9 Jul 75	374	37.2	41.7	5.6	5.8	0.5	0.5	6.1	6.3
16 Jul 76	400	121.3	129.8	4.3	4.5	2.0	2.2	6.3	6.4
18 Jul 77	311	16.0	20.8	5.8	6.6	0.0	0.0	5.8	6.6
7 Jul 78	363	16.0	25.3	2.5	2.6	0.6	0.6	3.0	3.2
Site No. 3 - Wapskehegan River (Left Hand River de Chute)									
17 Jul 70	278	0.7	0.7	0.0	0.0	0.4	0.4	0.4	0.4
13 Jul 71	273	0.0	0.0	4.0	4.4	2.9	3.0	7.0	7.3
18 Jul 72	308	2.0	1.9	0.0	0.0	1.0	0.6	1.0	0.6
19 Jul 73	364	0.3	0.2	2.2	2.2	2.8	2.9	5.0	5.0
2 Jul 74	332	1.2	1.3	1.5	1.5	3.9	5.6	5.4	6.4
2 Jul 75	285	8.1	8.4	9.1	9.5	5.3	5.5	14.4	15.0
19 Jul 76	343	14.3	16.5	5.0	5.8	4.1	4.3	9.0	10.0
12 Jul 77	335	13.1	43.2	9.9	13.0	5.1	5.4	14.9	17.4
6 Jul 78	318	25.5	33.2	12.0	12.1	6.9	6.9	18.9	19.7

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 4 - Gulquac River (Gulquac)									
21 Jul 70	246	6.5	6.6	0.0	0.0	0.4	0.4	0.4	0.4
19 Jul 71	281	35.2	41.9	2.1	2.1	0.4	0.0	2.5	2.3
21 Jul 72	268	7.8	7.9	0.0	0.0	3.4	4.4	3.4	4.4
20 Jul 73	466	10.7	12.0	0.4	0.4	2.4	3.3	2.8	2.8
4 Jul 74 [1] 6 Sep 74	502	23.8	26.8	5.1	5.3	6.4	7.3	11.5	12.4
4 Jul 75 8 Sep 75 [1] 7 Oct 75	494	44.1	48.4	7.6	32.6	4.0	4.2	11.5	12.9
20 Jul 76 [1] 7 Oct 76	551	37.8	42.4	16.4	20.5	6.0	7.0	22.4	27.4
19 Jul 77	467	54.6	69.3	36.0	50.6	3.0	3.6	39.0	50.0
5 Jul 78	491	47.8	73.3	1.6	1.7	1.8	1.7	3.4	3.4
[1]Sampling repeated - mean values shown.									
Site No. 5 - Two Brooks (Right Two Brooks)									
7 Aug 70	452	6.4	7.5	0.0	0.0	0.0	0.0	0.0	0.0
15 Jul 71	500	0.0	0.0	1.2	1.3	1.4	2.1	2.6	4.5
24 Jul 72	428	0.0	0.0	0.9	1.0	2.1	2.3	3.0	3.4
18 Jul 73	422	13.7	14.1	0.2	0.2	0.7	0.6	1.0	1.1
26 Jun 74 [1] 5 Sep 74	418	0.5	0.6	2.7	2.9	1.8	1.8	4.5	4.5
3 Jul 75	394	17.5	21.1	1.3	1.3	2.0	2.0	3.3	3.2
7 Jul 76	437	25.2	26.8	11.4	11.9	0.2	2.2	11.7	12.1
11 Jul 77	486	22.2	33.9	10.5	11.0	2.7	2.5	13.2	12.9
14 Jul 78	308	39.3	74.2	3.6	9.4	0.0	0.0	3.6	9.4
[1]Sampling repeated - mean values shown.									
Site No. 6 - Campbell River (Nictau Bridge)									
22 Aug 68	368	0.5	0.5	0.5	0.7	9.5	9.6	10.1	10.7
27 Jul 70	450	22.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0
20 Jul 71	473	9.5	12.3	1.3	1.3	1.5	2.0	2.8	3.1
3 Aug 72	334	6.6	8.1	0.3	0.3	1.2	1.2	1.5	1.7
3 Aug 73	322	2.8	3.5	0.0	0.0	0.9	0.8	0.9	0.8
17 Jul 74	310	2.3	2.8	1.0	1.1	0.0	0.0	1.0	1.1
10 Jul 75	314	102.6	151.9	3.5	7.3	0.3	0.3	3.5	7.8
9 Jul 76	325	47.7	69.1	6.5	6.9	1.2	1.3	7.7	8.3
25 Jul 77	313	33.2	42.4	13.7	27.3	3.8	8.0	17.6	39.7
2 Aug 78	374	15.0	19.1	3.2	3.5	1.3	1.3	4.6	4.8
Note: Site not sampled in 1969.									
Site No. 7 - Campbell River (Campbell Landing)									
29 Jul 70	306	26.1	35.9	0.0	0.0	2.0	2.8	2.0	2.8
27 Jul 71	493	21.7	22.2	1.0	1.1	2.0	2.0	3.0	2.9
10 Aug 73	416	33.9	52.2	0.2	0.3	1.0	1.4	1.2	1.4
9 Sep 74	339	23.9	28.8	0.9	0.9	0.9	0.9	1.8	1.5
11 Jul 75	278	65.8	88.3	1.8	2.5	1.1	2.0	2.9	4.6
5 Aug 76	328	47.6	55.8	0.6	0.6	0.0	0.0	0.6	0.6
20 Jul 77	333	28.8	31.9	0.9	0.8	0.0	0.0	0.9	0.8
17 Aug 78	248	79.8	96.0	1.6	1.9	0.8	0.9	2.4	2.7
Note: Site not sampled in 1972.									

Date	Area of sampling sites (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 8 - River Dee (Shingle Gulch)									
11 Sep 68	305	0.0	0.0	0.0	0.0	15.7	16.8	15.7	16.8
19 Sep 69	461	0.0	0.0	0.0	0.0	0.9	0.8	0.9	0.8
24 Jul 70	451	0.4	1.4	0.0	0.0	0.7	2.2	0.7	2.2
2 Aug 71	372	14.8	18.1	4.8	5.2	4.3	5.8	9.1	10.5
25 Jul 72	262	5.7	6.0	1.9	1.4	1.9	1.9	3.8	4.5
23 Aug 73	506	6.3	6.7	0.0	0.0	4.6	8.3	4.6	8.3
8 Jul 74	281	0.0	0.0	0.7	0.7	0.0	0.0	0.7	0.7
7 Jul 75	274	40.1	44.2	3.6	4.1	1.5	2.2	5.1	6.0
22 Jul 76	333	0.0	0.0	4.2	5.1	3.9	3.9	8.1	8.6
29 Jul 77	328	29.0	30.8	1.5	1.6	0.3	0.3	1.8	1.9
9 Aug 78	392	36.7	42.8	3.1	2.8	4.6	4.9	7.7	7.8
Site No. 9 - Serpentine River (Hazelton Brook)									
28 Jul 70	365	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
29 Jul 71	214	7.9	8.7	0.5	0.5	5.1	15.0	5.6	10.6
9 Aug 72	197	12.2	14.7	1.0	1.4	1.0	0.7	2.0	5.9
22 Aug 73	357	28.3	30.0	0.8	0.8	2.0	1.8	2.8	2.6
24 Jul 74	288	8.3	9.6	3.8	4.2	0.0	0.0	3.8	4.2
1 Aug 75	252	10.7	12.3	3.6	3.5	1.2	1.2	4.8	4.7
26 Jul 76	202	19.8	22.3	3.0	3.8	0.5	0.5	3.5	4.6
5 Aug 77	279	35.8	38.9	1.4	1.6	0.4	0.4	1.8	1.9
25 Jul 78	315	35.9	40.4	5.1	5.9	1.6	2.7	6.7	8.1
Site No. 10 - Serpentine River (Anvil Brook)									
27 Aug 68	296	0.0	0.0	8.1	8.7	22.0	22.0	30.1	30.7
30 Jul 70	262	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 Jul 71	272	2.2	2.4	4.4	5.5	1.8	0.0	6.2	7.7
27 Aug 73	320	10.0	12.6	0.9	1.0	7.2	7.8	8.1	8.4
25 Jul 74	303	0.3	0.4	5.3	5.5	0.3	0.4	5.6	6.0
30 Jul 75	315	6.4	6.8	4.4	8.0	2.9	3.1	7.3	11.3
29 Jul 76	313	10.9	11.1	1.6	3.8	4.8	5.0	6.4	7.4
22 Aug 77	370	9.7	14.1	4.1	4.1	4.1	4.3	8.1	8.3
26 Jul 78	325	4.9	8.5	3.1	3.6	1.5	2.0	4.6	6.1
Note: Site not sampled in 1969 and 1972.									
Site No. 11 - Mamozekel River (Mamozekel Landing)									
18 Aug 70	461	10.6	11.1	0.0	0.0	0.0	0.0	0.0	0.0
22 Jul 71	404	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27 Jul 72	267	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9
26 Jul 73	355	0.6	0.8	0.0	0.0	0.6	0.8	0.6	0.8
18 Jul 74	252	7.1	7.7	0.8	0.8	0.8	0.8	1.6	1.7
29 Jul 75	181	28.7	24.3	1.1	1.1	0.0	0.0	1.1	1.1
15 Jul 76	207	24.6	28.0	1.9	2.0	0.5	0.5	2.4	2.4
14 Jul 77	346	10.7	11.5	2.0	2.2	0.0	0.0	2.0	2.2
13 Jul 78	248	34.2	34.9	1.2	1.3	0.4	0.4	1.6	1.7
Site No. 12 - Mamozekel River (opposite Serpentine Road)									
3 Sep 70	360	5.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0
23 Jul 71	388	0.3	0.2	0.3	0.2	0.5	0.5	0.8	0.8
26 Jul 72	251	1.6	2.3	0.0	0.0	0.8	1.1	0.8	1.1
23 Jul 73	275	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4
12 Jul 74	303	0.0	0.0	0.3	0.4	0.0	0.0	0.3	0.4
16 Jul 75	253	9.5	10.5	3.2	3.4	1.6	1.7	4.7	6.5
27 Jul 76	229	0.0	0.0	5.2	6.0	3.5	7.0	8.7	11.4
21 Jul 77	237	8.4	8.9	0.4	0.4	0.0	0.0	0.4	0.4
11 Jul 78	248	49.5	54.7	2.8	5.1	0.0	0.0	2.8	5.1

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 13 - Mamozekel River (South Branch)									
27 Aug 68	319	0.0	0.0	0.0	0.0	2.2	2.2	2.2	2.2
18 Sep 69	192	0.0	0.0	0.0	0.0	0.5	0.6	0.5	0.6
2 Jul 70	252	0.0	0.0	0.8	0.9	0.2	0.4	1.2	1.3
9 Jul 71	254	0.0	0.0	2.4	2.4	1.2	1.2	3.5	3.6
26 Jul 72	227	0.0	0.0	0.4	0.5	1.8	1.8	2.2	2.3
25 Jul 73	220	6.8	6.5	0.5	0.5	8.6	8.5	9.1	9.1
11 Jul 74	242	0.0	0.0	7.4	7.9	2.5	2.4	9.9	10.4
29 Jul 75	211	4.3	6.9	12.8	15.0	7.1	7.7	19.9	22.5
28 Jul 76 [1] 26 Aug 76	201	0.8	0.8	7.1	6.9	3.8	3.8	10.9	10.6
22 Jul 77	243	14.0	17.2	5.8	5.6	1.2	0.8	7.0	6.8
12 Jul 78	208	19.7	23.6	15.4	15.2	1.9	2.1	17.3	17.1
[1]Sampling repeated - mean values shown.									
Site No. 14 - Little Tobique River (Pat's Crossing)									
10 Sep 68	601	0.0	0.0	3.0	4.2	0.2	0.2	3.2	4.1
21 Aug 70	262	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28 Jul 71	282	5.0	6.5	0.0	0.0	0.4	0.4	0.4	0.4
2 Aug 72	326	11.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0
1 Aug 73	354	15.8	26.7	0.0	0.0	0.0	0.0	0.0	0.0
31 Jul 74	403	0.7	0.5	0.0	0.0	0.7	0.7	0.7	0.7
31 Jul 75	374	1.1	1.8	0.0	0.0	0.0	0.0	0.0	0.0
4 Aug 76	379	13.2	15.3	0.0	0.0	0.0	0.0	0.0	0.0
29 Aug 77	315	3.5	3.5	0.0	0.0	2.2	2.4	2.2	2.4
16 Aug 78	368	36.3	51.1	0.5	0.7	0.8	0.0	1.4	0.0
Note: Site not sampled in 1969.									
Site No. 15 - Little Tobique River (above Lawson Brook)									
15 Sep 70	373	2.1	2.3	0.0	0.0	0.0	0.0	0.0	0.0
28 Jul 71	341	2.1	2.6	0.0	0.0	0.0	0.0	0.0	0.0
2 Aug 72	360	4.4	4.8	0.3	0.2	0.0	0.0	0.3	0.2
27 Jul 73	353	8.2	11.4	0.6	0.6	2.6	2.4	3.1	2.9
31 Jul 74	381	0.0	0.0	0.3	0.2	0.0	0.0	0.3	0.2
31 Jul 75	245	4.1	5.2	0.4	0.2	0.0	0.0	0.4	0.2
3 Aug 76	268	0.6	0.8	0.0	0.0	2.6	7.7	2.6	7.7
29 Aug 77	441	16.6	17.6	0.0	0.0	0.7	0.7	0.7	0.7
10 Aug 78	273	44.9	49.4	2.6	2.8	1.8	1.7	4.4	4.4
SHIKATEHAWK RIVER SYSTEM									
Site No. 1 - Shikatehawk River (Lockharts Mill)									
24 Aug 71	263	69.6	71.2	0.0	0.0	0.8	0.8	0.8	0.8
7 Sep 72	309	16.8	16.9	0.0	0.0	22.6	22.6	22.6	22.6
24 Aug 73	312	14.7	15.5	0.0	0.0	11.9	12.2	11.9	12.2
13 Aug 74	342	10.5	11.4	27.5	29.2	1.8	1.4	29.2	30.8
8 Aug 75	246	15.8	17.1	17.9	20.0	16.3	19.5	34.1	39.4
Note: Site not sampled in 1976, 1977 and 1978.									
Site No. 2 - Shikatehawk River (Gordonsville)									
24 Aug 71	255	67.4	67.4	0.4	0.4	4.3	4.3	4.7	4.7
8 Sep 72	287	20.6	18.3	0.0	0.0	20.6	20.7	20.6	20.7
16 Aug 73	305	60.3	76.0	0.0	0.0	8.5	9.8	8.5	9.8
12 Aug 74	257	31.9	34.4	58.8	60.9	1.2	1.2	59.1	61.7
11 Aug 75	246	45.1	52.4	28.0	29.8	18.7	20.2	46.8	50.0
6 Oct 76	262	45.8	- [1]	6.9	- [1]	6.1	- [1]	13.0	- [1]
Note: Site not sampled in 1977 and 1978. [1]Only two sweeps done in 1976 - densities cannot be calculated.									

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 3 - Shikatehawk River (West Glassville)									
25 Aug 71	377	81.2	107.3	0.3	0.3	9.0	8.0	9.3	9.0
14 Aug 72	263	9.9	10.7	0.0	0.0	31.9	32.6	31.9	32.6
15 Aug 73	461	35.1	20.8	0.0	0.0	8.5	9.3	8.5	9.3
6 Aug 74	563	20.8	21.8	32.0	32.7	0.7	0.8	32.7	33.7
12 Aug 75	369	39.3	49.2	28.5	31.5	11.4	14.2	39.8	45.6
23 Aug 76	304	66.8	82.1	16.8	17.2	7.9[1]	8.1[1]	24.7[1]	25.5[1]
21 Aug 78	322	27.5	148.8	20.6	54.7	7.5	15.9	28.1	74.8
Site No. 4 - Shikatehawk River (Centre Glassville)									
7 Aug 68	280	13.6	13.7	26.4	27.0	27.9	28.3	54.3	55.3
27 Aug 69	284	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1
23 Aug 71	325	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 Sep 72	354	8.8	9.6	0.0	0.0	0.3[1]	0.2[1]	0.3[1]	0.2[1]
14 Aug 73	380	0.0	0.0	0.0	0.0	0.8	1.8	0.8	1.8
2 Aug 74	365	13.7	14.1	0.0	0.0	21.6[1]	14.1[1]	21.6[1]	14.1[1]
13 Aug 75	273	12.4	15.5	1.5	2.3	9.2[1]	10.8[1]	10.6[1]	12.9[1]
30 Jul 76	358	36.3	39.5	0.0	0.0	3.4[1]	3.9[1]	3.4[1]	3.9[1]
Site No. 5 - Shikatehawk River (Kenneth)									
26 Aug 71	253	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 Sep 72	251	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 Aug 73	291	0.0	0.0	0.0	0.0	0.7	1.0	0.7	1.0
1 Aug 74	227	0.0	0.0	0.0	0.0	88.6[1]	92.8[1]	88.6[1]	92.8[1]
14 Aug 75	223	2.7	2.6	0.9	1.0	9.9[1]	10.1[1]	10.8[1]	11.0[1]
23 Aug 76	234	41.8	42.7	0.4	0.4	6.4[1]	6.1[1]	6.8[1]	6.8[1]
BECAGUIMEC RIVER SYSTEM									
Site No. 1 - Coldstream (Bannon)									
5 Aug 68	278	26.6	28.2	30.6	30.7	32.4	32.6	63.0	63.5
6 Aug 69	279	0.4	0.4	10.4	11.4	7.5	8.5	17.9	20.6
30 Aug 71	293	30.4	30.4	0.0	0.0	2.0	1.3	2.0	1.3
20 Sep 72	257	4.3	5.6	0.0	0.0	37.4	37.9	37.4	37.9
29 Aug 73	258	73.6	98.0	0.0	0.0	5.4	6.0	5.4	6.0
14 Aug 74	254	14.2	14.7	24.0	25.5	0.8	0.8	24.8	26.2
19 Aug 75	228	6.6	8.7	14.0	15.6	18.9	20.6	32.9	36.1
27 Aug 76	287	44.6	48.2	2.4	2.4	4.8	5.5	7.3	7.2
11 Aug 77	262	31.5	30.1	8.1	8.1	15.8	15.9	23.9	23.9
11 Aug 78	233	73.0	74.1	14.4	13.7	9.6	9.4	23.9	23.1

Note: Site not sampled in 1977.
[1]Hatchery stock included; actual count of hatchery large parr was 0.3 in 1976.

Note: Site not sampled in 1970, 1977 and 1978.
[1]Hatchery stock included; actual counts of hatchery large parr were 0.3 in 1972, 21.6 in 1974, 4.0 in 1975 and 0.8 in 1976.

Note: Site not sampled in 1977 and 1978.
[1]Hatchery stock included; actual counts of hatchery large parr were 88.1 in 1974, 7.6 in 1975 and 4.7 in 1976.

Note: Site not sampled in 1970.

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 2 - Coldstream (East Coldstream)									
27 Aug 71	293	25.6	25.6	0.3	0.4	2.0	2.0	2.4	2.4
18 Sep 72	372	0.8	2.2	0.0	0.0	16.4	17.0	16.4	17.0
28 Aug 73	385	110.6	180.2	0.0	0.0	1.6	1.7	1.6	1.7
26 Jul 74	366	4.1	4.6	6.6	6.8	6.8	7.5	13.4	14.3
15 Aug 75 [1] 19 Sep 75	372	37.5	44.0	6.7	6.9	6.1	6.4	12.7	13.3
24 Aug 76	350	41.7	42.6	0.5	0.7	3.1[2]	3.3[2]	3.7[2]	3.8[2]
19 Aug 77	329	39.4	47.0	2.1	1.9	7.9	8.2	10.0	10.2
3 Aug 78	329	97.6	103.8	5.2	5.2	2.7	2.6	7.9	7.7
Site No. 3 - South Branch (County Line)									
9 Sep 71	263	7.2	7.2	0.0	0.0	0.4	0.4	0.4	0.4
21 Sep 72	255	0.0	0.0	0.0	0.0	3.9	4.9	3.9	4.9
5 Sep 73	316	84.8	98.8	0.0	0.0	0.6	0.7	0.6	0.7
20 Aug 74	278	1.1	1.4	1.8	1.8	13.0	13.2	14.8	15.2
21 Aug 75	302	7.6	8.3	0.0	0.0	6.3	6.2	6.3	6.2
25 Aug 76	382	22.8	23.2	0.3	0.3	2.6[1]	2.7[1]	2.9[1]	2.9[1]
19 Aug 77	353	24.0	31.4	4.3	4.4	3.7	3.7	8.0	7.9
3 Jul 78	376	31.4	36.4	6.9	8.5	2.7	2.8	9.6	11.0
Site No. 4 - North Branch (Cloverdale)									
6 Aug 68	415	0.0	0.0	29.6	29.7	12.5	12.5	42.2	42.3
24 Jul 69	370	0.3	0.2	4.9	4.9	18.1	18.3	23.0	23.2
31 Aug 71	335	33.4	33.4	0.3	0.4	2.1	2.2	2.4	2.4
20 Sep 72	397	2.8	4.6	0.2	0.2	18.9[2]	19.8[2]	19.1[2]	20.0[2]
31 Aug 73	327	45.6	58.7	0.0	0.0	4.0	4.3	4.0	4.3
16 Aug 74 10 Sep 74 [1] 11 Oct 74	364	8.8	9.6	0.4	0.6	14.4	14.7	14.8	15.1
7 Aug 75	398	43.5	82.4	6.5	6.6	3.8	3.8	10.3	10.4
9 Sep 76	462	58.9	61.0	1.3[2]	1.3[2]	6.3[2]	7.7[2]	7.6[2]	8.4[2]
18 Aug 77	426	23.9	28.0	7.2	7.7	10.9	12.0	18.1	19.6
14 Aug 78	428	54.0	67.7	10.5	10.3	7.0	6.9	17.5	17.3
Site No. 5 - North Branch (Carlisle)									
9 Sep 71	287	20.9	21.7	0.0	0.0	1.4	1.6	1.4	1.6
21 Sep 72	357	2.2	2.3	0.0	0.0	13.7	12.8	13.7	12.8
4 Sep 73	358	35.2	35.9	0.0	0.0	1.4	1.4	1.4	1.4
15 Aug 74	308	2.3	0.7	7.8	7.9	0.6	0.7	8.4	8.6
22 Aug 75	471	32.1	35.6	2.8	2.9	2.6	2.8	5.3	5.6
8 Sep 76	420	61.7	69.5	1.2	1.3	10.7[1]	11.2[1]	11.9[1]	12.0[1]
9 Aug 77	404	42.8	58.5	2.5	2.4	12.5	14.9	15.0	17.4
8 Aug 78	360	50.8	69.3	13.3	13.6	5.0	6.3	18.3	19.9

[1]Sampling repeated - mean values shown.
[2]Hatchery stock included; no breakdown between wild and hatchery stock.

[1]Hatchery stock included; actual count of hatchery large parr was 0.5 in 1976.

Note: Site not sampled in 1970.
[1]Sampling repeated - mean values shown.
[2]Hatchery stock included; actual counts of hatchery large parr were 18.9 in 1972 and 0.2 in 1976; actual count of hatchery small parr was 0.2 in 1976.

[1]Hatchery stock included; actual count of hatchery large parr was 0.2 in 1976.

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
NACKAWIC RIVER SYSTEM									
Site No. 1 - Northeast Nackawic River (Upper Caverhill)									
25 Aug 75	344	20.6	26.4	6.1[1]	6.1[1]	6.1[1]	6.0[1]	12.2[1]	11.9[1]
10 Sep 76	329	42.2	43.2	0.9[1]	0.9[1]	12.5[1]	12.4[1]	13.4[1]	13.4[1]
16 Aug 77	330	0.0	0.0	1.5	1.6	19.1[1]	19.7[1]	20.6[1]	21.3[1]
23 Aug 78	351	4.3	4.9	0.0	0.0	4.3	4.3	4.3	4.3
[1]Hatchery stock included; actual counts of hatchery small parr were 6.1 in 1975 and 0.6 in 1976; actual counts of hatchery large parr were 6.1 in 1975, 10.3 in 1976 and 0.3 in 1977.									
Site No. 2 - Northeast Nackawic River (Millville)									
18 Oct 72	448	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 Sep 74	353	0.0	0.0	1.1[1]	1.3[1]	19.8[1]	20.8[1]	20.9[1]	22.4[1]
20 Aug 75	374	17.7	24.9	24.1[1]	25.4[1]	10.4[1]	10.9[1]	34.5[1]	36.2[1]
30 Aug 76	411	5.8	6.3	0.0	0.0	1.0	0.9	1.0	0.9
15 Aug 77	382	0.0	0.0	0.0	0.0	3.4	3.7	3.4	3.7
Note: Site not sampled in 1973 and 1978. [1]Hatchery stock included; actual counts of hatchery small parr were 1.1 in 1974 and 24.1 in 1975; actual counts of hatchery large parr were 19.8 in 1974 and 10.4 in 1975.									
Site No. 3 - Nackawic Main Stream (Temperance Vale)									
22 Jul 69	342	0.0	0.0	1.5	1.6	22.2	22.8	23.7	24.2
Site No. 4 - Nackawic Main Stream (Norton Dale)									
21 Jul 69	363	0.0	0.0	0.0	0.0	7.2	7.2	7.2	7.2
KESWICK RIVER SYSTEM									
Site No. 1 - Jones Forks (Jones Forks)									
5 Jul 68	353	65.7	70.1	45.9	48.4	3.4	3.5	49.3	51.6
3 Jul 69	446	39.0	41.5	-[1]	-[1]	-[1]	-[1]	63.2	62.2
12 Aug 71	257	43.2	47.4	3.1	3.1	7.4	7.4	10.5	10.4
29 Aug 72	383	5.7	7.1	0.3	0.2	12.8	12.8	13.0	13.1
24 Aug 73	309	17.2	21.4	0.0	0.0	1.3	1.0	1.3	1.0
27 Aug 74	265	51.7	60.3	2.3	2.3	18.5	19.4	20.8	21.4
27 Aug 75	388	58.2	70.4	16.5	17.0	15.7	15.8	32.2	32.8
20 Jul 76	464	16.6	22.8	9.5	10.4	2.4	2.9	11.9	13.5
Note: Site not sampled in 1970, 1977 and 1978. [1]No breakdown of small and large parr in 1969.									
Site No. 2 - Keswick River (Zealand Station)									
12 Jul 68	323	27.9	30.0	17.0	19.0	2.8	2.9	19.8	21.8
4 Jul 69	341	20.8	22.2	7.6	8.1	4.1	8.5	11.7	14.1
20 Aug 71	297	47.5	107.0	0.0	0.0	4.7	5.5	3.7	5.5
31 Aug 72	240	16.7	17.3	0.0	0.0	7.1	9.3	7.1	9.3
13 Sep 73	257	10.9	17.1	0.0	0.0	2.0	2.0	2.0	2.0
23 Aug 74	282	37.2	40.7	0.0	0.0	1.8	2.0	1.8	2.0
28 Aug 75	270	43.0	46.2	4.4	4.9	2.6	2.9	7.0	7.7
30 Jul 76	535	8.2	11.2	0.6	0.5	0.2	0.2	0.7	0.7
Note: Site not sampled in 1970, 1977 and 1978.									

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 3 - Keswick River (Stoneridge)									
15 Jul 68	320	98.4	117.5	6.2	7.1	2.5	6.4	8.8	11.1
25 Jul 69	284	40.8	41.7	13.0	13.1	8.8	10.7	21.8	24.4
26 Aug 70	349	6.0	6.9	- [1]	- [1]	- [1]	- [1]	4.3	5.2
19 Aug 71	279	12.5	12.7	0.7	0.7	1.4	1.4	2.2	2.2
2 Sep 72	257	8.2	9.5	0.0	0.0	7.4	7.8	7.4	7.8
7 Sep 73	293	8.9	10.3	0.0	0.0	0.7	0.7	0.7	0.7
27 Aug 74	364	48.1	50.7	0.0	0.0	1.9	1.9	1.9	1.9
28 Aug 75	353	36.3	40.9	2.3	2.3	4.2	4.4	6.5	6.6
21 Jul 76	306	24.8	27.8	1.6	1.7	1.0	1.0	2.6	2.3
Note: Site not sampled in 1977 and 1978. [1]No breakdown of small and large parr in 1970.									
Site No. 4 - Keswick River (Hayne)									
18 Jul 68	314	7.6	7.2	37.6	37.0	5.4	5.2	43.0	42.0
18 Jun 69	189	0.0	- [1]	5.3	- [1]	3.2	- [1]	8.5	- [1]
18 Aug 71	279	15.4	21.9	3.2	3.2	10.0	10.1	13.3	13.2
1 Sep 72	248	1.6	1.7	0.0	0.0	12.9	14.1	12.9	14.1
13 Sep 73	212	25.9	28.5	0.0	0.0	4.2	4.0	4.2	4.0
26 Aug 74	210	56.7	56.8	2.4	2.6	13.8	14.5	16.2	17.0
3 Sep 75	251	18.7	19.6	7.2	7.4	9.6	9.8	16.7	17.1
6 Aug 76	275	8.0	12.4	5.1	5.6	4.0	6.2	9.1	10.8
Note: Site not sampled in 1970, 1977 and 1978. [1]Only two sweeps done in 1969 - densities cannot be calculated.									
Site No. 5 - Keswick River (Barton)									
9 Jul 68	269	14.1	19.0	12.3	12.1	3.0	3.6	15.2	15.6
23 Jul 69	272	2.2	1.5	12.9	13.9	8.8	9.6	21.7	23.1
27 Aug 70	297	7.4	7.4	5.4	- [1]	5.7	- [1]	11.1	12.1
18 Aug 71	254	13.4	20.6	2.4	3.2	2.0	5.1	4.3	7.7
1 Sep 72	251	0.8	0.8	0.4	0.4	6.4	6.3	6.8	6.9
11 Sep 73	554	22.6	27.1	0.0	0.0	4.2	4.4	4.2	4.4
22 Aug 74	398	35.9	47.2	0.5	0.5	8.5	10.4	9.0	10.7
26 Aug 75	359	24.5	28.3	5.0	5.5	8.6	9.1	13.6	14.6
29 Jul 76	338	5.9	7.0	1.5	1.6	0.6	0.5	2.1	2.3
Note: Site not sampled in 1977 and 1978. [1]Number of sweeps not recorded; therefore, "calculated" totals could not be determined.									
NASHWAAK RIVER SYSTEM									
Site No. 1 - Penniac Stream (Penniac)									
17 Aug 71	351	22.2	32.1	0.3	0.2	14.8	14.9	15.1	14.9
22 Aug 72	355	20.8	24.4	0.0	0.0	13.2	13.7	13.2	13.7
17 Aug 73	283	27.6	27.1	0.0	0.0	2.5	2.5	2.5	2.5
23 Aug 74	214	79.4	90.9	4.2	4.2	22.4	22.6	26.6	26.8
7 Aug 75	485	52.4	87.1	13.2	13.9	17.5	18.3	30.7	32.2
9 Jul 76	537	47.6	53.0	17.7	18.1	2.8	2.8	20.5	20.8
25 Jul 77	400	36.0	40.5	26.3	26.9	5.0	5.1	31.3	31.7
31 Aug 78	1,283	9.3	50.0	3.9	5.1	2.2	2.5	6.1	7.6

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 2 - Main Nashwaak River (above Durham Bridge)									
16 Aug 68	326	23.9	25.4	6.1	6.1	0.0	0.0	6.1	6.1
14 Aug 69	393	4.3	5.3	0.2	0.2	1.8	1.9	2.0	2.2
17 Aug 71	336	44.4	45.6	0.0	0.0	1.5	1.6	1.5	1.6
23 Aug 72	376	20.5	23.2	0.0	0.0	1.6	1.6	1.6	1.6
30 Aug 73	415	8.7	9.1	0.0	0.0	0.0	0.0	0.0	0.0
21 Aug 74 [1] 20 Sep 74	401	27.9	30.6	0.0	0.0	1.8	1.9	1.8	1.9
13 Aug 75	398	18.6	20.1	1.8	1.6	1.8	3.6	3.5	3.2
30 Jun 76	361	21.6	21.3	0.8	1.0	0.6	0.6	1.4	1.6
18 Jul 77	410	4.1	5.0	1.2	1.3	0.0	0.0	1.2	1.3
30 Aug 78	378	6.8	48.1	0.3	0.3	0.5	0.4	0.8	0.6
Site No. 3 - Tay River (Tay River)									
4 Sep 69	328	12.5	14.2	8.8	8.9	21.3	23.6	30.2	30.4
11 Aug 70	423	3.3	2.9	3.1	- [1]	9.2	- [1]	12.3	13.9
4 Aug 71	379	14.5	15.0	0.0	0.0	12.1	13.1	12.1	13.1
17 Aug 72	254	7.5	10.4	0.0	0.0	14.6	14.6	14.6	14.6
23 Aug 73	246	18.7	19.9	0.0	0.0	6.9	7.2	6.9	7.2
20 Aug 74 [2] 11 Sep 74	267	53.4	76.3	0.2	0.2	9.9	10.0	10.1	10.2
12 Aug 75	440	80.0	100.8	12.5	12.7	18.6	18.9	31.1	31.5
6 Jul 76	378	58.7	60.2	15.9	27.0	2.6	2.6	18.5	26.5
22 Jul 77	382	28.8	39.8	7.1	12.4	1.6	2.1	8.6	15.2
24 Aug 78	310	20.3	33.5	11.6	11.7	8.1	8.4	19.7	20.8
Site No. 4 - McKenzie Brook (McKenzie Brook)									
11 Aug 69	421	7.6	7.7	1.2	1.4	4.0	4.6	5.2	6.1
11 Aug 71	268	17.2	22.9	4.8	5.2	4.8	4.9	9.7	10.2
21 Aug 72	237	0.0	0.0	0.8	0.8	8.9	9.1	9.7	10.1
16 Aug 73	237	23.6	25.4	0.0	0.0	3.0	3.0	3.0	3.0
27 Aug 74	359	0.0	0.0	2.2	2.0	4.2	4.2	6.4	6.1
18 Aug 75	281	8.5	9.2	0.7	0.7	4.6	4.4	5.3	5.0
5 Jul 76	991	0.7	2.0	1.7	1.9	0.4	0.4	2.1	2.2
26 Jul 77	305	22.6	26.9	10.5	12.6	0.0	0.0	10.5	12.6
Site No. 5 - Main Nashwaak River (above Nashwaak Bridge)									
20 Aug 69	296	8.4	8.4	1.4	1.4	3.0	3.6	4.5	3.8
28 Aug 70	302	6.6	6.7	0.0	0.0	1.3	1.3	1.3	1.3
31 Aug 71	251	15.9	20.5	0.0	0.0	0.4	0.4	0.4	0.4
25 Aug 72	251	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
31 Aug 73	260	11.9	36.8	0.4	0.4	1.2	1.2	1.5	1.6
28 Aug 74	283	17.7	16.1	0.0	0.0	1.4	1.2	1.4	1.2
18 Aug 75	287	9.8	12.3	3.1	3.2	2.4	6.0	5.6	6.0
19 Jul 76	288	14.9	17.2	5.6	5.3	8.3	8.0	13.9	13.3
26 Jul 77	249	7.6	10.4	0.4	0.4	1.2	1.3	1.6	2.0
1 Sep 78	282	5.7	8.7	1.1	1.1	0.0	0.0	1.1	1.1

Note: Site not sampled in 1970.
[1]Sampling repeated - mean values shown.

[1]Number of sweeps not recorded; therefore, "calculated totals" could not be determined.
[2]Sampling repeated - mean values shown.

Note: Site not sampled in 1970 and 1978.

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 6 - Cross Creek (Cross Creek)									
29 Aug 69	361	9.4	9.3	7.5	8.0	22.4	22.6	29.9	30.7
9 Aug 71	472	25.2	26.0	0.0	0.0	5.5	6.6	5.5	6.6
18 Aug 72	307	10.8	13.2	0.0	0.0	16.3	16.3	16.3	16.3
12 Sep 73	320	18.4	18.7	0.0	0.0	11.6	11.6	11.6	11.6
6 Sep 74	253	55.7	55.7	0.8	0.8	16.2	16.5	17.0	17.3
20 Aug 75	135	44.4	45.0	26.7	27.7	5.2	5.3	31.8	32.9
23 Jul 76	259	34.4	40.1	0.4	0.4	0.4	0.4	0.8	0.8
15 Jul 77	204	18.1	18.5	9.3	8.6	0.9	1.3	10.3	9.8
Note: Site not sampled in 1970 and 1978.									
Site No. 7 - Main Nashwaak River (below Stanley)									
15 Aug 68	289	0.0	0.0	8.0	9.7	2.8	3.0	10.8	12.6
12 Aug 69	259	2.7	2.8	1.2	1.0	3.9	4.1	5.0	5.0
16 Aug 71	251	5.6	5.6	0.0	0.0	3.6	4.2	3.6	4.2
30 Aug 72	251	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0
6 Sep 73	268	0.4	0.4	0.0	0.0	0.4	0.4	0.4	0.4
9 Sep 74	257	6.6	7.1	0.0	0.0	3.9	4.1	3.9	4.1
25 Aug 75	274	9.1	9.7	6.2	6.4	1.1	2.8	7.3	8.1
7 Jul 76	274	1.1	1.5	0.7	0.7	0.4	0.4	1.1	1.1
8 Aug 77	340	2.1	2.0	0.9	0.9	2.4	2.4	3.2	3.4
25 Aug 78	152	2.0	2.7	0.7	0.7	2.7	2.2	3.3	3.0
Note: Site not sampled in 1970.									
Site No. 8 - Main Nashwaak River (above Stanley)									
14 Aug 68	290	19.0	22.8	9.0	10.3	17.2	20.7	26.2	30.9
8 Aug 69	251	1.2	1.2	2.8	5.7	3.2	3.3	6.0	6.4
6 Aug 71	257	18.7	20.6	0.8	0.7	1.2	1.3	2.0	1.9
24 Aug 72	257	4.3	4.3	0.0	0.0	1.2	1.3	1.2	1.3
29 Aug 73	278	20.1	22.3	0.0	0.0	4.7	6.1	4.7	6.1
3 Sep 74	236	33.1	35.6	0.0	0.0	0.9	0.8	0.9	0.8
21 Aug 75	263	13.3	15.1	3.0	3.1	0.4	0.4	3.4	3.5
8 Jul 76 [1] 20 Aug 76	232	8.9	9.3	1.4	1.5	0.0	0.0	1.4	1.5
14 Jul 77	275	8.0	8.8	0.4	0.4	0.0	0.0	0.4	0.4
5 Sep 78	169	1.8	2.1	0.6	0.6	0.0	0.0	0.6	0.6
Note: Site not sampled in 1970. [1]Sampling repeated - mean values shown.									
Site No. 8A - Main Nashwaak River (below McBean Brook)									
10 Sep 74	275	3.6	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Site No. 8B - Main Nashwaak River (above McBean Brook)									
10 Sep 74	328	3.7	4.9	0.0	0.0	10.7	11.6	10.7	11.6
Site No. 9 - Main Nashwaak River (Cedar Bridge)									
26 Aug 69	259	3.5	3.5	7.7	13.1	11.2	14.4	18.9	27.1
5 Aug 71	459	11.6	15.5	11.3	11.7	3.9	4.0	15.2	15.5
16 Aug 72	459	6.1	6.7	3.1	3.1	13.5	14.6	16.6	17.6
28 Aug 73	482	22.2	24.3	0.0	0.0	11.8	17.1	11.8	17.1
22 Aug 74	609	10.8	11.1	2.3	1.9	4.4	4.3	6.7	6.3
19 Aug 75	314	10.5	10.9	13.1	12.9	5.7	6.0	18.8	18.6
22 Jul 76	331	3.0	3.1	2.4	2.4	1.8	2.2	4.2	4.4
27 Jul 77	342	6.7	9.0	4.4	4.2	1.5	1.5	5.8	5.7
11 Sep 78	312	8.3	10.4	4.2	4.8	1.9	2.0	6.1	6.5
Note: Site not sampled in 1970.									

Date	Area of sampling sites (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 10 - Main Nashwaak River (Doughboy Brook)									
14 Aug 70	563	13.7	14.5	2.7	- [1]	7.1	- [1]	9.8	13.8
3 Aug 71	551	22.9	22.9	9.3	9.3	2.7	2.8	12.0	12.1
15 Aug 72	451	7.1	7.2	6.4	6.5	20.0	20.0	26.4	26.4
22 Aug 73	494	10.9	11.1	0.6	0.7	5.5	5.6	6.1	6.3
22 Aug 74	438	7.8	8.7	2.7	4.9	7.3	7.9	10.1	11.6
19 Aug 75	442	13.1	19.6	19.5	20.8	6.3	7.2	25.8	28.3
27 Jul 76	463	7.1	7.3	3.9	4.0	1.7	1.7	5.6	5.7
27 Jul 77	519	10.8	12.6	18.9	25.0	4.4	4.4	23.3	29.1
11 Sep 78	486	9.5	634.4	10.3	13.1	3.3	3.1	13.6	14.6
[1]No breakdown of small and large parr in 1970.									
Site No. 10A - Main Nashwaak River (below Gorby Gulch)									
12 Sep 74	263	2.7	3.2	0.0	0.0	8.4	8.7	8.4	8.7
TRIBUTARIES BELOW THE NASHWAAK RIVER SYSTEM									
Site No. 1 - Hammond River (Smithtown)									
24 Sep 74	293	29.0	30.7	0.0	0.0	3.1	2.9	3.1	2.9
24 Sep 75	294	26.5	26.6	0.7	0.7	4.1	7.2	4.8	6.8
8 Sep 76	189	13.2	13.0	0.0	0.0	0.5	0.5	0.5	0.5
11 Aug 77	543	7.4	8.1	0.9	0.7	1.3	1.3	2.2	2.1
14 Sep 78	298	5.4	8.3	0.7	0.7	0.3	0.3	1.0	1.0
Site No. 2 - Hammond River (Hanford Brook)									
24 Spe 74	274	49.6	51.5	0.7	0.7	12.0	11.9	12.8	12.5
25 Sep 75	281	24.9	26.4	8.5	8.3	4.6	4.7	13.2	12.9
7 Sep 76	277	41.9	44.3	3.6	3.7	7.2	7.1	10.8	10.6
11 Aug 77	268	30.7	35.7	8.5	8.5	8.5	10.9	17.0	18.0
14 Sep 78	314	22.9	26.1	3.5	3.6	3.8	4.0	7.3	7.6
Site No. 3 - Kennebecasis River (Penobsquis)									
24 Sep 68	399	1.8	1.8	0.0	0.0	2.3	2.3	2.3	2.3
8 Oct 69	570	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0
23 Sep 74	251	78.9	81.6	0.0	0.0	1.6	1.6	1.6	1.6
17 Sep 75	289	50.9	56.3	0.7	1.0	5.2	5.8	5.9	7.2
26 Aug 76	328	37.2	61.4	2.4	2.2	3.0	3.7	5.5	6.5
10 Aug 77	496	26.4	36.0	2.0	2.2	2.8	2.9	4.8	5.2
13 Sep 78	319	154.5	192.1	0.3	0.3	6.9	7.3	7.2	7.5
Note: Site not sampled in 1970-1973.									
Site No. 4 - Kennebecasis River (Goshen)									
19 Sep 74	359	8.6	9.8	0.0	0.0	3.6	3.6	3.6	3.6
17 Sep 75	420	29.5	39.4	2.4	2.4	7.1	7.7	9.5	9.5
26 Aug 76	331	21.8	30.5	1.5	1.7	6.6	6.5	8.2	8.2
12 Aug 77	277	14.6	19.9	3.2	3.2	6.4	7.4	9.6	10.4
13 Sep 78	348	2.9	3.5	0.0	0.0	0.3	0.3	0.3	0.3
Site No. 5 - Nerepis River (River George)									
12 Sep 74	300	21.7	23.1	0.0	0.0	6.3	6.7	6.3	6.7
5 Sep 75	382	4.2	4.2	0.8	0.8	7.1	7.2	7.8	7.9
13 Aug 76	693	3.2	4.0	0.1	0.1	1.4	2.4	1.6	1.6
5 Aug 77	410	10.0	10.9	1.9	2.0	3.9	5.3	5.9	6.9
Note: Site not sampled in 1978.									

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 6 - Nerepis River (Dunn Road)									
29 Aug 74	285	4.9	4.8	0.0	0.0	3.9	3.8	3.9	3.8
4 Sep 75	344	4.6	4.7	0.3	0.2	0.9	1.3	1.2	1.2
12 Aug 76	324	15.7	38.4	0.9	0.9	0.6	0.6	1.5	1.5
5 Aug 77	281	18.2	22.8	2.1	1.8	0.4	0.3	2.5	2.2
Note: Site not sampled in 1978.									
Site No. 7 - Belleisle Creek (Springfield)									
28 Aug 74	342	5.6	6.6	0.0	0.0	7.9	7.8	7.9	7.8
18 Sep 75	349	1.2	1.7	1.2	1.2	10.6	10.9	11.8	11.5
18 Aug 76	351	5.7	6.1	0.0	0.0	1.7	2.6	1.7	2.6
9 Aug 77	416	7.4	8.5	0.5	0.5	2.1	2.1	2.6	2.7
19 Sep 78	365	9.3	11.3	0.8	1.1	2.2	2.4	3.0	3.9
Site No. 8 - Canaan River (East Canaan)									
25 Sep 68	444	0.0	0.0	0.0	0.0	2.9	3.1	2.9	3.1
24 Sep 69	472	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4
27 Aug 76	347	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
10 Aug 77	500	1.4	1.6	0.4	0.4	0.0	0.0	0.4	0.4
Note: Site not sampled in 1978.									
Site No. 9 - Gaspereau River (Upper Gaspereau)									
18 Sep 74	227	54.2	62.7	4.4	4.6	15.4	15.2	19.8	19.8
12 Sep 75	252	45.6	46.6	4.8	4.9	4.8	5.0	9.5	9.8
23 Aug 76	251	1.2	1.2	0.0	0.0	0.4	0.4	0.4	0.4
29 Jul 77	373	0.0	0.0	1.1	3.0	0.5	0.7	1.6	0.7
8 Sep 78	214	9.4	13.5	0.0	0.0	0.0	0.0	0.0	0.0
Site No. 10 - Gaspereau River (below bridge on Route 123)									
3 Aug 76	234	0.9	3.1	0.0	0.0	0.9	0.9	0.9	0.9
29 Jul 77	274	0.0	0.0	0.4	0.4	0.4	0.0	0.7	0.3
Note: Site not sampled in 1978.									
Site No. 11 - Salmon River, Chipman (Big Forks Stream)									
18 Sep 74	227	54.2	62.7	4.4	4.6	15.4	15.3	19.8	19.8
11 Sep 75	242	37.6	42.6	0.4	0.5	5.8	6.0	6.2	6.3
24 Aug 76	285	20.7	25.0	1.4	1.4	1.8[1]	2.4[1]	3.2[1]	3.6[1]
28 Jul 77	258	35.7	35.4	5.0	4.9	1.2	1.6	6.2	6.0
22 Sep 78	252	36.5	48.2	3.2	3.0	5.6	8.3	8.7	9.3
[1]Hatchery stock included; actual count of hatchery large parr was 0.7 in 1976.									
Site No. 12 - Salmon River, Chipman (Little Forks Stream)									
17 Sep 74	354	4.8	5.0	0.0	0.0	3.7	3.8	3.7	3.8
10 Sep 75	378	1.6	1.7	0.5	0.5	2.6	2.6	3.2	3.1
4 Aug 76	245	17.1	17.9	3.3	3.3	6.9	7.4	10.2	10.5
28 Jul 77	255	33.7	36.0	1.2	0.9	2.0	0.0	3.1	9.1
Note: Site not sampled in 1978.									
Site No. 13 - Little River (Minto Highway)									
13 Sep 74	293	5.1	5.3	0.0	0.0	0.7	0.8	0.7	0.8
8 Aug 75	410	2.7	2.9	0.0	0.0	1.7	1.8	1.7	1.8
5 Aug 76	345	4.9	6.8	0.0	0.0	0.3	0.3	0.3	0.3
3 Aug 77	320	9.4	11.5	0.9	0.8	0.3	0.3	1.3	1.1
Note: Site not sampled in 1978.									

Date	Area of sampling site (m^2)	Number of fish per 100 m^2							
		Fry		Small parr		Large parr		Total parr	
		Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals	Actual counts	Calculated totals
Site No. 14 - Little River (Upper Little River)									
23 Aug 76	346	7.5	14.1	0.3	0.3	1.7	2.1	2.0	2.7
3 Aug 77	352	5.1	5.5	0.9	0.8	0.6	0.6	1.4	1.5
7 Sep 78	266	4.1	4.5	0.0	0.0	0.0	0.0	0.0	0.0

APPENDIX A

POPULATION DENSITIES OF SPECIES OTHER THAN ATLANTIC SALMON

All fish species other than Atlantic salmon were identified, and their densities were recorded by actual count per 100 m^2 for each sampling site. Common names are used in the data and reference to scientific names can be made by the use of the table below. Brook trout are listed as fry and postyearlings. Postyearlings include all brook trout beyond the fry stage. All data for other species include totals of all life stages from fry to adult. The absence of entries under certain years indicates those sites were not sampled.

Species captured during electrofishing

Common name	Scientific name
Atlantic salmon	*Salmo salar*
Brook (speckled) trout	*Salvelinus fontinalis*
Blacknose dace	*Rhinichthys atratulus*
Slimy sculpin	*Cottus cognatus*
White sucker	*Catostomus commersoni*
Longnose sucker	*Catostomus catostomus*
Lake chub	*Couesius plumbeus*
Fallfish	*Semotilus corporalis*
Burbot	*Lota lota*
Creek chub	*Semotilus atromaculatus*
Threespine stickleback	*Gasterosteus aculeatus*
Northern redbelly dace	*Chrosomus eos*
American eel	*Anguilla rostrata*
Lamprey	*Petromyzon marinus*
Common shiner	*Notropis cornutus*
Round whitefish	*Prosopium cylindraceum*

APPENDIX A

POPULATION DENSITIES OF SPECIES OTHER THAN ATLANTIC SALMON

Species	Numbers of fish per 100 m^2										
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
SALMON RIVER (GRAND FALLS) SYSTEM											
Site No. 1 Salmon River (Sutherland Brook)											
Brook trout											
Fry								0.0	0.2	1.7	1.2
Postyearling								2.4	0.5	1.0	0.8
Blacknose dace								0.4	0.2	0.0	0.0
Slimy sculpin								3.2	6.0	5.2	7.1
Lake chub								0.0	0.2	0.0	0.0
American eel								0.4	0.0	0.0	0.0
Burbot								0.0	0.0	0.0	0.4
Site No. 2 Salmon River (Above Simpson Brook)											
Brook trout											
Fry								0.0	2.9	0.8	0.8
Postyearling								17.0	2.6	2.5	3.1
Blacknose dace								2.6	2.6	0.3	0.3
Slimy sculpin								76.7	28.5	58.3	32.8
Site No. 3 Salmon River (Above Poitras Brook)											
Brook trout											
Fry								0.0	20.9	5.9	25.6
Postyearling								42.6	13.8	15.3	2.4
Blacknose dace								3.9	0.3	1.5	0.0
Slimy sculpin								156.7	51.4	68.8	86.0
Longnose sucker								0.0	3.4	0.0	0.0
TOBIQUE RIVER SYSTEM											
Site No. 1 Wapskehegan River (Wapske fyke-net site)											
Blacknose dace			27.2	97.5	95.8	44.8	40.6	58.7	71.1	74.0	13.9
Slimy sculpin			0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
White sucker			0.3	0.0	0.0	0.0	0.8	0.3	6.4	0.0	0.0
Longnose sucker			0.0	0.6	0.0	0.6	0.0	0.0	0.0	0.0	0.7
Burbot			0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.3
Creek chub			0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Threespine stickleback			0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.4	0.0
American eel			0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Common shiner			0.2	0.0	0.0	0.0	0.0	0.6	6.4	0.0	0.0
Site No. 2 Wapskehegan River (Wapske, bridge out)											
Brook trout											
Fry			1.6	0.7	1.3	0.0	0.0	37.2	0.0	2.6	2.8
Postyearling			0.0	0.2	0.2	0.0	0.6	0.0	0.0	0.3	0.0
Blacknose dace			13.0	10.6	10.6	4.2	7.3	1.6	6.3	89.9	9.4
Slimy sculpin			21.5	15.3	35.5	33.9	43.1	52.7	35.5	31.6	16.0
White sucker			0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Longnose sucker			0.0	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Lake chub			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Common shiner			0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0

Species	Numbers of fish per 100 m^2									
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Site No. 3 Wapskehegan River (Left Hand River de Chute)											
Brook trout											
Fry			1.1	0.7	0.7	0.0	0.0	0.0	0.0	0.3	0.9
Postyearling			6.8	4.8	1.0	3.3	5.1	2.8	3.8	5.6	5.7
Blacknose dace			4.7	5.1	1.0	0.3	1.5	1.4	0.6	1.5	0.3
Slimy sculpin			31.7	25.6	20.8	9.3	15.4	46.0	23.0	32.7	55.7
Longnose sucker			0.0	0.0	0.0	0.0	1.8	2.8	0.0	0.0	0.3
Round whitefish			0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Fallfish			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Site No. 4 Gulquac River (Gulquac)											
Brook trout											
Fry			0.4	0.4	0.8	0.0	0.4[1]	0.2[1]	0.0[1]	0.0	1.6
Postyearling			0.0	0.0	0.0	0.4	0.0[1]	0.1[1]	0.1[1]	0.0	0.0
Blacknose dace			40.2	23.8	55.6	19.7	14.5[1]	20.7[1]	14.5[1]	25.1	13.0
Slimy sculpin			13.4	24.9	2.2	1.1	4.1[1]	7.5[1]	4.1[1]	3.6	3.9
White sucker			0.0	0.0	0.0	0.0	0.6[1]	0.0[1]	0.0[1]	0.0	0.0
Burbot			0.0	0.0	0.0	0.0	0.0[1]	0.3[1]	0.3[1]	0.2	0.0
Threespine stickleback			1.6	0.4	0.0	0.0	0.0[1]	0.0[1]	0.0[1]	0.0	0.0
American eel			0.0	0.0	0.0	0.2	0.0[1]	0.0[1]	0.0[1]	0.0	0.0
[1]Sampling repeated - mean values shown.											
Site No. 5 Two Brooks (Right Two Brooks)											
Brook trout											
Fry			7.3	10.0	2.6	2.4	0.0[1]	0.3	0.9	0.0	9.1
Postyearling			5.8	3.8	4.2	2.1	0.9[1]	0.5	2.3	5.9	1.0
Blacknose dace			24.3	11.4	4.0	1.4	0.5[1]	3.0	2.1	8.4	7.8
Slimy sculpin			4.9	10.2	4.4	22.0	17.0[1]	56.0	15.3	9.0	3.9
Creek chub			0.0	0.2	0.0	0.0	0.0[1]	0.0	0.0	0.0	0.0
Threespine stickleback			1.1	0.2	0.0	0.0	0.0[1]	0.0	0.0	0.0	1.0
[1]Sampling repeated - mean values shown.											
Site No. 6 Campbell River (Nictau Bridge)											
Brook trout											
Fry	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.8
Postyearlings	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blacknose dace	38.0		39.1	62.4	26.4	19.9	13.2	26.4	23.7	30.3	23.3
Slimy sculpin	3.8		1.8	2.3	0.6	0.3	1.3	4.1	0.0	0.3	0.3
White sucker	1.9		0.7	2.1	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Longnose sucker	0.0		0.0	0.0	0.6	1.6	0.0	0.0	0.0	0.3	0.0
Lake chub	4.9		1.1	0.0	0.0	0.0	0.0	1.0	0.6	0.6	0.0
Fallfish	0.0		0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Burbot	0.0		0.0	0.0	0.0	0.0	0.3	1.3	0.3	0.0	0.3
Threespine stickleback	0.0		0.0	1.1	0.6	0.9	0.0	1.6	0.3	1.0	0.0
Common shiner	0.0		0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.5
Site No. 7 Campbell River (Campbell Landing)											
Brook trout											
Fry			0.0	0.4		0.0	0.0	0.7	0.0	0.0	0.0
Postyearling			0.3	0.0		0.0	0.0	1.4	0.0	0.0	0.0
Blacknose dace			11.1	7.5		4.1	0.6	1.4	4.3	5.2	14.5
Slimy sculpin			3.3	16.0		1.4	8.6	11.1	4.3	5.2	12.9
Longnose sucker			2.3	0.0		0.0	0.0	0.7	0.0	0.0	0.4
Lake chub			0.0	0.2		0.0	0.0	0.0	0.0	0.0	0.0
American eel			0.0	0.0		0.2	0.0	0.0	0.0	0.0	0.0
Common shiner			0.3	0.0		0.0	0.0	0.7	0.0	0.0	0.0
Threespine stickleback			0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.4

Species	Numbers of fish per 100 m²										
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Site No. 8 River Dee (Shingle Gulch)											
Brook trout											
Fry	0.0	0.0	0.9	0.5	1.9	0.6	0.0	0.0	0.0	0.0	3.3
Postyearling	1.6	2.6	1.6	0.8	0.0	0.8	0.7	4.0	5.1	0.9	1.8
Blacknose dace	6.6	6.9	4.9	10.5	11.8	8.9	4.3	9.1	9.3	1.8	2.8
Slimy sculpin	4.9	4.6	4.9	17.2	2.7	7.7	1.1	9.1	12.3	10.0	16.3
White sucker	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Longnose sucker	1.0	0.0	0.0	0.0	0.0	0.0	0.4	1.8	0.0	0.3	0.0
Lake chub	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Common shiner	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Site No. 9 Serpentine River (Hazelton Brook)											
Brook trout											
Fry			0.3	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.5
Postyearling			0.6	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.6
Blacknose dace			2.5	0.0	0.0	0.3	0.0	0.4	0.0	0.0	0.0
Slimy sculpin			5.2	37.4	9.6	24.9	29.5	44.4	34.7	45.0	36.2
White sucker			0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Longnose sucker			0.8	1.4	0.0	0.0	6.9	0.0	0.0	0.4	0.0
Site No. 10 Serpentine River (Anvil Brook)											
Brook trout											
Fry	1.4		0.8	1.1		0.0	0.0	0.0	0.0	1.6	2.8
Postyearling	0.0		1.5	1.5		0.0	0.0	0.3	0.3	0.5	0.3
Blacknose dace	0.7		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Slimy sculpin	16.6		7.2	9.2		6.9	3.0	8.2	5.4	11.6	4.0
White sucker	0.3		0.0	0.7		0.0	0.0	0.0	0.0	0.0	0.0
Longnose sucker	0.0		0.0	0.0		0.0	0.0	0.3	0.3	0.0	0.3
Site No. 11 Mamozekel River (Mamozekel Landing)											
Brook trout											
Fry			0.0	1.7	0.4	0.0	0.4	0.0	0.0	0.0	0.0
Postyearling			0.0	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.0
Blacknose dace			14.8	9.9	10.5	4.5	13.5	23.8	61.8	8.6	9.3
Slimy sculpin			57.5	19.6	74.5	11.8	63.1	79.0	33.3	27.7	64.1
White sucker			0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Longnose sucker			0.0	0.5	0.8	0.0	0.0	5.0	1.0	0.0	0.0
Lake chub			0.2	0.0	0.0	0.3	0.0	1.7	0.0	0.0	0.0
Burbot			0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Threespine stickleback			0.4	0.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Site No. 12 Mamozekel River (opposite Serpentine Road)											
Brook trout											
Fry			0.8	1.8	0.8	1.1	0.0	0.4	0.0	0.0	1.2
Postyearling			0.0	0.5	0.0	0.0	0.0	1.2	0.4	0.4	0.8
Blacknose dace			19.4	4.4	2.4	0.0	0.3	0.0	0.0	0.4	0.0
Slimy sculpin			73.9	39.4	34.3	29.1	17.2	51.0	17.5	29.2	59.0
White sucker			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Longnose sucker			0.0	2.8	0.8	0.0	0.0	2.0	0.0	0.0	0.0
Burbot			0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0

Species	Numbers of fish per 100 m²										
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Site No. 13 Mamozekel River (South Branch)											
Brook trout											
Fry	0.0	0.0	3.6	3.5	1.3	0.4	0.0	1.4	0.8[1]	3.8	5.3
Postyearling	0.0	0.0	2.0	2.8	0.4	0.9	0.0	0.0	0.2[1]	0.4	0.5
Blacknose dace	14.1	3.7	1.6	0.0	0.0	0.0	0.0	0.0	0.0[1]	0.0	0.0
Slimy sculpin	3.1	0.0	23.4	81.5	44.9	27.3	20.6	48.3	30.2[1]	45.8	43.8
White sucker	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0[1]	0.0	0.0
Lake chub	14.4	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0[1]	0.0	0.0
Burbot	0.9	0.0	0.8	0.4	0.0	0.0	0.0	0.5	0.5[1]	0.4	0.5
Threespine stickleback	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0[1]	0.0	0.0
Site No. 14 Little Tobique River (Pat's Crossing)											
Brook trout											
Fry	0.0		0.8	0.7	0.3	1.4	1.2	0.3	0.0	0.3	0.0
Postyearling	1.3		0.8	0.7	0.0	0.3	0.5	0.3	0.0	0.0	0.0
Blacknose dace	11.2		26.0	19.2	12.6	9.3	5.7	35.8	14.2	9.4	17.9
Slimy sculpin	2.8		0.8	2.8	1.2	2.8	4.7	7.8	5.8	1.3	24.7
White sucker	0.2		0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Longnose sucker	0.0		0.0	0.0	0.0	3.1	0.0	0.5	0.0	0.3	0.3
Burbot	0.2		0.0	0.0	0.0	0.3	0.0	0.0	0.3	1.3	0.0
Threespine stickleback	1.5		0.0	0.4	0.6	0.0	0.0	0.3	0.0	0.0	0.0
Site No. 15 Little Tobique River (above Lawson Brook)											
Brook trout											
Fry			0.0	0.6	1.4	0.6	0.0	0.4	0.0	0.0	3.7
Postyearling			0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.2	0.0
Blacknose dace			36.2	28.7	15.6	0.5	7.6	14.7	21.6	14.6	18.6
Slimy sculpin			0.5	0.0	0.0	0.0	0.0	0.0	0.0	9.3	1.5
White sucker			0.0	0.3	0.0	3.7	0.0	3.3	0.0	0.0	0.4
Longnose sucker			0.0	0.0	0.0	0.0	0.5	0.0	11.6	0.2	0.0
Lake chub			0.5	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.0
Burbot			1.6	3.2	1.1	2.0	1.3	1.2	3.0	0.0	0.0
Threespine stickleback			0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
American eel			0.0	0.3	0.0	0.0	0.3	1.2	0.4	0.0	0.0
SHIKATEHAWK RIVER SYSTEM											
Site No. 1 Shikatehawk River (Lockharts Mill)											
Brook trout											
Fry				0.0	0.0	0.0	1.8	0.0			
Postyearling				0.0	0.3	0.0	0.0	0.0			
Blacknose dace				4.6	2.6	1.6	2.1	4.5			
Slimy sculpin				0.8	1.6	3.5	2.9	2.8			
White sucker				0.0	0.7	0.0	0.0	0.4			
Longnose sucker				0.4	0.0	1.3	0.0	0.0			
Lake chub				0.4	0.0	0.6	0.3	2.0			
Burbot				0.4	0.0	0.0	0.0	0.4			
American eel				3.0	0.3	1.3	2.1	0.8			
Site No. 2 Shikatehawk River (Gordonsville)											
Brook trout											
Fry				0.0	0.4	0.0	0.0	0.0	0.0		
Postyearling				0.0	0.4	0.3	0.0	0.0	0.0		
Blacknose dace				9.0	20.2	0.3	0.0	0.0	18.3		
Slimy sculpin				7.8	8.0	2.0	16.3	12.6	0.4		
White sucker				0.4	0.0	0.0	0.0	0.0	0.8		
Longnose sucker				0.0	0.0	0.3	0.0	0.0	0.0		
American eel				1.2	1.1	0.3	0.0	0.0	0.0		

[1]Sampling repeated - mean values shown.

Species	Numbers of fish per 100 m²									
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Site No. 3 Shikatehawk River (West Glassville)											
Brook trout											
Fry				2.7	3.4	0.2	1.6	0.3	0.3		0.0
Postyearling				2.1	0.0	0.9	0.5	1.4	0.0		0.0
Blacknose dace				4.8	1.5	1.3	3.2	1.9	0.7		4.1
Slimy sculpin				9.3	9.5	2.6	4.1	7.0	6.3		3.1
Burbot				0.0	0.0	0.0	0.0	0.0	0.3		0.0
American eel				1.3	0.8	0.7	0.0	0.3	0.7		0.0
Site No. 4 Shikatehawk River (Centre Glassville)											
Brook trout											
Fry	0.0	0.0		5.5	1.1	2.9	0.6	0.0	0.0		
Postyearling	2.9	2.5		0.3	0.0	0.3	0.0	0.4	1.1		
Slimy sculpin	5.4	8.1		16.6	19.8	6.1	13.7	25.6	19.0		
American eel	7.5	0.7		0.9	0.0	0.3	0.3	0.0	0.6		
Site No. 5 Shikatehawk River (Kenneth)											
Brook trout											
Fry				29.6	6.4	6.9	0.0	5.8	6.0		
Postyearling				9.1	3.6	1.7	0.4	2.2	1.7		
Slimy sculpin				13.8	15.1	7.6	14.5	15.7	18.8		
American eel				1.6	0.8	0.3	1.3	0.4	0.0		
BECAGUIMEC RIVER SYSTEM											
Site No. 1 Coldstream (Bannon)											
Brook trout											
Fry	0.0	0.0		12.0	3.9	5.4	2.4	1.3	1.0	0.0	4.7
Postyearling	5.0	19.4		6.8	0.0	3.1	8.3	18.4	4.2	8.5	4.3
Blacknose dace	27.0	30.5		41.6	17.5	18.6	10.2	24.6	2.8	15.4	18.0
Slimy sculpin	7.9	12.9		24.2	9.0	15.5	14.2	16.7	15.3	15.8	22.8
White sucker	0.0	0.7		0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Lake chub	0.0	0.0		0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Burbot	0.7	0.0		0.0	0.4	0.8	0.4	0.9	0.0	0.0	0.4
American eel	2.9	0.0		0.7	0.0	0.8	0.8	0.0	0.0	0.8	0.0
Site No. 2 Coldstream (East Coldstream)											
Brook trout											
Fry				4.8	3.2	3.4	3.3	3.1[1]	0.0	1.2	2.1
Postyearling				0.3	0.0	0.0	1.1	2.2[1]	0.0	2.7	0.0
Blacknose dace				9.9	18.6	1.8	7.7	7.8[1]	8.6	11.2	12.8
Slimy sculpin				37.5	26.1	23.1	32.8	32.9[1]	51.1	26.1	50.5
White sucker				0.0	0.0	0.0	0.0	0.2[1]	0.0	0.0	0.0
Burbot				0.0	0.0	0.0	0.3	1.0[1]	0.6	0.3	1.2
American eel				1.0	0.5	0.3	0.3	0.0[1]	0.9	0.0	0.0
Lamprey				0.0	0.3	0.0	0.0	0.0[1]	0.0	0.0	0.0
Site No. 3 South Branch (County Line)											
Brook trout											
Fry				9.5	5.1	1.6	5.4	0.0	0.0	4.6	5.3
Postyearling				5.3	2.4	0.3	0.7	3.6	0.8	0.3	0.0
Blacknose dace				61.2	23.9	12.3	25.2	42.7	15.2	38.0	11.2
Slimy sculpin				5.3	4.7	19.3	13.3	12.2	17.5	9.7	34.6
Burbot				8.0	3.9	1.3	1.1	3.0	0.5	0.6	1.6
American eel				1.5	0.8	0.6	0.0	1.0	0.5	0.0	0.0
Lamprey				9.5	16.9	0.0	0.4	0.0	0.0	0.0	0.0

[1]Sampling repeated - mean values shown.

Species	Numbers of fish per 100 m²									
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Site No. 4 North Branch (Cloverdale)											
Brook trout											
Fry	0.0	0.0		0.0	0.0	0.0	0.2[1]	0.2	0.4	0.0	0.0
Blacknose dace	37.1	51.6		128.1	58.4	19.0	48.5[1]	62.6	22.9	26.5	39.3
Slimy sculpin	0.2	0.0		1.0	0.3	0.3	0.5[1]	1.0	0.4	0.7	0.2
White sucker	0.0	0.0		0.0	0.0	0.0	0.0[1]	2.3	0.0	0.0	0.0
Longnose sucker	1.0	0.0		0.0	0.5	0.0	0.0[1]	0.0	0.0	0.0	0.0
Lake chub	0.0	0.0		0.3	0.0	0.0	0.1[1]	0.0	0.0	0.0	0.0
Burbot	0.5	2.2		0.0	0.5	0.6	1.3[1]	1.3	0.6	1.2	1.2
American eel	1.5	1.4		0.3	0.0	0.3	0.5[1]	1.8	0.0	0.0	0.5
Lamprey	0.0	0.0		0.0	0.0	0.0	0.0[1]	0.0	0.0	0.0	0.2
[1]Sampling repeated - mean values shown.											
Site No. 5 North Branch (Carlisle)											
Brook trout											
Fry				0.7	2.0	0.0	0.0	0.0	0.5	1.8	0.3
Postyearling				0.4	1.7	0.0	0.7	0.0	0.7	0.0	0.0
Blacknose dace				77.7	25.5	36.9	32.8	32.7	20.5	15.0	34.2
Slimy sculpin				2.9	3.1	3.1	5.5	0.2	3.3	2.5	4.7
Burbot				0.4	0.6	0.3	0.7	1.1	0.2	1.0	2.2
American eel				1.4	0.0	0.3	1.6	0.8	0.0	0.5	0.0
NACKAWIC RIVER SYSTEM											
Site No. 1 Northeast Nackawic River (Upper Caverhill)											
Brook trout											
Fry								0.0	0.0	0.9	0.0
Blacknose dace								36.3	10.6	13.9	106.6
Longnose sucker								0.0	0.3	0.9	0.0
American eel								0.6	0.0	1.8	0.9
Common shiner								0.0	0.0	8.5	0.0
Site No. 2 Northeast Nackawic River (Millville)											
Brook trout											
Fry					0.2		0.3	0.0	0.0	1.3	
Postyearling					0.2		0.3	0.0	0.5	0.3	
Blacknose dace					6.0		48.7	39.6	27.5	69.2	
White sucker					0.7		0.3	0.0	0.5	0.0	
Longnose sucker					0.0		0.0	1.9	0.0	0.3	
Lake chub					0.0		2.3	10.4	8.5	2.1	
American eel					0.0		0.0	0.0	0.0	0.3	
Common shiner					0.0		3.7	0.0	0.0	21.3	
Site No. 3 Nackawic Main Stream (Temperence Vale)											
Blacknose dace		75.7									
Lake chub		4.4									
Fallfish		2.9									
American eel		5.9									
Site No. 4 Nackawic Main Stream (Norton Dale)											
Brook trout											
Postyearling		0.6									
Blacknose dace		59.5									
White sucker		1.7									
Lake chub		37.4									
American eel		3.0									

Species	Numbers of fish per 100 m²										
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
KESWICK RIVER SYSTEM											
Site No. 1 Jones Forks (Jones Forks)											
Brook trout											
Fry	0.0	0.0		5.8	1.6	0.0	1.9	0.8	0.0		
Postyearling	2.3	2.5		2.0	0.3	0.0	0.0	0.0	0.0		
Blacknose dace	134.3	44.8		31.5	49.1	86.4	41.1	41.7	18.1		
Slimy sculpin	3.1	39.5		30.4	20.1	21.7	35.5	16.7	18.8		
Longnose sucker	0.0	0.0		0.0	2.1	0.0	0.0	0.0	0.0		
Lake chub	0.3	3.4		0.0	0.0	0.0	0.0	0.0	0.0		
Burbot	0.0	0.9		3.5	0.0	0.0	4.2	4.4	3.7		
Threespine stickleback	0.3	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
American eel	17.8	7.9		5.8	8.1	10.0	27.6	19.1	15.3		
Site No. 2 Keswick River (Zealand Station)											
Brook trout											
Fry	0.0	0.0		0.0	0.4	0.0	0.0	0.0	0.0		
Postyearling	0.0	5.6		0.0	0.0	0.0	0.0	0.0	0.0		
Blacknose dace	16.7	27.3		20.5	30.4	41.6	20.2	37.8	6.7		
Slimy sculpin	0.3	0.0		0.7	0.4	0.0	0.0	0.0	0.0		
White sucker	0.6	0.3		0.0	0.0	0.0	0.4	0.0	0.0		
Lake chub	2.8	5.6		2.4	0.0	0.8	0.4	0.0	0.0		
Burbot	0.6	0.9		0.0	0.4	2.7	1.1	0.7	0.2		
Threespine stickleback	0.0	0.3		0.0	0.0	0.0	0.0	0.0	0.0		
American eel	16.4	8.5		27.6	25.0	25.7	28.7	9.3	7.9		
Lamprey	0.3	0.0		0.0	0.0	0.0	0.7	0.0	0.2		
Common shiner	0.0	0.0		0.0	0.0	0.0	0.0	1.5	0.0		
Site No. 3 Keswick River (Stoneridge)											
Brook trout											
Fry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0		
Postyearling	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3		
Blacknose dace	16.9	17.2	10.9	50.5	26.8	11.6	27.5	9.1	12.4		
White sucker	0.0	0.0	0.0	3.2	0.0	0.0	0.8	0.0	0.0		
Lake chub	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0		
Brubot	0.0	0.3	0.3	0.4	0.0	1.0	1.4	0.6	0.7		
American eel	4.7	9.9	1.7	9.3	7.4	7.8	14.6	12.5	10.8		
Lamprey	0.0	1.4	0.3	0.0	0.0	0.3	0.0	0.0	0.0		
Common shiner	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0		
Site No. 4 Keswick River (Hayne)											
Brook trout											
Fry	0.0	0.0		1.8	1.6	0.0	0.5	0.0	0.0		
Postyearling	5.4	0.5		0.0	0.0	0.0	0.5	1.2	0.0		
Blacknose dace	31.9	6.9		22.2	12.9	5.2	7.6	4.4	13.1		
Lake chub	0.0	0.5		0.0	0.0	0.0	0.0	0.0	0.4		
Burbot	0.0	0.0		0.4	0.0	0.0	0.0	0.4	1.5		
American eel	4.8	2.7		5.7	2.8	4.2	25.7	7.6	11.3		
Lamprey	0.6	0.0		0.0	0.0	0.0	0.0	0.0	0.7		
Site No. 5 Keswick River (Barton)											
Brook trout											
Postyearling	1.9	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Blacknose dace	17.8	36.4	17.5	24.0	9.6	6.0	17.3	24.8	1.2		
Slimy sculpin	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0		
White sucker	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0		
Burbot	0.0	0.0	0.3	0.0	0.0	0.2	0.2	0.6	0.6		
American eel	3.7	8.5	2.4	3.2	1.6	8.5	10.3	18.1	19.2		
Lamprey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6		

Species	Numbers of fish per 100 m²									
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
NASHWAAK RIVER SYSTEM											
Site No. 1 Penniac Stream (Penniac)											
Brook trout											
Fry				0.0	0.8	0.7	0.0	0.0	0.0	0.1	0.4
Postyearling				0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Blacknose dace				50.1	55.5	14.5	41.1	18.3	23.0	21.8	6.6
Slimy sculpin				0.3	1.1	0.0	0.0	0.4	0.0	0.0	0.1
White sucker				1.7	0.0	0.0	7.0	0.0	0.6	0.0	0.0
Longnose sucker				0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1
Burbot				0.3	0.0	0.0	0.0	0.6	0.4	0.3	0.0
American eel				5.7	8.2	2.8	31.8	9.5	9.2	12.8	1.8
Lamprey				0.8	0.0	0.7	0.5	0.0	0.6	1.5	0.9
Common shiner				0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Lake chub				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Site No. 2 Main Nashwaak River (Above Durham Bridge)											
Blacknose dace	25.8	17.3		11.6	3.5	8.9	11.3[1]	22.6	9.4	5.1	14.2
Lake chub	0.0	13.2		2.7	0.0	0.0	0.0[1]	0.0	0.0	0.0	2.1
Fallfish	0.0	0.0		0.0	0.0	0.0	1.2[1]	0.0	0.0	0.0	0.0
Creek chub	61.0	0.0		0.0	0.0	0.0	0.0[1]	0.0	0.0	0.0	0.0
American eel	0.0	2.0		6.8	6.4	10.1	8.5[1]	6.5	8.3	11.7	12.4
Lamprey	0.3	1.0		0.0	0.0	0.0	0.0[1]	0.0	0.3	0.0	0.0
Common shiner	0.0	0.0		0.0	0.0	2.6	2.6[1]	10.6	1.4	2.2	0.0
[1]Sampling repeated - mean values shown.											
Site No. 3 Tay River (Tay River)											
Brook trout											
Fry		0.0	0.0	0.5	0.0	0.0	0.0[1]	0.0	0.0[1]	0.3	0.0
Postyearling		0.3	0.0	2.1	2.4	0.4	0.2[1]	0.0	0.0[1]	0.0	0.7
Blacknose dace		67.1	31.2	31.1	65.8	30.5	30.0[1]	28.9	27.4[1]	5.3	25.2
Slimy sculpin		0.3	0.0	0.0	0.4	0.0	0.0[1]	0.0	0.3[1]	0.0	0.0
White sucker		0.0	0.2	0.3	0.0	0.0	0.4[1]	0.0	0.0[1]	0.0	0.0
Lake chub		0.9	1.9	0.0	0.0	0.0	0.0[1]	0.0	0.0[1]	0.0	0.0
Fallfish		0.0	0.0	0.0	0.0	0.0	0.0[1]	0.0	0.4[1]	0.0	0.0
American eel		7.0	2.8	2.1	5.9	13.4	8.1[1]	14.1	16.6[1]	8.2	5.5
Lamprey		0.3	0.0	0.0	0.0	0.0	0.0[1]	0.0	0.0[1]	0.5	0.0
Common shiner		0.0	0.0	0.0	0.0	0.0	0.4[1]	0.0	0.0[1]	0.0	0.7
[1]Sampling repeated - mean values shown.											
Site No. 4 McKenzie Brook (McKenzie Brook)											
Brook trout											
Fry		0.0		0.8	0.8	0.4	0.0	0.0	0.0	0.0	
Postyearling		0.0		0.0	0.0	2.5	0.3	0.0	0.0	0.0	
Blacknose dace		64.1		31.0	49.0	11.8	42.9	47.3	7.0	32.8	
Slimy sculpin		13.1		6.7	5.5	5.1	7.2	5.0	0.2	0.0	
White sucker		0.0		4.8	0.0	0.0	0.0	0.0	0.0	0.0	
Longnose sucker		0.0		0.0	9.3	5.9	85.8	17.1	0.0	1.3	
American eel		1.9		1.9	2.1	3.0	3.1	5.3	1.4	7.2	
Lamprey		0.0		0.0	1.3	0.0	0.6	6.4	0.8	1.6	
Common shiner		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.3	

Species	Numbers of fish per 100 m²									
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Site No. 5 Main Nashwaak River (above Nashwaak Bridge)											
Brook trout											
Fry		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Postyearling		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Blacknose dace		28.7	26.2	32.7	15.5	21.2	26.5	24.4	12.5	24.0	16.8
White sucker		0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0
Longnose sucker		0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.4	0.0
Lake chub		2.4	13.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0	2.5
Burbot		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
American eel		5.4	1.3	4.0	4.0	6.2	8.5	4.9	13.2	9.2	14.6
Lamprey		0.0	0.0	0.4	0.0	0.0	0.0	0.3	0.0	0.4	0.7
Common shiner		0.0	0.0	0.0	3.6	0.8	0.7	7.3	0.0	7.2	0.7
Site No. 6 Cross Creek (Cross Creek)											
Blacknose dace		51.8		29.0	24.1	5.6	22.1	49.6	34.0	11.8	
Slimy sculpin		0.0		0.0	0.0	0.3	0.8	0.0	0.0	0.0	
White sucker		2.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Longnose sucker		0.0		0.0	0.3	0.0	0.0	0.0	0.0	0.0	
Lake chub		0.0		5.1	0.0	0.0	0.0	0.0	0.0	0.0	
Burbot		0.0		0.6	0.6	0.0	0.0	0.7	0.0	0.5	
Threespine stickleback		0.0		0.2	0.0	0.0	0.0	0.0	0.0	0.0	
American eel		10.0		1.3	7.5	11.6	7.9	34.1	17.0	6.9	
Lamprey		0.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Common shiner		0.0		0.0	0.0	0.0	0.8	10.4	0.4	0.0	
Site No. 7 Main Nashwaak River (below Stanley)											
Blacknose dace	14.9	29.3		12.0	8.4	5.2	16.3	25.2	4.7	10.6	4.7
Slimy sculpin	0.0	0.0		0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
White sucker	0.0	0.0		0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lake chub	0.0	6.2		8.4	0.0	0.0	0.0	0.0	0.0	0.0	4.7
Fallfish	0.0	0.0		0.4	0.0	0.0	1.2	0.0	0.0	0.0	0.0
Burbot	0.0	0.0		0.0	0.0	0.0	0.0	0.7	0.4	1.2	0.0
Creek chub	4.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
American eel	0.0	2.3		0.4	1.2	0.8	3.9	4.0	5.8	8.5	6.7
Common shiner	0.0	0.0		0.0	0.8	0.0	6.6	17.5	0.4	3.2	0.0
Lamprey	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Site No. 8 Main Nashwaak River (above Stanley)											
Brook trout											
Fry	0.0	0.0		0.4	0.4	0.0	0.0	0.0	0.0[1]	0.0	0.0
Postyearling	1.7	0.8		0.0	0.0	0.0	0.4	0.0	0.0[1]	0.0	0.0
Blacknose dace	49.3	58.6		3.5	7.0	9.0	35.2	96.2	6.7[1]	4.7	32.9
White sucker	0.0	0.4		0.0	0.0	0.0	16.1	0.0	0.0[1]	0.0	0.0
Longnose sucker	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.5[1]	0.0	0.0
Lake chub	0.0	0.0		1.2	0.0	0.0	0.0	0.0	0.0[1]	0.0	5.9
Creek chub	1.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0[1]	0.0	0.0
American eel	4.8	0.8		2.3	0.0	1.8	3.0	4.6	3.9[1]	1.1	13.5
Lamprey	0.0	0.0		0.0	0.8	0.0	0.8	0.8	2.2[1]	10.2	2.4
Common shiner	0.0	0.0		0.0	0.4	0.0	60.2	76.0	1.4[1]	0.4	2.9

[1]Sampling repeated - mean values shown.

Site No. 8A Main Nashwaak River (below McBean Brook)

Blacknose dace	9.4
Longnose sucker	6.2
Fallfish	1.1
American eel	0.7
Lamprey	12.0
Common shiner	0.7

Species	Numbers of fish per 100 m²									
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Site No. 8B Main Nashwaak River (above McBean Brook)											
Brook trout											
Postyearling							0.3				
Blacknose dace							9.2				
Slimy sculpin							0.9				
Lamprey							4.3				
Common shiner							6.4				
Site No. 9 Main Nashwaak River (Cedar Bridge)											
Brook trout											
Fry		0.0		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Postyearling		0.0		0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Blacknose dace		46.0		7.8	7.4	17.6	2.6	31.8	7.3	4.4	7.4
White sucker		0.0		0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Longnose sucker		0.0		0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
American eel		3.9		1.5	0.9	4.8	4.9	4.8	6.6	9.1	2.9
Lamprey		0.4		0.2	0.0	0.6	0.0	1.0	0.0	1.5	1.0
Common shiner		1.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Site No. 10 Main Nashwaak River (Doughboy Brook)											
Brook trout											
Fry		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Postyearling		0.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blacknose dace		27.4		29.2	19.1	12.8	8.9	23.8	6.3	5.2	13.8
Slimy sculpin		0.4		0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.2
White sucker		0.0		0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Longnose sucker		0.0		0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Lake chub		0.0		0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
American eel		0.0		1.8	4.4	2.2	5.7	8.1	10.4	2.7	2.3
Lamprey		0.2		0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2
Common shiner		0.0		0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
Site No. 10A Main Nashwaak River (below Gorby Gulch)											
Brook trout											
Postyearling							1.1				
Blacknose dace							3.8				
American eel							3.0				
TRIBUTARIES BELOW THE NASHWAAK RIVER SYSTEM											
Site No. 1 Hammond River (Smithtown)											
Blacknose dace							44.4	17.7	39.1	19.3	10.7
Longnose sucker							0.3	0.0	0.0	0.0	0.0
Lake chub							0.0	0.0	0.5	0.0	0.0
American eel							8.9	6.5	4.2	2.4	4.4
Common shiner							39.2	12.6	0.0	0.9	1.7
White sucker							0.0	0.0	0.0	0.0	0.3
Site No. 2 Hammond River (Hanford Brook)											
Brook trout											
Fry							0.4	0.4	0.0	0.0	0.0
Blacknose dace							12.0	22.8	16.6	51.1	19.1
White sucker							0.4	0.4	0.0	0.0	1.3
Longnose sucker							0.0	0.0	0.4	0.0	0.0
Fallfish							0.0	0.0	0.0	1.9	0.0
Northern redbelly dace							3.3	0.0	0.0	0.0	0.0
American eel							0.0	3.6	19.5	22.6	8.0
Lamprey							0.0	0.0	0.4	2.6	0.6
Common shiner							0.0	0.0	0.0	0.0	1.9

Species	Numbers of fish per 100 m²										
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Site No. 3 Kennebecasis River (Penobsquis)											
Brook trout											
Fry	0.0	0.0					2.0	1.0	0.0	1.0	5.6
Postyearling	1.8	3.0					3.2	0.3	0.9	0.0	5.3
Blacknose dace	45.6	11.6					2.8	5.2	11.6	7.0	21.0
Slimy sculpin	0.8	0.0					7.6	5.2	9.1	4.2	7.8
White sucker	1.2	0.0					0.0	0.0	0.0	0.0	0.0
Lake chub	6.0	6.7					0.0	12.1	4.6	0.4	5.0
Burbot	0.2	0.0					0.0	0.0	0.0	0.0	0.0
Threespine stickleback	0.0	0.0					0.8	0.0	0.0	0.0	0.9
American eel	9.8	1.2					1.2	1.7	11.9	10.6	6.0
Lamprey	0.5	0.0					0.0	0.0	0.0	0.0	0.0
Common shiner	0.0	0.0					0.0	0.0	0.0	0.0	0.9
Fallfish	0.0	0.0					0.0	0.0	0.0	0.0	0.3
Site No. 4 Kennebecasis River (Goshen)											
Brook trout											
Fry							4.7	4.0	0.0	1.4	0.0
Postyearling							2.5	1.8	2.1	0.0	0.6
Blacknose dace							26.5	12.4	1.8	13.2	4.6
Slimy sculpin							14.5	25.0	31.1	25.7	0.3
White sucker							0.0	0.2	0.0	0.0	0.3
American eel							0.3	0.5	1.5	2.1	0.9
Lamprey							0.3	0.2	0.0	0.0	0.0
Site No. 5 Nerepis River (River George)											
Brook trout											
Postyearling							0.0	0.3	0.0	0.0	
Blacknose dace							39.3	27.7	22.4	58.1	
Slimy sculpin							0.7	0.0	0.0	0.0	
White sucker							9.3	0.0	0.0	0.0	
Longnose sucker							0.0	5.8	0.7	0.0	
Lake chub							1.0	0.0	0.0	0.0	
Fallfish							0.0	0.0	1.6	1.5	
American eel							20.0	18.8	5.2	22.2	
Lamprey							6.7	0.0	0.0	1.5	
Common shiner							51.0	50.3	5.1	7.8	
Site No. 6 Nerepis River (Dunn Road)											
Blacknose dace							75.8	18.0	27.8	22.5	
White sucker							8.1	0.0	0.0	0.0	
Longnose sucker							0.0	5.2	0.0	0.0	
Fallfish							0.0	0.0	0.9	0.0	
Burbot							0.4	0.0	0.0	0.0	
American eel							23.9	13.1	14.8	19.3	
Lamprey							10.2	0.0	6.5	0.0	
Common shiner							83.9	27.6	25.9	33.2	
Site No. 7 Belleisle Creek (Springfield)											
Blacknose dace							24.6	42.7	36.5	28.6	29.9
White sucker							0.6	1.7	0.0	0.0	7.9
Fallfish							0.0	0.0	0.3	1.0	0.5
American eel							64.3	14.0	34.2	29.8	13.7
Lamprey							0.0	0.0	0.6	0.2	0.5
Common shiner							0.0	7.4	1.7	2.4	27.9
Lake chub							0.0	0.0	0.0	0.0	0.5

Species	Numbers of fish per 100 m²										
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Site No. 8 Canaan River (East Canaan)											
Blacknose dace							17.3	15.5	4.3	6.4	
Slimy sculpin							0.0	0.0	0.6	0.6	
American eel							10.6	8.3	15.9	15.2	
Lamprey							0.7	0.4	0.0	0.6	
Common shiner							36.3	18.0	17.0	11.8	
Site No. 9 Gaspereau River (Upper Gaspereau)											
Blacknose dace							0.9	2.8	32.7	31.4	33.2
Slimy sculpin							7.9	0.0	0.0	0.0	0.0
Burbot							0.0	0.0	0.0	0.3	0.0
American eel							0.0	1.6	12.7	11.9	1.4
Lamprey							0.9	0.0	0.0	0.0	0.0
Common shiner							0.0	0.0	2.0	3.0	2.3
Longnose sucker							0.0	0.0	0.0	0.0	0.5
Lake chub							0.0	0.0	0.0	0.0	2.8
Site No. 10 Gaspereau River (below bridge on Route 123)											
Blacknose dace									11.5	31.1	
Fallfish									0.4	0.7	
American eel									2.1	8.5	
Lamprey									0.0	0.4	
Site No. 11 Salmon River - Chipman (Big Forks Stream)											
Blacknose dace							1.3	2.5	1.8	1.6	6.0
Slimy sculpin							0.4	1.2	2.5	1.6	0.4
American eel							0.8	3.7	4.6	20.2	6.7
Lamprey							1.7	0.4	1.1	9.3	0.4
Common shiner							0.4	0.0	0.0	0.0	0.4
Site No. 12 Salmon River - Chipman (Little Forks Stream)											
Brook trout											
Fry							0.0	0.0	0.0	0.4	
Blacknose dace							53.4	28.6	4.9	4.3	
Slimy sculpin							0.0	0.0	1.6	3.1	
Longnose sucker							0.3	0.0	0.0	0.0	
Lake chub							0.0	0.0	0.4	0.0	
Threespine stickleback							0.0	0.0	0.4	0.0	
American eel							4.2	5.8	8.2	15.7	
Lamprey							0.0	0.0	4.9	6.3	
Common shiner							7.9	2.4	0.0	0.0	
Site No. 13 Little River (Minto Highway)											
Blacknose dace							27.6	14.1	13.0	25.0	
Lake chub							0.3	5.1	0.0	0.0	
Burbot							0.0	0.0	0.6	0.9	
American eel							18.8	2.2	31.6	30.0	
Common shiner							21.2	6.3	1.2	1.6	
Site No. 14 Little River (Upper Little River)											
Blacknose dace									17.1	14.3	31.2
Burbot									0.3	0.0	0.0
American eel									19.1	17.4	9.8
Lamprey									0.3	0.0	0.0
Common shiner									4.3	1.4	10.5

APPENDIX B

AGE-LENGTH FREQUENCY DISTRIBUTION OF SALMON PARR

A representative sample of salmon parr was collected from each tributary, with the exception of the tributaries below the Nashwaak River. Results are recorded from one representative sample taken from all tributaries below the Nashwaak River. All fish in the sample were measured (fork-length) in centimeters and a scale sample was collected for age determination. The following data show the numbers and percentages of parr in each sample according to age and length classes. Mean lengths are also shown for each age class.

APPENDIX B

AGE-LENGTH FREQUENCY DISTRIBUTION OF SALMON PARR

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
SALMON RIVER (GRAND FALLS) SYSTEM					
1975					
11.0-11.9	1	0	0	1	25.0
12.0-12.9	0	0	0	0	0.0
13.0-13.9	0	0	0	0	0.0
14.0-14.9	0	1	0	1	25.0
15.0-15.9	0	1	0	1	25.0
16.0-16.9	0	1	0	1	25.0
Total	1	3	0	4	100.0
Percent	25.0	75.0	0.0		
Mean length(cm)	11.9	15.6	0.0		
1976					
11.0-11.9	2	0	0	2	28.6
12.0-12.9	1	2	0	3	42.8
13.0-13.9	0	0	0	0	0.0
14.0-14.9	0	2	0	2	28.6
Total	3	4	0	7	100.0
Percent	42.9	57.1	0.0		
Mean length(cm)	11.5	13.2	0.0		
1977					
9.0-9.9	2	0	0	2	33.3
10.0-10.9	4	0	0	4	66.7
Total	6	0	0	6	100.0
Percent	100.0	0.0	0.0		
Mean length(cm)	10.2	0.0	0.0		
1978					
9.0-9.9	3	1	0	4	80.0
10.0-10.9	1	0	0	1	20.0
Total	4	1	0	5	100.0
Percent	80.0	20.0	0.0		
Mean length(cm)	9.7	9.6	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
TOBIQUE RIVER SYSTEM					
1968					
7.0-7.9	14	0	0	14	7.0
8.0-8.9	20	0	0	20	10.0
9.0-9.9	11	0	0	11	5.5
10.0-10.9	0	27	0	27	13.4
11.0-11.9	0	26	0	26	12.9
12.0-12.9	0	25	0	25	12.4
13.0-13.9	0	26	0	26	12.9
14.0-14.9	0	32	0	32	15.9
15.0-15.9	0	14	0	14	7.0
16.0-16.9	0	4	0	4	2.0
17.0-17.9	0	2	0	2	1.0
Total	45	156	0	201	100.0
Percent	22.4	77.6	0.0		
Mean length(cm)	8.0	12.5	0.0		
1969					
11.0-11.9	0	1	0	1	16.7
12.0-12.9	0	2	0	2	33.3
13.0-13.9	0	3	0	3	50.0
Total	0	6	0	6	100.0
Percent	0.0	100.0	0.0		
Mean length(cm)	0.0	12.4	0.0		
1970					
9.0-9.9	6	0	0	6	15.0
10.0-10.9	6	0	0	6	15.0
11.0-11.9	4	0	0	4	10.0
12.0-12.9	2	2	0	4	10.0
13.0-13.9	1	5	0	6	15.0
14.0-14.9	1	6	0	7	17.5
15.0-15.9	0	4	0	4	10.0
16.0-16.9	0	1	0	1	2.5
17.0-17.9	0	2	0	2	5.0
Total	20	20	0	40	100.0
Percent	50.0	50.0	0.0		
Mean length(cm)	10.8	13.6	0.0		
1971					
8.0-8.9	8	0	0	8	7.1
9.0-9.9	53	0	0	53	46.9
10.0-10.9	31	0	0	31	27.4
11.0-11.9	11	1	0	12	10.6
12.0-12.9	1	2	0	3	2.6
13.0-13.9	0	2	0	2	1.8
14.0-14.9	0	1	0	1	0.9
15.0-15.9	0	1	0	1	0.9
16.0-16.9	0	1	0	1	0.9
17.0-17.9	0	0	0	0	0.0
18.0-18.9	0	0	1	1	0.9
Total	104	8	1	113	100.0
Percent	92.0	7.1	0.9		
Mean length(cm)	9.9	13.7	18.5		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
1972					
7.0-7.9	2	0	0	2	2.8
8.0-8.9	11	0	0	11	15.5
9.0-9.9	24	0	0	24	33.8
10.0-10.9	23	0	0	23	32.4
11.0-11.9	4	0	0	4	5.6
12.0-12.9	0	2	0	2	2.8
13.0-13.9	0	1	0	1	1.4
14.0-14.9	1	1	0	2	2.8
15.0-15.9	0	2	0	2	2.8
Total	65	6	0	71	99.9
Percent	91.5	8.5	0.0		
Mean length	9.8	13.9	0.0		
1973					
8.0-8.9	5	0	0	5	3.3
9.0-9.9	45	0	0	45	30.0
10.0-10.9	47	1	0	48	32.0
11.0-11.9	27	0	0	27	18.0
12.0-12.9	7	3	0	10	6.7
13.0-13.9	0	5	0	5	3.3
14.0-14.9	0	3	0	3	2.0
15.0-15.9	1	4	0	5	3.3
16.0-16.9	0	2	0	2	1.3
Total	132	18	0	150	99.9
Percent	88.0	12.0	0.0		
Mean length	10.0	13.6	0.0		
1974					
6.0-6.9	5	0	0	5	2.4
7.0-7.9	21	0	0	21	10.1
8.0-8.9	55	0	0	55	26.4
9.0-9.9	55	0	0	55	26.4
10.0-10.9	36	0	0	36	17.3
11.0-11.9	15	0	0	15	7.2
12.0-12.9	2	7	0	9	4.3
13.0-13.9	0	5	0	5	2.4
14.0-14.9	0	6	0	6	3.0
15.0-15.9	0	1	0	1	0.5
Total	189	19	0	208	100.0
Percent	90.9	9.1	0.0		
Mean length	8.8	13.1	0.0		
1975					
7.0-7.9	1	0	0	1	3.1
8.0-8.9	9	0	0	9	28.1
9.0-9.9	9	0	0	9	28.1
10.0-10.9	0	0	0	0	0.0
11.0-11.9	0	0	0	0	0.0
12.0-12.9	0	5	0	5	15.7
13.0-13.9	0	7	0	7	21.9
14.0-14.9	0	1	0	1	3.1
Total	19	13	0	32	100.0
Percent	59.4	40.6	0.0		
Mean length	8.8	13.1	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
1976					
8.0-8.9	2	0	0	2	7.4
9.0-9.9	4	1	0	5	18.5
10.0-10.9	1	2	0	3	11.1
11.0-11.9	1	2	0	3	11.1
12.0-12.9	1	2	0	3	11.1
13.0-13.9	0	5	0	5	18.5
14.0-14.9	1	3	0	4	14.8
15.0-15.9	0	1	0	1	3.7
16.0-16.9	0	0	1	1	3.7
Total	10	16	1	27	100.0
Percent	37.0	59.3	3.7		
Mean length	10.2	12.7	16.3		
1977					
7.0-7.9	2	0	0	2	6.9
8.0-8.9	3	0	0	3	10.3
9.0-9.9	1	0	0	1	3.4
10.0-10.9	8	0	0	8	27.6
11.0-11.9	4	0	0	4	13.8
12.0-12.9	2	1	0	3	10.3
13.0-13.9	0	4	0	4	13.8
14.0-14.9	0	4	0	4	13.8
Total	20	9	0	29	99.9
Percent	69.0	31.0	0.0		
Mean length	10.2	13.8	0.0		
1978					
8.0-8.9	1	0	0	1	5.6
9.0-9.9	3	1	0	4	22.2
10.0-10.9	1	1	0	2	11.1
11.0-11.9	0	5	0	5	27.8
12.0-12.9	0	3	0	3	16.6
13.0-13.9	0	2	0	2	11.1
14.0-14.9	0	1	0	1	5.6
Total	5	13	0	18	100.0
Percent	27.8	72.2	0.0		
Mean length	9.5	12.0	0.0		
SHIKATEHAWK RIVER SYSTEM					
1968					
8.0-8.9	3	0	0	3	8.5
9.0-9.9	8	0	0	8	22.9
10.0-10.9	0	8	0	8	22.9
11.0-11.9	0	2	0	2	5.7
12.0-12.9	0	5	0	5	14.3
13.0-13.9	0	8	0	8	22.9
14.0-14.9	0	1	0	1	2.8
Total	11	24	0	35	100.0
Percent	31.4	68.6	0.0		
Mean length	8.8	11.7	0.0		
1969					
14.0-14.9	0	1	0	1	33.3
15.0-15.9	0	0	0	0	0.0
16.0-16.9	0	0	0	0	0.0
17.0-17.9	0	2	0	2	66.7
Total	0	3	0	3	100.0
Percent	0.0	100.0	0.0		
Mean length	0.0	16.1	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
1971					
9.0-9.9	2	0	0	2	4.1
10.0-10.9	14	0	0	14	28.6
11.0-11.9	22	0	0	22	44.9
12.0-12.9	8	0	0	8	16.3
13.0-13.9	2	0	0	2	4.1
14.0-17.9	0	0	0	0	0.0
18.0-18.9	0	0	1	1	2.0
Total	48	0	1	49	100.0
Percent	98.0	0.0	2.0		
Mean length	11.2	0.0	18.2		
1972					
9.0-9.9	7	0	0	7	7.0
10.0-10.9	43	0	0	43	43.0
11.0-11.9	28	0	0	28	28.0
12.0-12.9	15	0	0	15	15.0
13.0-13.9	5	2	0	7	7.0
Total	98	2	0	100	100.0
Percent	98.0	2.0	0.0		
Mean length	12.1	13.2	0.0		
1973					
9.0-9.9	7	0	0	7	8.0
10.0-10.9	30	0	0	30	33.7
11.0-11.9	23	0	0	23	25.8
12.0-12.9	9	0	0	9	10.1
13.0-13.9	2	2	0	4	4.5
14.0-14.9	3	7	0	10	11.2
15.0-15.9	0	5	0	5	5.6
16.0-16.9	0	0	0	0	0.0
17.0-17.9	0	1	0	1	1.1
Total	74	15	0	89	100.0
Percent	83.2	16.8	0.0		
Mean length	10.8	16.8	0.0		
1974					
8.0-8.9	1	0	0	1	2.0
9.0-9.9	14	0	0	14	27.4
10.0-10.9	20	0	0	20	39.2
11.0-11.9	3	0	0	3	5.9
12.0-12.9	1	2	0	3	5.9
13.0-13.9	0	4	0	4	7.8
14.0-14.9	0	4	0	4	7.8
15.0-15.9	0	0	0	0	0.0
16.0-16.9	0	1	0	1	2.0
17.0-17.9	0	1	0	1	2.0
Total	39	12	0	51	100.0
Percent	76.5	23.5	0.0		
Mean length	9.8	13.8	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
1975					
9.0-9.9	1	0	0	1	4.0
10.0-10.9	3	0	0	3	12.0
11.0-11.9	3	0	0	3	12.0
12.0-12.9	0	2	0	2	8.0
13.0-13.9	0	8	0	8	32.0
14.0-14.9	0	3	0	3	12.0
15.0-15.9	0	4	0	4	16.0
16.0-16.9	0	1	0	1	4.0
Total	7	18	0	25	100.0
Percent	28.0	72.0	0.0		
Mean length	10.7	14.1	0.0		
1976					
9.0-9.9	1	0	0	1	7.7
10.0-10.9	3	1	0	4	30.8
11.0-11.9	1	1	1	3	23.0
12.0-12.9	1	2	0	3	23.0
13.0-13.9	0	1	0	1	7.7
14.0-14.9	0	0	0	0	0.0
15.0-15.9	0	0	1	1	7.7
Total	6	5	2	13	100.0
Percent	46.1	38.5	15.4		
Mean length	10.9	12.1	13.5		
BECAGUIMEC RIVER SYSTEM					
1968					
7.0-7.9	4	0	0	4	5.7
8.0-8.9	12	0	0	12	17.1
9.0-9.9	24	0	0	24	34.3
10.0-10.9	0	3	0	3	4.3
11.0-11.9	0	4	0	4	5.7
12.0-12.9	0	15	0	15	21.4
13.0-13.9	0	8	0	8	11.4
Total	40	30	0	70	99.9
Percent	57.1	42.9	0.0		
Mean length	8.6	12.0	0.0		
1969					
8.0-8.9	16	0	0	16	11.8
9.0-9.9	31	0	0	31	23.0
10.0-10.9	0	31	0	31	23.0
11.0-11.9	0	31	0	31	23.0
12.0-12.9	0	18	0	18	13.3
13.0-13.9	0	8	0	8	5.9
Total	47	88	0	135	100.0
Percent	34.8	65.2	0.0		
Mean length	8.7	11.1	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
1971					
9.0-9.9	2	0	0	2	7.7
10.0-10.9	5	0	0	5	19.2
11.0-11.9	6	0	0	6	23.1
12.0-12.9	5	0	0	5	19.2
13.0-13.9	1	0	0	1	3.8
14.0-14.9[1]	1	0	1	3	11.5
15.0-15.9[1]	0	1	1	3	11.5
16.0-16.9[1]	0	0	0	1	3.8
Total	20	1	2	26	99.8
Percent	76.9	3.8	7.7		
Mean length	11.4	15.2	15.0		

[1]In each of these length classes, one sample aged 4+ was taken. These fish are included in the total columns (No. and %).

1972					
8.0-8.9	1	0	0	1	1.0
9.0-9.9	6	0	0	6	6.0
10.0-10.9	27	0	0	27	27.0
11.0-11.9	37	0	0	37	37.0
12.0-12.9	12	1	0	13	13.0
13.0-13.9	12	1	0	13	13.0
14.0-14.9	2	1	0	3	3.0
Total	97[1]	3	0	100	100.0
Percent	97.0	3.0	0.0		
Mean length	11.4	13.6	0.0		

[1]Hatchery stock included.

1973					
10.0-10.9	8	0	0	8	20.0
11.0-11.9	12	0	0	12	30.0
12.0-12.9	7	0	0	7	17.5
13.0-13.9	1	3	0	4	10.0
14.0-14.9	2	1	0	3	7.5
15.0-15.9	0	6	0	6	15.0
Total	30	10	0	40	100.0
Percent	75.0	25.0	0.0		
Mean length	11.3	14.4	0.0		

1974					
8.0-8.9	4	0	0	4	3.8
9.0-9.9	28	0	0	28	26.9
10.0-10.9	43	0	0	43	41.3
11.0-11.9	22	0	0	22	21.2
12.0-12.9	6	0	0	6	5.8
13.0-17.9	0	0	0	0	0.0
18.0-18.9	0	1	0	1	1.0
Total	103	1	0	104	100.0
Percent	99.0	1.0	0.0		
Mean length	10.0	18.1	0.0		

1975					
9.0-9.9	1	0	0	1	4.0
10.0-10.9	2	0	0	2	8.0
11.0-11.9	2	5	0	7	28.0
12.0-12.9	1	4	0	5	20.0
13.0-13.9	0	8	0	8	32.0
14.0-14.9	0	1	0	1	4.0
15.0-15.9	0	1	0	1	4.0
Total	6	19	0	25	100.0
Percent	24.0	76.0	0.0		
Mean length	10.7	12.8	0.0		

1976					
9.0-9.9	1	0	0	1	5.6
10.0-10.9	3	1	0	4	22.2
11.0-11.9	1	1	0	2	11.1
12.0-12.9	1	2	0	3	16.7
13.0-13.9	1	4	0	5	27.7
14.0-14.9	0	1	1	2	11.1
15.0-15.9	0	0	0	0	0.0
16.0-16.9	0	0	1	1	5.6
Total	7	9	2	18	100.0
Percent	38.9	50.0	11.1		
Mean length	10.9	12.8	15.2		

1977					
9.0-9.9	2	0	0	2	8.0
10.0-10.9	11	0	0	11	44.0
11.0-11.9	7	0	0	7	28.0
12.0-12.9	2	0	0	2	8.0
13.0-13.9	0	1	0	1	4.0
14.0-14.9	0	0	0	0	0.0
15.0-15.9	0	2	0	2	8.0
Total	22	3	0	25	100.0
Percent	88.0	12.0	0.0		
Mean length	10.9	14.8	0.0		

1978					
10.0-10.9	2	0	0	2	40.0
11.0-11.9	1	0	0	1	20.0
12.0-12.9	0	1	0	1	20.0
13.0-13.9	0	1	0	1	20.0
Total	3	2	0	5	100.0
Percent	60.0	40.0	0.0		
Mean length	10.7	13.1	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
NACKAWIC RIVER SYSTEM					
1974					
9.0-9.9	1	0	0	1	3.3
10.0-10.9	11	0	0	11	36.7
11.0-11.9	9	0	0	9	30.0
12.0-12.9	8	0	0	8	26.7
13.0-13.9	1	0	0	1	3.3
Total	30	0	0	30	100.0
Percent	100.0	0.0	0.0		
Mean length	10.9	0.0	0.0		
1975					
9.0-9.9	4	0	0	4	26.7
10.0-10.9	3	1	0	4	26.7
11.0-11.9	2	1	0	3	20.0
12.0-12.9	0	0	0	0	0.0
13.0-13.9	0	0	0	0	0.0
14.0-14.9	0	3	0	3	20.0
15.0-15.9	0	1	0	1	6.6
Total	9	6	0	15	100.0
Percent	60.0	40.0	0.0		
Mean length	10.4	13.6	0.0		
1976					
10.0-10.9	2	0	0	2	33.3
11.0-11.9	0	2	0	2	33.3
12.0-12.9	1	0	0	1	16.7
13.0-13.9	0	1	0	1	16.7
Total	3	3	0	6	100.0
Percent	50.0	50.0	0.0		
Mean length	10.7	11.9	0.0		
1977					
11.0-11.9	3	0	0	3	30.0
12.0-12.9	5	0	0	5	50.0
13.0-13.9	2	0	0	2	20.0
Total	10	0	0	10	100.0
Percent	100.0	0.0	0.0		
Mean length	12.3	0.0	0.0		
KESWICK RIVER SYSTEM					
1968					
7.0-7.9	68	0	0	68	15.7
8.0-8.9	168	0	0	168	38.7
9.0-9.9	117	0	0	117	27.0
10.0-10.9	0	27	0	27	6.2
11.0-11.9	0	10	0	10	2.3
12.0-12.9	0	18	0	18	4.1
13.0-13.9	0	15	0	15	3.5
14.0-14.9	0	8	0	8	1.8
15.0-15.9	0	3	0	3	0.7
Total	353	81	0	434	100.0
Percent	81.3	18.7	0.0		
Mean length	8.2	11.7	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
1969					
7.0-7.9	32	0	0	32	18.1
8.0-8.9	45	0	0	45	25.4
9.0-9.9	29	0	0	29	16.4
10.0-10.9	0	25	0	25	14.1
11.0-11.9	0	22	0	22	12.4
12.0-12.9	0	18	0	18	10.2
13.0-13.9	0	6	0	6	3.4
Total	106	71	0	177	100.0
Percent	59.9	40.1	0.0		
Mean length	8.0	11.1	0.0		
1970					
7.0-7.9	1	0	0	1	3.0
8.0-8.9	8	0	0	8	24.2
9.0-9.9	7	0	0	7	21.2
10.0-10.9	1	0	0	1	3.0
11.0-11.9	2	4	0	6	18.2
12.0-12.9	0	6	1	7	21.2
13.0-13.9	0	3	0	3	9.1
Total	19	13	1	33	99.9
Percent	57.6	39.4	3.0		
Mean length	9.3	12.3	12.8		
1971					
8.0-8.9	3	0	0	3	3.3
9.0-9.9	22	0	0	22	23.9
10.0-10.9	24	2	0	26	28.3
11.0-11.9	7	6	0	13	14.1
12.0-12.9	2	16	1	19	20.6
13.0-13.9	0	5	1	6	6.5
14.0-14.9	0	2	1	3	3.3
Total	58	31	3	92	100.0
Percent	63.0	33.7	3.3		
Mean length	10.1	12.4	13.4		
1972					
8.0-8.9	1	0	0	1	1.0
9.0-9.9	14	0	0	14	14.0
10.0-10.9	38	0	0	38	38.0
11.0-11.9	28	0	0	28	28.0
12.0-12.9	12	0	0	12	12.0
13.0-13.9	1	3	0	4	4.0
14.0-14.9	0	3	0	3	3.0
Total	94	6	0	100	100.0
Percent	94.0	6.0	0.0		
Mean length	10.9	14.0	0.0		
1973					
9.0-9.9	2	0	0	2	4.5
10.0-10.9	11	0	0	11	25.0
11.0-11.9	15	0	0	15	34.1
12.0-12.9	3	1	0	4	9.1
13.0-13.9	0	3	0	3	6.8
14.0-14.9	0	5	0	5	11.4
15.0-15.9	0	4	0	4	9.1
Total	31	13	0	44	100.0
Percent	70.4	29.6	0.0		
Mean length	10.6	14.0	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
1974					
10.0-10.9	24	0	0	24	38.7
11.0-11.9	20	0	0	20	32.3
12.0-12.9	7	0	0	7	11.3
13.0-13.9	3	1	0	4	6.5
14.0-14.9	0	1	0	1	1.6
15.0-15.9	0	3	0	3	4.8
16.0-16.9	0	2	0	2	3.2
17.0-22.9	0	0	0	0	0.0
23.0-23.9	0	1	0	1	1.6
Total	54	8	0	62	100.0
Percent	87.1	12.9	0.0		
Mean length	10.8	15.9	0.0		
1975					
9.0-9.9	6	0	0	6	24.0
10.0-10.9	5	0	0	5	20.0
11.0-11.9	3	0	0	3	12.0
12.0-12.9	1	0	0	1	4.0
13.0-13.9	0	5	0	5	20.0
14.0-14.9	0	4	0	4	16.0
15.0-15.9	0	1	0	1	4.0
Total	15	10	0	25	100.0
Percent	60.0	40.0	0.0		
Mean length	10.5	14.0	0.0		
NASHWAAK RIVER SYSTEM					
1968					
7.0-7.9	2	0	0	2	3.0
8.0-8.9	8	0	0	8	12.1
9.0-9.9	18	0	0	18	27.3
10.0-10.9	0	13	0	13	19.7
11.0-11.9	0	2	0	2	3.0
12.0-12.9	0	4	0	4	6.1
13.0-13.9	0	9	0	9	13.7
14.0-14.9	0	5	0	5	7.6
15.0-15.9	0	2	0	2	3.0
16.0-16.9	0	1	0	1	1.5
17.0-19.9	0	0	0	0	0.0
20.0-20.9	0	1	0	1	1.5
21.0-21.9	0	1	0	1	1.5
Total	28	38	0	66	100.0
Percent	42.4	57.6	0.0		
Mean length	8.6	12.5	0.0		
1969					
7.0-7.9	14	0	0	14	4.4
8.0-8.9	24	0	0	24	7.6
9.0-9.9	63	0	0	63	19.9
10.0-10.9	0	50	0	50	15.8
11.0-11.9	0	74	0	74	23.3
12.0-12.9	0	59	0	59	18.6
13.0-13.9	0	33	0	33	10.4
Total	101	216	0	317	100.0
Percent	31.9	68.1	0.0		
Mean length	8.6	11.4	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
1970					
8.0-8.9	6	0	0	6	5.6
9.0-9.9	23	0	0	23	21.5
10.0-10.9	22	1	0	23	21.5
11.0-11.9	3	10	0	13	12.1
12.0-12.9	1	14	0	15	14.0
13.0-13.9	0	17	1	18	16.8
14.0-14.9	0	5	2	7	6.5
15.0-15.9	0	1	1	2	1.9
Total	55	48	4	107	99.9
Percent	51.4	44.9	3.7		
Mean length	9.9	12.7	14.7		
1971					
7.0-7.9	19	0	0	19	6.2
8.0-8.9	52	0	0	52	17.0
9.0-9.9	50	0	0	50	16.4
10.0-10.9	51	1	0	52	17.0
11.0-11.9	32	4	0	36	11.8
12.0-12.9	19	16	0	35	11.5
13.0-13.9	3	18	1	22	7.2
14.0-14.9	0	21	6	27	8.8
15.0-15.9	0	8	3	11	3.6
16.0-16.9	0	1	0	1	0.3
Total	226	69	10	305	100.0
Percent	74.1	22.6	3.3		
Mean length	9.9	13.6	14.8		
1972					
8.0-8.9	6	0	0	6	6.0
9.0-9.9	25	0	0	25	25.0
10.0-10.9	24	0	0	24	24.0
11.0-11.9	25	0	0	25	25.0
12.0-12.9	4	3	0	7	7.0
13.0-13.9	0	7	0	7	7.0
14.0-14.9	0	6	0	6	6.0
Total	84	16	0	100	100.0
Percent	84.0	16.0	0.0		
Mean length	10.4	13.7	0.0		
1973					
8.0-8.9	2	0	0	2	1.2
9.0-9.9	27	0	0	27	15.6
10.0-10.9	35	0	0	35	20.2
11.0-11.9	30	1	0	31	17.9
12.0-12.9	15	10	0	25	14.5
13.0-13.9	6	25	0	31	17.9
14.0-14.9	0	17	0	17	9.8
15.0-15.9	0	5	0	5	2.9
Total	115	58	0	173	100.0
Percent	66.5	33.5	0.0		
Mean length	10.4	13.1	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
1974					
8.0-8.9	1	0	0	1	1.0
9.0-9.9	6	0	0	6	5.8
10.0-10.9	27	0	0	27	25.9
11.0-11.9	15	0	0	15	14.4
12.0-12.9	23	0	0	23	22.1
13.0-13.9	4	8	0	12	11.5
14.0-14.9	6	7	0	13	12.5
15.0-15.9	0	3	0	3	2.9
16.0-16.9	0	2	0	2	1.9
17.0-17.9	0	1	0	1	1.0
18.0-18.9	0	1	0	1	1.0
Total	82	22	0	104	100.0
Percent	78.8	21.2	0.0		
Mean length	11.1	14.3	0.0		
1975					
8.0-8.9	5	0	0	5	10.0
9.0-9.9	20	0	0	20	40.0
10.0-10.9	8	0	0	8	16.0
11.0-11.9	4	1	0	5	10.0
12.0-12.9	1	3	0	4	8.0
13.0-13.9	0	7	0	7	14.0
14.0-14.9	0	1	0	1	2.0
Total	38	12	0	50	100.0
Percent	76.0	24.0	0.0		
Mean length	9.6	13.2	0.0		
1976					
8.0-8.9	6	0	0	6	17.1
9.0-9.9	11	0	0	11	31.4
10.0-10.9	8	0	0	8	22.8
11.0-11.9	3	0	0	3	8.6
12.0-12.9	1	3	0	4	11.5
13.0-13.9	0	2	0	2	5.7
14.0-14.9	0	1	0	1	2.9
Total	29	6	0	35	100.0
Percent	82.9	17.1	0.0		
Mean length	9.8	13.0	0.0		
1977					
8.0-8.9	7	0	0	7	38.8
9.0-9.9	3	0	0	3	16.7
10.0-10.9	2	0	0	2	11.1
11.0-11.9	0	0	0	0	0.0
12.0-12.9	0	3	0	3	16.7
13.0-13.9	0	3	0	3	16.7
Total	12	6	0	18	100.0
Percent	66.7	33.3	0.0		
Mean length	9.0	12.8	0.0		
1978					
8.0-8.9	2	0	0	2	11.1
9.0-9.9	6	0	0	6	33.3
10.0-10.9	4	0	0	4	22.2
11.0-11.9	0	1	0	1	5.6
12.0-12.9	0	5	0	5	27.8
Total	12	6	0	18	100.0
Percent	66.7	33.3	0.0		
Mean length	9.5	12.3	0.0		

Fork-length class (cm)	Age (yr) 1+	2+	3+	Total salmon aged & measured Number	Percent
TRIBUTARIES BELOW THE NASHWAAK RIVER SYSTEM					
1974					
8.0-8.9	3	0	0	3	2.3
9.0-9.9	5	0	0	5	3.9
10.0-10.9	16	0	0	16	12.5
11.0-11.9	27	0	0	27	21.1
12.0-12.9	44	0	0	44	34.4
13.0-13.9	21	0	0	21	16.4
14.0-14.9	8	0	0	8	6.2
15.0-15.9	2	0	0	2	1.6
16.0-16.9	0	1	0	1	0.8
17.0-17.9	0	1	0	1	0.8
Total	126	2	0	128	100.0
Percent	98.4	1.6	0.0		
Mean length	11.7	16.5	0.0		
1975					
8.0-8.9	2	0	0	2	2.4
9.0-9.9	11	0	0	11	13.1
10.0-10.9	35	0	0	35	41.7
11.0-11.9	15	0	0	15	17.8
12.0-12.9	5	1	0	6	7.1
13.0-13.9	0	3	0	3	3.6
14.0-14.9	0	6	0	6	7.1
15.0-15.9	0	3	0	3	3.6
16.0-16.9	0	2	0	2	2.4
17.0-17.9	0	0	0	0	0.0
18.0-18.9	0	1	0	1	1.2
Total	68	16	0	84	100.0
Percent	81.0	19.0	0.0		
Mean length	10.6	14.8	0.0		

APPENDIX C

PHYSICAL AND CHEMICAL WATER QUALITY

Physical and chemical water-quality data were determined at each census location. Water temperatures were recorded in degrees Celsius and dissolved oxygen in milligrams per litre. The pH test is a colorimetric determination, using a spot color disc. The specific conductivity readings are in micromhos per centimeter and some readings below 50 are shown as <50. The average depth is given in centimeters and is determined from 12 depth measurements taken in the sample area. Some sites were sampled each year (1968-78) and a few were sampled a second or third time in the same year. Other sites were sampled on only a few of the years during this time period.

APPENDIX C

PHYSICAL AND CHEMICAL WATER QUALITY

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
SALMON RIVER (GRAND FALLS) SYSTEM					
Site No. 1 Salmon River (Sutherland Brook)					
4 Aug 75	18	9	8.5	160	16
14 Sep 76	14	10	8.0	120	26
23 Aug 77	13	11	8.5	125	23
20 Jul 78	17	12	8.0	140	21
Site No. 2 Salmon River (above Simpson Brook)					
6 Aug 75	14	9	8.0	70	18
20 Aug 76	14	9	7.5	65	26
4 Aug 77	16	10	8.0	81	18
22 Aug 78	12	11	8.0	98	16
Site No. 3 Salmon River (above Poitras Brook)					
6 Aug 75	14	9	8.0	70	20
30 Jun 76	13	11	7.5	70	18
3 Aug 77	15	11	7.5	73	18
19 Jul 78	13	12	7.5	70	24
TOBIQUE RIVER SYSTEM					
Site No. 1 Wapskehegan River (Wapske fyke net site)					
22 Jul 70	11	10	7.5	150	25
16 Jul 71	30	10	7.5	-	18
20 Jul 72	15	10	7.0	-	25
24 Jul 73	20	11	7.0	-	26
3 Jul 74	20	11	7.5	-	31
8 Jul 75	22	9	8.5	134	16
29 Jun 76	21	-	8.0	134	20
13 Jul 77	18	-	-	-	25
2 Aug 78	15	11	8.0	100	17
Site No. 2 Wapskehegan River (Wapske, bridge out)					
23 Jul 70	15	7	7.0	-	30
21 Jul 71	25	9	6.5	-	29
10 Aug 72	14	9	7.0	-	25
21 Aug 73	19	11	7.0	<50	24
30 Jul 74	16	11	7.0	-	25
9 Jul 75	19	10	8.0	55	19
16 Jul 76	16	11	7.0	39	23
18 Jul 77	19	10	7.0	40	17
7 Jul 78	17	10	7.0	40	27
Site No. 3 Wapskehegan River (Left Hand River de Chute)					
17 Jul 70	18	9	7.0	<50	30
13 Jul 71	24	10	6.5	-	19
18 Jul 72	17	10	7.5	-	30
19 Jul 73	18	12	6.5	-	25
2 Jul 74	11	12	7.0	-	21
2 Jul 75	13	13	7.5	-	18
19 Jul 76	17	10	7.5	33	16
12 Jul 77	14	-	-	-	21
6 Jul 78	14	13	7.5	27	20
Site No. 4 Gulquac River (Gulquac)					
21 Jul 70	16	9	7.0	53	33
19 Jul 71	25	9	7.5	-	26
21 Jul 72	16	9	7.0	-	30
20 Jul 73	17	11	6.5	-	29
4 Jul 74	17	10	7.0	-	26
6 Sep 74	13	12	7.0	-	22
4 Jul 75	16	10	7.5	35	18
8 Sep 75	12	11	7.5	40	16
10 Oct 75	7	10	8.0	30	23
20 Jul 76	18	9	7.0	38	19
7 Oct 76	11	10	7.0	30	23
19 Jul 77	16	11	7.5	-	18
5 Jul 78	15	12	7.0	30	24
Site No. 5 Two Brooks (Right Two Brooks)					
7 Aug 70	13	9	8.0	-	36
15 Jul 71	21	10	7.0	-	22
24 Jul 72	13	10	7.0	130	24
18 Jul 73	17	11	7.0	-	24
26 Jun 74	14	12	7.5	-	32
5 Sep 74	11	12	7.5	-	25
3 Jul 75	13	13	8.5	-	18
7 Jul 76	17	10	8.0	130	26
11 Jul 77	13	-	-	-	27
14 Jul 78	13	13	8.0	100	29
Site No. 6 Campbell River (Nictau Bridge)					
22 Aug 68	-	-	-	-	13
27 Jul 70	23	8	7.0	55	20
20 Jul 71	24	10	7.0	-	16
3 Aug 72	15	9	7.5	<50	30
3 Aug 73	18	11	6.5	-	29
17 Jul 74	16	12	8.0	-	24
10 Jul 75	20	11	6.5	41	19
9 Jul 76	18	10	7.0	30	20
25 Jul 77	18	12	8.0	30	19
2 Aug 78	19	11	8.5	30	25
Site No. 7 Campbell River (Campbell Landing)					
29 Jul 70	24	8	6.5	<50	31
27 Jul 71	25	9	7.0	-	18
10 Aug 73	17	11	7.0	-	27
9 Sep 74	12	10	7.5	-	25
11 Jul 75	20	10	7.5	205	20
5 Aug 76	17	10	7.0	49	23
20 Jul 77	19	10	7.0	30	26
17 Aug 78	21	11	7.5	30	25

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
Site No. 8 River Dee (Shingle Gulch)					
11 Sep 68	15	-	-	-	19
19 Sep 69	9	-	-	-	27
24 Jul 70	16	8	7.0	55	33
2 Aug 71	24	9	6.5	-	16
25 Jul 72	17	10	6.0	<50	21
23 Aug 73	17	11	7.0	-	21
8 Jul 74	16	12	7.0	-	26
7 Jul 75	17	12	7.0	-	21
22 Jul 76	13	10	7.0	20	16
29 Jul 77	18	9	7.0	30	18
9 Aug 78	19	10	7.0	23	21
Site No. 9 Serpentine River (Hazelton Brook)					
28 Jul 70	20	9	7.0	<50	25
29 Jul 71	23	10	7.0	-	22
9 Aug 72	18	11	7.0	<50	28
22 Aug 73	13	10	6.5	-	24
24 Jul 74	15	10	7.0	-	24
1 Aug 75	17	10	7.5	28	16
26 Jul 76	14	-	8.0	25	18
5 Aug 77	18	11	8.0	35	16
25 Jul 78	11	13	7.0	20	23
Site No. 10 Serpentine River (Anvil Brook)					
27 Aug 68	18	-	-	-	20
30 Jul 70	23	8	7.0	-	20
29 Jul 71	26	9	7.0	-	23
27 Aug 73	14	12	7.0	-	33
25 Jul 74	16	9	7.0	-	28
30 Jul 75	17	11	7.5	22	25
29 Jul 76	16	11	7.0	25	23
22 Aug 77	12	11	7.5	110	25
26 Jul 78	15	11	7.0	45	26
Site No. 11 Mamozekel River (Mamozekel Landing)					
17 Aug 70	21	-	-	-	16
22 Jul 71	23	10	7.0	-	15
27 Jul 72	16	10	8.0	<50	22
26 Jul 73	19	10	7.0	-	26
18 Jul 74	14	12	8.0	-	16
29 Jul 75	18	11	-	55	14
15 Jul 76	14	10	7.5	48	14
14 Jul 77	17	-	-	-	19
13 Jul 78	14	13	8.0	40	12
Site No. 12 Mamozekel River (Opposite Serpentine Road					
3 Sep 70	11	9	7.0	-	19
23 Jul 71	23	9	4.5	-	21
26 Jul 72	16	9	7.0	-	19
23 Jul 73	16	12	7.0	-	22
24 Jul 74	13	12	7.5	-	23
16 Jul 75	17	11	8.0	-	17
27 Jul 76	13	-	7.5	40	16
21 Jul 77	16	9	7.0	-	16
11 Jul 78	15	11	7.0	40	16

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
Site No. 13 Mamozekel River (South Branch)					
27 Aug 68	15	-	-	-	15
18 Sep 69	8	-	-	-	25
2 Jul 70	16	-	-	<50	20
9 Jul 71	21	11	4.0	-	16
26 Jul 72	14	10	8.0	<50	18
25 Jul 73	15	12	7.0	<50	21
11 Jul 74	12	12	7.0	-	22
29 Jul 75	14	11	7.5	32	17
28 Jul 76	15	10	7.0	35	14
26 Aug 76	13	10	7.0	27	18
22 Jul 77	13	11	7.5	-	16
12 Jul 78	12	12	7.5	28	16
Site No. 14 Little Tobique River (Pat's Crossing)					
10 Oct 68	14	-	-	-	19
21 Aug 70	18	-	-	-	25
28 Jul 71	31	8	7.0	-	24
2 Aug 72	19	10	8.0	<50	22
1 Aug 73	20	10	7.0	-	22
31 Jul 74	14	10	7.5	-	30
31 Jul 75	24	8	7.0	140	20
4 Aug 76	13	10	7.0	59	20
29 Aug 77	21	9	7.5	40	22
16 Aug 78	21	11	7.5	60	20
Site No. 15 Little Tobique River (Above Lawson Brook)					
15 Sep 70	14	9	7.0	-	25
28 Jul 71	32	8	7.5	-	25
2 Aug 72	19	10	8.5	<50	23
27 Jul 73	21	11	7.0	-	29
31 Jul 74	14	10	7.5	-	32
31 Jul 75	24	8	7.0	43	30
3 Aug 76	18	9	7.0	40	30
29 Aug 77	20	9	7.5	65	18
10 Aug 78	20	11	7.5	40	28
SHIKATEHAWK RIVER SYSTEM					
Site No. 1 Shikatehawk River (Lockharts Mill)					
24 Aug 71	12	10	7.0	-	19
7 Sep 72	14	9	7.0	<50	20
24 Aug 73	15	12	7.5	-	30
13 Aug 74	15	11	7.0	-	25
8 Aug 75	17	10	7.5	68	24
Site No. 2 Shikatehawk River (Gordonsville)					
24 Aug 71	12	11	7.5	-	15
8 Sep 72	12	11	7.0	<50	20
16 Aug 73	14	11	7.0	-	23
12 Aug 74	15	12	7.0	-	21
11 Aug 75	17	10	7.0	62	15
6 Oct 76	10	10	8.0	40	32

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
Site No. 3 Shikatehawk River (West Glassville)					
25 Aug 71	11	9	7.0	-	16
14 Sep 72	12	10	7.0	<50	15
15 Aug 73	14	11	7.0	-	20
6 Aug 74	14	11	7.5	-	20
12 Aug 75	19	10	7.5	50	15
23 Aug 76	19	11	7.0	-	25
21 Aug 78	20	11	7.5	50	13
Site No. 4 Shikatehawk River (Centre Glassville)					
7 Aug 68	-	-	-	42	20
27 Aug 69	14	-	-	-	22
23 Aug 71	14	11	7.5	-	15
14 Sep 72	12	10	7.0	<50	16
14 Aug 73	14	11	7.0	-	20
2 Aug 74	14	12	7.5	-	23
13 Aug 75	19	9	7.0	45	13
30 Jul 76	14	10	7.0	35	20
Site No. 5 Shikatehawk River (Kenneth)					
26 Aug 71	12	11	7.0	-	13
15 Sep 72	12	10	8.0	<50	19
13 Aug 73	16	11	7.0	-	23
1 Aug 74	14	12	7.5	-	22
14 Aug 75	19	9	7.5	45	14
23 Aug 76	15	10	7.0	30	23
BECAGUIMEC RIVER SYSTEM					
Site No. 1 Coldstream (Bannon)					
5 Aug 68	-	-	-	-	16
30 Aug 71	12	9	8.0	-	16
20 Sep 72	10	13	8.0	110	16
29 Aug 73	14	12	7.0	-	22
14 Aug 74	14	12	8.5	-	26
19 Aug 75	14	12	8.5	130	15
27 Aug 76	13	11	7.5	110	29
11 Aug 77	14	11	8.0	131	21
11 Aug 78	14	11	8.5	150	17
Site No. 2 Coldstream (East Coldstream)					
6 Aug 69	14	-	-	-	25
27 Aug 71	11	10	7.5	-	11
18 Sep 72	15	12	8.0	<50	14
28 Aug 73	15	12	8.0	-	17
26 Jul 74	14	10	8.0	-	17
15 Aug 75	16	11	8.0	160	14
19 Sep 75	11	11	8.0	<50	15
24 Aug 76	13	-	7.5	122	23
19 Aug 77	13	12	8.0	120	16
3 Aug 78	14	11	8.0	150	14

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
Site No. 3 South Branch (County Line)					
1 Sep 71	14	10	7.5	-	16
21 Sep 72	11	11	7.0	<50	21
5 Sep 73	13	11	7.0	-	15
20 Aug 74	18	13	8.0	-	17
21 Aug 75	12	9	7.5	55	10
25 Aug 76	14	10	7.0	40	19
19 Aug 77	16	10	7.5	45	15
31 Jul 78	14	11	7.5	47	15
Site No. 4 North Branch (Cloverdale)					
6 Aug 68	16	-	-	-	12
24 Jul 69	-	-	-	-	12
31 Aug 71	17	10	8.0	-	11
20 Sep 72	12	11	7.0	50	14
31 Aug 73	19	11	7.0	-	14
16 Aug 74	15	11	7.5	-	15
10 Sep 74	14	11	8.0	-	13
11 Oct 74	6	12	7.0	-	17
7 Aug 75	10	10	8.0	70	12
9 Sep 76	14	12	-	45	23
18 Aug 77	15	11	7.5	50	17
14 Aug 78	22	11	7.0	70	13
Site No. 5 North Branch (Carlisle)					
1 Sep 71	9	10	7.0	-	10
21 Sep 72	10	12	7.0	<50	12
4 Sep 73	14	12	7.0	-	14
15 Aug 74	15	11	7.5	-	15
22 Aug 75	15	10	7.5	62	10
8 Sep 76	11	-	-	35	22
9 Aug 77	18	10	7.5	50	16
8 Aug 78	18	12	8.0	60	12
NACKAWIC RIVER SYSTEM					
Site No. 1 Northeast Nackawic River (Upper Caverhill)					
25 Aug 75	17	11	8.0	80	15
10 Sep 76	13	9	-	57	21
16 Aug 77	14	11	7.5	65	20
23 Aug 78	18	12	7.5	85	11
Site No. 2 Northeast Nackawic River (Millville)					
18 Oct 72	4	-	7.0	50	15
11 Sep 74	12	11	7.0	-	12
20 Aug 75	14	11	8.0	100	12
20 Aug 76	16	10	7.5	81	18
15 Aug 77	19	11	7.5	98	14
Site No. 3 Nackawic Main Stream (Temperance Vale)					
22 Jul 69	-	-	-	-	14
Site No. 4 Nackawic Main Stream (Norton Dale)					
21 Jul 69	-	-	-	-	13

KESWICK RIVER SYSTEM

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
Site No. 1 Jones Forks (Jones Forks)					
5 Jul 68	17	-	-	-	33
2 Jul 69	16	-	-	-	17
3 Jul 69	20	-	-	-	20
12 Aug 71	27	9	7.0	-	14
29 Aug 72	16	11	7.0	<50	12
24 Aug 73	17	12	-	-	19
27 Aug 74	13	8	7.5	-	14
27 Aug 75	16	11	7.5	45	14
20 Jul 76	16	10	7.5	-	16
Site No. 2 Keswick River (Zealand Station)					
12 Jul 68	23	-	-	-	20
4 Jul 69	20	-	-	-	20
20 Aug 71	17	9	7.0	-	15
31 Aug 72	15	-	7.0	50	21
13 Sep 73	13	11	-	<50	23
23 Aug 74	18	7	7.0	-	23
28 Aug 75	16	11	7.5	51	20
30 Jul 76	17	12	7.5	<40	36
Site No. 3 Keswick River (Stoneridge)					
15 Jul 68	25	-	-	-	22
25 Jul 69	-	-	-	-	21
26 Aug 70	19	9	7.0	-	38
19 Aug 71	24	-	7.0	-	16
2 Sep 72	17	10	7.0	<50	18
7 Sep 73	16	10	-	-	23
27 Aug 74	14	-	8.0	-	19
28 Aug 75	16	11	7.5	45	19
21 Jul 76	16	10	7.5	50	28
Site No. 4 Keswick River (Hayne)					
18 Jul 68	25	-	-	<50	17
18 Jun 69	18	-	-	-	26
18 Aug 71	20	9	7.0	-	18
1 Sep 72	22	10	7.0	<50	20
13 Sep 73	13	11	-	<50	23
26 Aug 74	14	11	7.0	-	22
3 Sep 75	14	9	7.0	35	21
6 Aug 76	21	10	7.5	37	36
Site No. 5 Keswick River (Barton)					
9 Jul 68	25	-	-	20	21
23 Jul 69	-	-	-	-	22
27 Aug 70	16	9	7.0	-	36
18 Aug 71	16	-	-	-	17
1 Sep 72	22	10	7.0	<50	20
11 Sep 73	13	12	-	51	22
22 Aug 74	17	10	7.0	-	22
26 Aug 75	16	-	7.5	32	20
29 Jul 76	17	10	8.0	28	26

NASHWAAK RIVER SYSTEM

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
Site No. 1 Penniac Stream (Penniac)					
17 Aug 71	16	8	7.0	-	15
22 Aug 72	15	10	6.0	-	16
17 Aug 73	-	-	-	-	24
23 Aug 74	13	10	7.5	50	17
7 Aug 75	18	10	7.5	45	17
9 Jul 76	18	-	7.5	33	17
25 Jul 77	17	-	7.5	30	15
31 Aug 78	15	12	7.5	50	12
Site No. 2 Main Nashwaak River (above Durham Bridge)					
16 Aug 68	18	-	-	-	14
14 Aug 69	19	-	-	-	19
17 Aug 71	15	9	7.0	-	12
23 Aug 72	17	9	6.5	<50	16
30 Aug 73	22	10	-	-	24
21 Aug 74	20	9	7.5	50	27
20 Sep 74	13	10	7.5	50	21
13 Aug 75	22	10	7.5	60	17
30 Jun 76	17	-	7.5	<50	35
18 Jul 77	19	9	7.5	50	34
30 Aug 78	15	11	7.0	45	24
Site No. 3 Tay River (Tay River)					
4 Sep 69	18	-	-	-	17
11 Aug 70	22	8	8.0	-	27
4 Aug 71	24	-	6.5	-	22
17 Aug 72	14	10	7.5	50	16
21 Aug 73	20	12	-	-	23
20 Aug 74	18	10	8.0	60	20
11 Sep 74	11	11	7.5	65	18
12 Aug 75	19	11	8.0	130	13
6 Jul 76	25	9	8.0	70	19
25 Aug 76	14	9	8.0	55	18
22 Jul 77	17	10	7.5	60	20
24 Aug 78	19	12	8.5	75	15
Site No. 4 McKenzie Brook (McKenzie Brook)					
11 Aug 69	-	-	-	-	13
11 Aug 71	27	9	6.5	-	17
21 Aug 72	15	-	6.0	-	19
16 Aug 73	17	-	-	-	20
27 Aug 74	12	11	7.0	<50	21
18 Aug 75	18	11	7.5	50	14
5 Jul 76	15	11	6.5	50	25
26 Jul 77	13	10	7.5	75	16
Site No. 5 Main Nashwaak River (above Nashwaak Bridge)					
20 Aug 69	16	-	-	-	19
28 Aug 70	16	9	7.0	-	19
13 Aug 71	28	10	7.5	-	15
25 Aug 72	20	10	7.0	50	26
31 Aug 73	21	9	-	-	24
28 Aug 74	16	11	7.5	<50	21
15 Aug 75	20	12	8.0	<50	17
19 Jul 76	16	-	7.5	50	29
26 Jul 77	20	8	7.5	40	25
1 Sep 78	16	13	7.5	40	15

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
Site No. 6 Cross Creek (Cross Creek)					
29 Aug 69	19	-	-	-	18
9 Aug 71	30	9	7.0	-	19
18 Aug 72	13	-	7.0	50	20
12 Sep 73	19	10	-	-	22
6 Sep 74	10	11	7.5	<50	26
20 Aug 75	17	11	8.0	60	17
23 Jul 76	20	11	7.5	<40	17
15 Jul 77	23	8	7.5	50	34
Site No. 7 Main Nashwaak River (below Stanley)					
15 Aug 68	-	-	-	-	26
12 Aug 69	21	-	-	-	21
16 Aug 71	17	9	7.5	-	30
30 Aug 72	18	10	7.0	<50	31
6 Sep 73	18	10	-	-	34
9 Sep 74	14	10	7.5	<50	32
25 Aug 75	18	12	8.0	50	30
7 Jul 76	23	10	7.5	<50	33
8 Aug 77	21	10	7.5	50	33
25 Aug 78	15	12	8.0	40	28
Site No. 8 Main Nashwaak River (above Stanley)					
14 Aug 68	-	-	-	-	20
8 Aug 69	20	-	-	-	21
6 Aug 71	26	9	6.0	-	15
24 Aug 72	22	-	7.0	<50	21
29 Aug 73	19	11	-	-	26
3 Sep 74	13	11	7.5	<30	16
21 Aug 75	15	12	7.5	55	13
8 Jul 76	23	9	7.5	<50	14
20 Aug 76	17	12	7.5	<50	24
14 Jul 77	18	9	7.5	50	27
5 Sep 78	17	12	7.5	37	16
Site No. 8A Main Nashwaak River (below McBean Brook)					
10 Sep 74	15	10	7.5	<50	23
Site No. 8B Main Nashwaak River (above McBean Brook)					
10 Sep 74	14	11	7.5	<50	31
Site No. 9 Main Nashwaak River (Cedar Bridge)					
26 Aug 69	18	-	-	-	24
5 Aug 71	29	10	7.5	-	25
16 Aug 72	12	11	6.5	<50	25
28 Aug 73	18	10	-	-	25
22 Aug 74	18	10	7.5	<50	28
19 Aug 75	16	11	7.5	50	21
22 Jul 76	17	11	7.5	50	27
27 Jul 77	14	8	7.5	18	33
11 Sep 78	10	12	7.0	30	24

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
Site No. 10 Main Nashwaak River (Doughboy Brook)					
14 Aug 70	19	7	7.0	-	31
3 Aug 71	29	9	7.0	-	18
15 Aug 72	16	10	7.0	<50	20
22 Aug 73	-	-	-	-	23
22 Aug 74	19	11	7.5	75	22
19 Aug 75	19	12	8.5	50	20
27 Jul 76	15	-	7.0	23	25
27 Jul 77	14	9	7.5	45	19
11 Sep 78	10	12	7.0	25	21
Site No. 10A Main Nashwaak River (below Gorby Gulch)					
12 Sep 74	13	10	7.0	<50	27

TRIBUTARIES BELOW THE NASHWAAK RIVER SYSTEM

Site No. 1 Hammond River (Smithtown)					
24 Sep 74	11	11	7.0	-	18
24 Sep 75	15	-	7.5	130	20
8 Sep 76	15	12	7.5	65	21
11 Aug 77	17	-	7.5	70	11
14 Sep 78	8	12	7.5	100	17
Site No. 2 Hammond River (Hanford Brook)					
24 Sep 74	10	10	7.0	-	23
25 Sep 75	13	-	7.0	92	25
7 Sep 76	13	12	7.0	180	26
11 Aug 77	19	10	8.0	110	16
14 Sep 78	8	12	7.5	100	22
Site No. 3 Kennebecasis River (Penobsquis)					
24 Sep 68	13	-	-	-	15
8 Oct 69	12	-	-	-	17
23 Sep 74	11	11	8.0	-	23
17 Sep 75	14	12	8.0	-	24
26 Aug 76	13	13	7.5	63	26
10 Aug 77	18	10	7.5	60	27
13 Sep 78	12	13	7.5	65	18
Site No. 4 Kennebecasis River (Goshen)					
19 Sep 74	13	12	8.0	-	10
17 Sep 75	12	12	7.5	45	13
26 Aug 76	17	12	8.5	50	16
12 Aug 77	19	11	7.5	50	14
13 Sep 78	10	13	7.5	40	14
Site No. 5 Nerepis River (River George)					
12 Sep 74	15	-	8.0	-	14
5 Sep 75	14	11	8.0	70	10
13 Aug 76	20	12	8.0	65	15
5 Aug 77	21	10	8.5	90	12

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
Site No. 6 Nerepis River (Dunn Road)					
29 Aug 74	16	10	7.5	-	13
4 Sep 75	20	11	8.0	70	15
13 Aug 76	22	11	7.5	60	13
5 Aug 77	21	10	7.5	70	15
Site No. 7 Belleisle Creek (Springfield)					
28 Aug 74	17	12	7.5	<50	13
18 Sep 75	15	-	7.5	59	23
18 Aug 76	18	11	7.5	50	24
9 Aug 77	21	10	7.5	50	24
19 Sep 78	15	12	8.5	60	15
Site No. 8 Canaan River (East Canaan)					
25 Sep 68	16	-	-	-	14
24 Sep 69	11	-	-	-	18
27 Aug 76	18	12	7.5	88	13
10 Aug 77	19	10	7.5	50	14
Site No. 9 Gaspereau River (Upper Gaspereau)					
17 Sep 74	12	12	7.0	50	24
10 Sep 75	14	12	8.0	40	23
23 Aug 76	22	11	7.5	50	25
29 Jul 77	19	8	7.0	35	21
8 Sep 78	13	16	7.5	35	20
Site No. 10 Gaspereau River (Below Bridge on Route 123)					
3 Aug 76	19	11	7.0	20	21
29 Jul 77	22	10	7.5	50	14
Site No. 11 Salmon River, Chipman (Big Forks Stream)					
18 Sep 74	11	11	7.0	-	17
12 Sep 75	13	11	7.5	55	23
24 Aug 76	17	12	7.5	38	24
28 Jul 77	14	10	7.5	45	18
22 Sep 78	14	12	7.5	70	13
Site No. 12 Salmon River, Chipman (Little Forks Stream					
18 Sep 74	11	11	7.0	-	19
11 Sep 75	10	12	8.0	60	26
4 Aug 76	14	11	7.5	43	23
28 Jul 77	16	11	7.5	60	23
Site No. 13 Little River (Minto Highway)					
13 Sep 74	17	10	7.0	-	19
8 Oct 75	8	-	7.0	40	24
5 Aug 76	18	8	7.0	48	19
3 Aug 77	20	9	7.0	50	14

Date	Water temp (°C)	DO (mg/l)	pH	Specific conductivity (µmhos/cm)	Avg depth (cm)
Site No. 14 Little River (Upper Little River)					
23 Aug 76	20	11	7.0	42	24
3 Aug 77	19	10	7.5	50	25
7 Sep 78	14	13	7.0	65	23

APPENDIX D

HATCHERY DISTRIBUTION OF JUVENILE SALMON

This appendix contains detailed data on hatchery stocking of juvenile salmon in the Saint John River system, during the years 1968-78. It is possible that some of the stocking records are incomplete, particularly those prior to 1970. Data on subsequent years, especially as they relate to calculations of juvenile densities (Table 9), are felt to be quite accurate. Information is provided on stocking dates and locations, stage and numbers of fish released, marks (fin clips) and tags used, hatchery of origin and topographic map references.

APPENDIX D

HATCHERY DISTRIBUTION OF JUVENILE SALMON

Year	Date	Location	Topographic coordinates	Stage	Run	Number stocked
TOBIQUE RIVER SYSTEM						
1976	Oct 22	Arthurette Dump Site	46°46'N; 67°32'W	Smolt		5,000
	Oct 22					600
	Total					5,600
Hatchery: Mactaquac Tag or mark: Lot No. 1 - 5,000 small blue Carlin tags, H45,000-H49,999 Lot No. 2 - 600 adipose fin clip Reference map: 21 J/13 East, Aroostook						
1975	Sep 30	Wolverton Brook	47°23'N; 67°09'W	Underyearling		12,500
	Oct 8	Lawson Brook	47°27'N; 66°57'W			13,800
	Oct 8	Above Wolverton Brook	47°24'N; 67°08'W			5,000
	Oct 9	Red Brook	47°26'N; 67°05'W			5,500
	Oct 9	Pat's Crossing	47°29'N; 67°01'W			15,000
	Total					51,800
Hatchery: Mactaquac Tag or mark: Adipose fin clip Reference maps: 21 0/6 East, Sisson 21 0/7 West and East, Nepisiguit Lakes						
1972	May 23	Trout Brook	46°47'N; 67°30'W	Smolt		1,853
	May 30					3,461
	Jun 5					3,897
	Jun 12					2,053
	Total					11,264
Hatchery: Mactaquac Tag or mark: Small blue Carlin tag, F0000-F6499 and F9000-F15799 Reference map: 21 J/13 East, Aroostook						
1971	Jun 30 & Jul 2,5	Brown's Flat	46°56'N; 67°25'W	Postyearling		63,238
	Jul 6, 7, 8	Trout Brook	46°47'N; 67°30'W			47,852
	Jul 22, 31	Riley Brook	47°10'N; 67°13'W			29,800
	Jul 23, 31	Mamozekel River	47°16'N; 67°06'W			25,760
	Jul 29 & Aug 5	Nictau Forks	47°15'N; 67°09'W			19,880
	Aug 3, 6	Little Tobique River	47°16'N; 67°10'W			14,000
	Aug 4	Little Cedar Brook	47°20'N; 67°11'W			11,200
	Aug 5	Between Pat & Lawson brooks	47°28'N; 67°00'W			7,000
	Aug 6	River DeChute	46°36'N; 67°44'W			3,820
	Total					222,550
Hatchery: Mactaquac Tag or mark: All fish had anal fin clip, except for 1,000, which had a combined right maxillary and right ventral fin clip. Reference maps: 21 J/13 East, Aroostook 21 J/14 West, Plaster Rock 21 0/3 East, Riley Brook 21 0/6 East, Sisson 21 J/12 East, Andover						
1970	May 23, 25	Trout Brook	46°47'N; 67°30'W	Smolt		3,948
	Jun 3					3,831
	Jun 10					3,830
	Total					11,609
Hatchery: Mactaquac Tag or mark: All fish had adipose fin clip, plus small blue Carlin tags ("D" series).						

Year	Date	Location	Topographic coordinates	Stage	Run	Number stocked
1970	Sep 21	Odell River	46°42'N; 67°20'W	Fry		20,000
	Sep -	Pokiok Brook	46°48'N; 67°36'W			15,000
	Total					35,000

Hatchery: Saint John
Tag or mark: None.
Reference maps: 21 J/11 West, Juniper
21 J/13 East, Aroostook

MONQUART RIVER

1972	N/A	Monquart River	N/A	Postyearling		78,270

Hatchery: Yarmouth
Tag or mark: Anal fin clip

	Sep 27	Killowen	46°36'N; 67°33'W	Postyearling		18,500
	Sep 28	Kilfoil	46°37'N; 67°30'W			18,500
	Total					115,270

Hatchery: Saint John
Tag or mark: Adipose fin clip
Reference map: 21 J/12 West, Andover

1970	N/A	Monquart River	N/A	Underyearling		15,000

Hatchery: Mactaquac
Tag or mark: Adipose fin clip

SHIKATEHAWK RIVER

1977	Oct 24	Centre Glassville	46°31'N; 67°26'W	Underyearling	Summer	5,450
	Oct 27				Spring	5,000
	Oct 27	Gordonsville	46°29'N; 67°30'W		Spring	6,000
	Oct 27	Lockharts Mill	46°29'N; 67°33'W		Spring	6,000
	Oct 21	Kenneth	46°32'N; 67°25'W		Summer	14,550
	Oct 24	North Shikatehawk River	46°33'N; 67°28'W		Spring	7,000
	Total					44,000

Hatchery: Mactaquac
Tag or mark: All 44,000 had an adipose fin clip, and 36,200 of these also had a magnetic nose tag.
Reference maps: Centre Glassville, Kenneth and North Shikatehawk River - 21 J/11 West, Juniper
Gordonsville and Lockharts Mill - 21 J/5 East, Florenceville

1975	Oct 1	Centre Glassville	46°31'N; 67°26'W	Underyearling		7,500
	Oct 1	Kenneth	46°32'N; 67°25'W			7,500
	Oct 27	Centre Glassville	46°31'N; 67°26'W			7,000
	Oct 27	Kenneth	46°32'N; 67°25'W			7,000
	Oct 27	North Shikatehawk River	46°33'N; 67°28'W			7,400
	Total					36,400

Hatchery: Mactaquac
Tag or mark: Adipose fin clip
Reference map: 21 J/11 West, Juniper

1974	Jun 5	Centre Glassville	46°31'N; 67°26'W	Postyearling		10,000
	Jun 5	Kenneth	46°32'N; 67°25'W			6,000
	Jul 11	Centre Glassville	46°31'N; 67°26'W			5,000
	Jul 11	North Shikatehawk River	46°33'N; 67°28'W			14,000
	Jul 17	Centre Glassville	46°31'N; 67°26'W			7,000
	Jul 17	Kenneth	46°32'N; 67°25'W			7,000
	Total					49,000

Year	Date	Location	Topographic coordinates	Stage	Run	Number stocked
Hatchery: Mactaquac Tag or mark: Adipose fin clip Reference map: 21 J/11 West, Juniper						
1972	Jul 17	Lockharts Mill	46°29'N; 67°33'W	Postyearling		5,000
	Jul 17	Dyer Branch	46°31'N; 67°33'W			4,095
	Jul 17	Dyer Branch	46°32'N; 67°32'W			4,095
	Jul 17	Dyer Branch				6,970
	Jul 18	North Shikatehawk River	46°33'N; 67°28'W			7,640
	Jul 18	Gordonsville	46°29'N; 67°30'W			6,597
	Jul 18	Centre Glassville	46°31'N; 67°26'W			6,597
	Total					40,994
Hatchery: Mactaquac Tag or mark: Adipose fin clip Reference maps: 21 J/5 West, Florenceville 21 J/11 West, Juniper 21 J/12, Andover						
1970	N/A	Shikatehawk River	N/A	Underyearling		19,320
Hatchery: Saint John Tag or mark: None						
BECAGUIMEC RIVER						
1976	Jun 24	Little Forks Brook	46°15'N; 67°16'W	Postyearling		7,950
	Jun 9	Carlisle	46°22'N; 67°23'W			13,510
	Jun 13	Cloverdale	46°20'N; 67°22'W			4,700
	Total					26,160
Hatchery: Mactaquac Tag or mark: Adipose fin clip Reference map: 21 J/6 West, Coldstream						
1975	Oct 2	South Branch (County Line)	46°15'N; 67°18'W	Underyearling		8,000
	Oct 2	Carlisle	46°22'N; 67°23'W			8,850
	Oct 3	Mainstream	46°20'N; 67°24'W			9,200
	Total					26,050
Hatchery: Mactaquac Tag or mark: Adipose fin clip Reference maps: 21 J/6 West, Coldstream 21 J/3 West, Millville						
1974	Nov 19	South Branch (County Line)	46°15'N; 67°18'W	Postyearling		11,000
	Nov 19	Carlisle	46°22'N; 67°23'W			5,000
	Nov 15	Bannon	46°22'N; 67°28'W			10,000
	Nov 15	Carlisle	46°22'N; 67°23'W			6,000
	Total					32,000
Hatchery: Saint John Tag or mark: Adipose fin clip Reference maps: 21 J/6 West, Coldstream 21 J/3 West, Millville						
1972	Jul 6	Bannon	46°22'N; 67°28'W	Postyearling	Spring,	4,968
	Jul 6	Coldstream East	46°24'N; 67°28'W		Summer &	4,968
	Jul 6	Ketchum Ridge	46°29'N; 67°27'W		Fall (mixed)	10,392
	Jul 6	Esdraelon	46°26'N; 67°25'W			5,424
	Jul 6	East Knowlesville	46°28'N; 67°23'W			5,424
	Jul 11	Knowlesville	46°27'N; 67°22'W			5,000

Year	Date	Location	Topographic coordinates	Stage	Run	Number stocked
1972	Jul 11	South Knowlesville	46°26'N; 67°22'W	Postyearling	Spring,	5,000
	Jul 11	Upper Howard Brook	46°23'N; 67°21'W		Summer &	5,000
	Jul 11	North Becaguimec	46°22'N; 67°23'W		Fall (mixed)	3,966
	Jul 11	Becaguimec River	46°21'N; 67°23'W			3,967
	Jul 11	Carlisle	46°22'N; 67°23'W			3,967
	Jul 13	South Carlisle	46°21'N; 67°23'W			5,000
	Jul 13	Mainstream	46°20'N; 67°24'W			5,000
	Jul 13	Cloverdale	46°20'N; 67°22'W			5,000
	Jul 13	South Cloverdale	46°17'N; 67°22'W			3,311
	Jul 13	Coldstream	46°20'N; 67°28'W			3,831
	Jul 14	South Cloverdale	46°17'N; 67°22'W			3,832
	Jul 14	Glassville	46°29'N; 67°27'W			5,000
	Jul 14	Highlands	46°28'N; 67°23'W			10,000
	Total					99,050

Hatchery: Mactaquac
Tag or mark: Adipose fin clip
Reference map: 21 J/6 West, Coldstream

1972	N/A	Becaguimec River	N/A	Postyearling	Spring, Summer & Fall (mixed)	15,000

Hatchery: Saint John
Tag or mark: None

NACKAWIC RIVER

1976	May 20	Upper Caverhill	46°04'N; 67°11'W	Postyearling		6,780
	May 20	Clark's Bridge	46°06'N; 67°10'W			6,840
	Jun 9	Nortondale	46°07'N; 67°16'W			6,970
	Jun 10	Temperancevale	46°04'N; 67°15'W			6,680
	Total					27,270

Hatchery: Mactaquac
Tag or mark: Adipose fin clip
Reference map: 21 J/3 East and West, Millville

1975	Jul 31	Upper Caverhill	46°04'N; 67°11'W	Postyearling		6,000
	Jul 31	Millville	46°08'N; 67°12'W			7,382
	Aug 1	Clark's Bridge	46°06'N; 67°10'W			6,000
	Aug 1	Hainesville	46°07'N; 67°10'W			5,645
	Total					25,027

Hatchery: Saint John
Tag or mark: Adipose fin clip
Reference map: 21 J/3 East, Millville

1974	May 15	Pinder Dam	46°03'N; 67°14'W	Postyearling		10,000
	May 15	Clark's Bridge	46°06'N; 67°10'W			10,000
	May 15	Millville	46°08'N; 67°12'W			5,000
	Jun 4	Millville				5,000
	Jun 4	Upper Caverhill	46°04'N; 67°11'W			10,000
	Jun 4	Hainesville	46°07'N; 67°10'W			5,000
	Jun 4	Fiddle Brook	46°11'N; 67°15'W			5,000
	Total					50,000

Hatchery: Mactaquac
Tag or mark: Adipose fin clip
Reference map: 21 J/3 East, Millville

EEL RIVER

1974	Oct 23	Benton	45°59'N; 67°36'W	Postyearling		6,365

Hatchery: Mactaquac
Tag or mark: Adipose fin clip
Reference map: 21 G/13 East, Fosterville

Year	Date	Location	Topographic coordinates	Stage	Run	Number stocked
NASHWAAK RIVER SYSTEM						
1978	Jun 28	Above Durham Bridge	46°08'N; 66°37'W	Postyearling		1,320
Hatchery: Mactaquac Tag or mark: None						
	Sep 20	Nashwaak Village	46°05'N; 66°36'W	Underyearling		12,500
	Sep 20	Above Durham Bridge	46°08'N; 66°37'W			12,500
	Sep 21	Counting fence	46°07'N; 66°36'W			12,500
	Sep 21	Above Stanley	46°18'N; 66°46'W			12,500
Hatchery: Saint John Tag or mark: None						
	Oct 20	Above McBean Brook	46°20'N: 67°08'W		Late	4,411
					Early	3,651
	Oct 20	Below Doughboy Brook	46°21'N; 67°10'W		Early	4,560
					Late	4,400
	Oct 24	Below Dunbar Brook	46°08'N; 66°37'W		Early	10,032
	Oct 24	Nashwaak Bridge	46°14'N; 66°37'W		Early	10,032
	Nov 8	Below Dunbar Brook	46°08'N; 66°37'W		Early	16,396
					Late	2,900
	Total					107,702
Hatchery: Mactaquac Tag or mark: None Reference maps: 21 J/2 East, Burtt's Corner 21 J/1 East, Minto 21 J/7 West, Napadogan 21 J/6 East, Coldstream						
1977	Jun 23, 24	Ryan Brook	46°19'N; 66°49'W	Underyearling	Fall (H)[1]	18,000
					Summer (H)	6,500
		Grand John	46°16'N; 66°54'W		Fall (H)	10,000
		Napadogan	46°21'N; 67°00'W		Fall (H)	11,950
					Summer (W)[2]	7,200
		Narrows Bridge	46°17'N; 67°01'W		Spring (H)	6,000
					Spring (W)	9,600
		Hayden Brook	46°18'N; 67°02'W		Spring (H)	20,000
		Below Narrows Mtn.	46°17'N; 67°01'W		Spring (H)	20,000
		McBean Brook	46°19'N; 67°06'W		Spring (H)	20,000
		Below Dunbar	46°08'N; 66°37'W		Fall (H)	5,600
					Spring (H) & Summer (H)	9,500
		Above Stanley	46°18'N; 66°46'W		Spring (H)	650
					Summer (H)	694
		Below Nashwaak Village	46°05'N; 66°36'W		Summer (H)	1,850
					Spring (H)	650
	Total					148,194
Hatchery: Mactaquac Tag or mark: First 12 lots (144,350 fish) unmarked. Last 4 lots (3,844 fish) adipose fin clip. Reference maps: Below Dunbar and below Nashwaak Village - 21 J/2 East, Burtts Corner. Ryan Brook, Grand John, Napadogan Brook and above Stanley - 21 J/7 West, Napadogan. Narrows Bridge, Hayden Brook, below Narrows Mtn. and McBean Brook - 21 J/6 East, Coldstream						
Notes: [1]H - Hatchery origin parentage. [2]W - Wild origin parentage.						
	Nov 8	Durham Bridge	46°08'N; 66°37'W	Underyearling		2,583
						5,222
	Nov 8	Nashwaak Village	46°05'N; 66°36'W			7,383
	Nov 9	Above Stanley	46°18'N; 66°46'W			6,851
	Total					22,039
Hatchery: Mactaquac Tag or mark: None Reference maps: Durham Bridge - 21 J/2 East, Burtts Corner. Nashwaak Village - 21 J/1 East, Minto Above Stanley - 21 J/7 West, Napadogan						

Year	Date	Location	Topographic coordinates	Stage	Run	Number stocked
1976	May 14	Narrows Bridge	46°17'N; 67°01'W	Underyearling		9,466
	May 14	Hayden Brook	46°18'N; 67°02'W			9,466
	Jun 1	Currieburg	46°19'N; 66°49'W	Postyearling		3,115
	Jun 1	McPherson Brook	46°18'N; 66°47'W			8,000
	Jul 21	McKenzie Brook	46°13'N; 66°31'W	Underyearling	Summer	24,000
	Jul 21	Cross Creek	46°16'N; 66°38'W		Summer	16,000
	Jul 21	McPherson Brook	46°18'N; 66°47'W		Summer	15,500
	Jul 22	Bellow Narrows Mtn.	46°17'N; 67°01'W		Spring	35,500
	Jul 22	McBean Brook	46°19'N; 67°06'W		Spring	30,000
	Jul 23	Cedar Bridge	46°20'N; 67°09'W			21,600
	Aug 10	Pine Pool	46°05'N; 66°36'W			13,500
	Aug 10	Durham Bridge	46°08'N; 66°37'W			13,000
	Aug 11	Doughboy Brook	46°21'N; 67°10'W			13,000
	Aug 11	Below Gorby Gulch	46°23'N; 67°09'W			12,000
	Aug 12	McLaggan Bridge	46°16'N; 66°40'W	Postyearling	Spring	12,100
	Aug 12	Counting fence site	46°07'N; 66°36'W		Spring	12,000
	Aug 12	Young's Brook	46°14'N; 66°36'W		Spring	1,210
	Total					249,457
Hatchery: Mactaquac Tag or mark: None Reference maps: 21 J/2 East, Burtts Corner 21 J/7 East and West, Napadogan 21 J/6 East, Coldstream						
1971	N/A	Nashwaak River	N/A	Underyearling		68,240
Hatchery: Saint John Tag or mark: None						
1969	N/A	Nashwaak River	N/A	Smolt		2,550
Hatchery: Florenceville Tag or mark: None						
1968	N/A	Nashwaak River	N/A	Underyearling		30,273
Hatchery: Saint John Tag or mark: None						
OROMOCTO RIVER SYSTEM						
1976	Jun 28	Brizely Stream	45°40'N; 66°33'W	Fry		10,000
	Jun 28	Mersereau Stream	45°38'N; 66°34'W			5,000
	Jun 28	Hoyt (Picnic site)	45°34'N; 66°32'W			15,000
	Jun 28	Bailey (Concrete bridge)	45°38'N; 66°34'W			5,000
	Jun 28	Fredericton Junction	45°39'N; 66°37'W			15,000
	Total					50,000
Hatchery: Miramichi Tag or mark: None						
	Jul 6	Hoyt (Picnic site)	45°34'N; 66°32'W	Underyearling		15,000
	Jul 6	Juvenile	45°32'N; 66°37'W			15,000
	Total					30,000
Hatchery: Saint John Tag or mark: None						
	Jul 23	Upper Tracy	45°40'N; 66°43'W	Underyearling	Fall	18,000
	Jul 23	Centre Blissville	45°36'N; 66°34'W		Fall	12,500
					Summer	5,500
	Aug 10	Tracy	45°40'N; 66°41'W		Summer	12,000
					Spring	9,000
	Aug 10	Centre Blissville	45°36'N; 66°34'W		Spring	1,000
	Total					58,000

Year	Date	Location	Topographic coordinates	Stage	Run	Number stocked
Hatchery: Mactaquac Tag or mark: None Reference map: 21 G/10 East, Fredericton Junction						
KESWICK RIVER						
1971	N/A	Keswick River	N/A	Underyearling		58,840
Hatchery: Saint John Tag or mark: None						
LITTLE RIVER						
1978	Jul 7	Highway bridge	46°01'N; 66°13'W	Fry	Summer	19,500
Hatchery: Mactaquac Tag or mark: None Reference map: 21 J/1 East, Minto						
1977	Aug 11	Little River	46°01'N; 66°13'W	Underyearling	Summer & Spring	5,596
Hatchery: Mactaquac Tag or mark: 595 fish had an adipose fin clip; others had no fin clips or tags. Reference map: 21 J/1 East, Minto						
1976	Jun 30	Minto Highway	46°01'N; 66°13'W	Underyearling	Fall	6,000
Hatchery: Saint John Tag or mark: Adipose fin clip Reference map: 21 J/1 East, Minto						
SALMON RIVER (CHIPMAN) SYSTEM						
1978	Jun 28	Doaktown Bridge	46°22'N; 65°57'W	Fry	Summer	20,000
		Upper Gaspereau	46°17'N; 65°52'W	Fry	Summer	15,000
		Perley Brook	46°16'N; 65°52'W	Fry	Summer	5,000
	Sep 22	Upper Gaspereau	46°17'N; 65°52'W	Underyearling	Fall	20,000
		McKean Brook	46°21'N; 65°55'W	Underyearling	Fall	20,000
		Doaktown Bridge	46°22'N; 65°57'W	Underyearling	Fall	7,000
	Sep 25	Little Blue Rock Brook	46°20'N; 66°03'W	Underyearling	Fall	10,000
				Underyearling	Fall	5,000
		Mountain Brook	46°21'N; 66°00'W	Underyearling	Fall	5,000
		Pleasant Brook	46°19'N; 65°52'W	Underyearling	Fall	10,000
		Doaktown Bridge	46°22'N; 65°57'W	Underyearling	Fall	7,000
	Sep 26	Upper Gaspereau	46°17'N; 65°52'W	Underyearling	Fall	15,000
		Bear Brook (Campsite)	46°18'N; 65°51'W	Underyearling	Fall	15,000
		Doaktown Bridge	46°22'N; 65°57'W	Underyearling	Fall	6,000
Hatchery: Saint John, Sep releases; Mactaquac, Jun releases Tag or mark: None Reference maps: 21 I/5 West, Salmon River Road; 21 J/8 Boiestown						
	Jun 29	Little Forks Brook	46°22'N; 65°30'W	Fry	Summer	20,000
		Big Forks Brook	46°20'N; 65°37'W	Fry	Summer	20,000
		Friel Brook	46°19'N; 65°40'W	Fry	Summer	10,000
		Castaway Brook	46°18'N; 65°43'W	Fry	Summer	10,000
		Total				220,000
Hatchery: Mactaquac Tag or mark: None Reference map: 21 I/5 East, Salmon River Road						

Year	Date	Location	Topographic coordinates	Stage	Run	Number stocked
1977	Jun 22	Castaway Brook	46°18'N; 65°43'W	Underyearling	Spring (H)	20,000
		Friel Brook	46°19'N; 65°40'W	Underyearling	Spring (H)	20,000
		Lamb Brook	46°19'N; 65°39'W	Underyearling	Spring (H)	10,000
				Underyearling	Summer (H)	10,000
		Sinclair Brook	46°21'N; 65°34'W	Underyearling	Summer (H)	20,000
		Big Forks Brook	46°20'N; 65°37'W	Underyearling	Spring (H)	10,000
				Underyearling	Summer (H)	10,000
Hatchery: Mactaquac Tag or mark: None Reference map: 21 I/5 East, Salmon River Road						
	Oct 7	Upper Gaspereau	46°17'N; 65°52'W	Underyearling	Spring	8,000
		Doaktown Bridge	46°22'N; 65°57'W	Underyearling	Spring	9,000
		Perley Brook	46°16'N; 65°52'W	Underyearling	Spring	1,031
	Oct 11	Doaktown Bridge	46°22'N; 65°57'W	Underyearling	Spring	6,973
		Above Mountain Brook	46°20'N; 66°01'W	Underyearling	Spring & Summer	8,000
		Little Blue Rock Brook	46°20'N; 66°03'W	Underyearling	Summer	5,000
Hatchery: Mactaquac Tag or mark: None Reference maps: 21 I/5 West, Salmon River Road; 21 J/8 Boiestown						
	Oct 25	Castaway Brook	46°18'N; 65°43'W	Underyearling	Summer (H)	3,053
		Friel Brook	46°19'N; 65°40'W	Underyearling	Fall (H)	3,000
		Big Forks Brook	46°20'N; 65°37'W	Underyearling	Spring (H)	2,125
				Underyearling	Fall (H)	3,000
		Little Forks Brook	46°22'N; 65°30'W	Underyearling	Fall (H)	8,948
		Total				158,130
Hatchery: Mactaquac Tag or mark: None Reference map: 21 I/5 East, Salmon River Road						
1976	Jun 18	Big Forks Brook	46°20'N; 65°37'W	Yearling		10,000
		Little Forks Brook	46°22'N; 65°30'W	Yearling		10,000
		Total				20,000
Hatchery: Saint John Tag or mark: Adipose fin clip Reference map: 21 I/5 East, Salmon River Road						
1975	Sep 24	Upper Gaspereau	46°17'N; 65°52'W	Underyearling	Summer	10,000
		Doaktown Bridge	46°22'N; 65°57'W	Underyearling	Summer	13,300
		Total				23,300
Hatchery: Saint John Tag or mark: None Reference map: 21 I/5 West, Salmon River Road						
1972	Oct 19	Upper Gaspereau	46°17'N; 65°52'W	Underyearling		12,954
		Pleasant Brook	46°19'N; 65°52'W	Underyearling		12,954
	Oct 11-26	Upper Salmon River	46°24'N; 65°26'W	Underyearling		25,937
		Castaway Brook	46°18'N; 65°43'W	Underyearling		14,805
		Cherry Brook	46°19'N; 65°37'W	Underyearling		12,954
		Little Forks Brook	46°22'N; 65°30'W	Underyearling		27,759
		Castaway Brook	46°18'N; 65°43'W	Underyearling		12,968
		Friel Brook	46°19'N; 65°40'W	Underyearling		12,954
		Fulton Brook	46°17'N; 65°47'W	Underyearling		12,968
		Total				146,253
Hatchery: Yarmouth Tag or mark: Anal fin clip Reference maps: 21 I/5 East and West, Salmon River Road; 21 I/6 West, Harcourt						

Year	Date	Location	Topographic coordinates	Stage	Run	Number stocked
1968	N/A	Salmon River	N/A	Underyearling		28,141

Hatchery: Saint John
Tag or mark: N/A

CANAAN RIVER SYSTEM

1975	Sep 23	Forks Stream	46°03'N; 65°33'W	Underyearling	Spring & Fall	10,000
		East Canaan	46°04'N; 65°22'W	Underyearling	Spring & Fall	16,700
		Total				26,700

Hatchery: Saint John
Tag or mark: None
Reference maps: 21 I/3 West, Salisbury; 21 I/4 East, Chipman

1972	Oct 17-24	Canaan River	46°10'N; 65°15'W	Underyearling		15,610
		Coy Brook	46°04'N; 65°30'W	Underyearling		15,609
		Forks Stream	46°03'N; 65°33'W	Underyearling		12,954
		North Branch Canaan River	46°11'N; 65°14'W	Underyearling		18,893
		East Branch Canaan River	46°13'N; 65°09'W	Underyearling		37,786
		South Canaan River	46°12'N; 65°10'W	Underyearling		18,892
		Total				119,744

Hatchery: Yarmouth
Tag or mark: Anal fin clip
Reference maps: 21 I/3 West, Salisbury; 21 I/4 East, Chipman

1970	N/A	Canaan River	N/A	Underyearling		28,960

Hatchery: Saint John
Tag or mark: None

KENNEBECASIS RIVER SYSTEM

1976	Jul 7	Summerfield	45°50'N; 65°35'W	Underyearling		6,750
		Kennebec Brook	45°51'N; 65°34'W	Underyearling		6,750
		Gibbon	45°52'N; 65°33'W	Underyearling		6,750
		Head of Mill Stream	45°53'N; 65°32'W	Underyearling		6,750
	Sep 28	Cedar Camp	45°42'N; 65°19'W	Underyearling	Fall	5,000
		Chambers Settlement	45°41'N; 65°18'W	Underyearling	Fall	5,000
		Parlee Brook	45°40'N; 65°25'W	Underyearling	Fall	5,000
			45°39'N; 65°24'W	Underyearling	Fall	5,000
		Walker Settlement	45°39'N; 65°24'W	Underyearling	Fall	5,000
		Springdale	45°45'N; 65°18'W	Underyearling	Fall	5,000
		South Branch	45°45'N; 65°17'W	Underyearling	Fall	5,000
		Mechanic Settlement	45°44'N; 65°12'W	Underyearling	Fall	7,362
		Total				69,362

Hatchery: Saint John
Tag or mark: None
Reference maps: 21 H/12 East and West, Sussex; 21 H/11 East and West, Waterford; 21 H/13 East and West, Codys

1971	N/A	Kennebecasis River	N/A	Underyearling		108,430

Hatchery: Saint John
Tag or mark: None

	N/A	Kennebecasis River	N/A	Underyearling		8,325

Hatchery: Charlo
Tag or mark: None

Year	Date	Location	Topographic coordinates	Stage	Run	Number stocked
	N/A	Kennebecasis River	N/A	Underyearling		24,670
		Total				141,425

Hatchery: Saint John
Tag or mark: None

1968	N/A	Kennebecasis River (South Branch)	N/A	Postyearling		6,622

Hatchery: Saint John
Tag or mark: None

HAMMOND RIVER SYSTEM

1976	Jun 2	Smithtown	45°28'N; 65°48'W	Postyearling		10,000
	Jun 7	Handford Brook	45°28'N; 65°38'W	Postyearling		10,000
		Hillsdale	45°33'N; 65°33'W	Postyearling		10,000
	Jul 7	Barnsville East	45°26'N; 65°42'W	Underyearling		11,000
		Barnsville South	45°25'N; 65°44'W	Underyearling		8,000
		Grove Hill	45°25'N; 65°44'W	Underyearling		5,000
		Markhamville	45°37'N; 65°27'W	Underyearling		9,000
	Sep 27	Titusville	45°30'N; 65°44'W	Underyearling	Spring	5,000
		Salt Springs	45°32'N; 65°40'W	Underyearling	Spring	5,000
		Upper Salt Springs	45°33'N; 65°39'W	Underyearling	Spring	5,000
		Hillsdale	45°33'N; 65°34'W	Underyearling	Spring	5,000
		Fowler Brook	45°33'N; 65°34'W	Underyearling	Spring	5,000
		March Bank	45°34'N; 65°33'W	Underyearling	Spring	5,000
		Germaine Brook	45°28'N; 65°39'W	Underyearling	Spring	5,000
		Hardingville North	45°26'N; 65°40'W	Underyearling	Spring	5,000
		Hardingville	45°25'N; 65°40'W	Underyearling	Spring	5,112
		Total				108,112

Hatchery: Saint John
Tag or mark: All unmarked with the exception of Jun 2 and 7 which had adipose fin clips.
Reference map: 21 H/5 East, Loch Lomond; 21 H/11 West, Waterford; 21 H/12 East, Sussex

1972	N/A	Hammond River	N/A	Underyearling		101,887

Hatchery: Miramichi
Tag or mark: None

1971	N/A	Hammond River	N/A	Underyearling		71,870
	N/A	Hammond River	N/A	Underyearling		14,875
		Total				86,745

Hatchery: Saint John
Tag or mark: None

1968	N/A	Hammond River	N/A	Yearling		5,725
	N/A	Hammond River	N/A	Smolt		256
	N/A	Hammond River	N/A	Smolt		114
	N/A	Germaine Brook	45°28'N; 65°39'W	Underyearling		2,550
	N/A	Handford Brook	45°28'N; 65°38'W	Underyearling		2,550
		Total				11,195

Hatchery: Saint John
Tag or mark: None
Reference map: 21 H/5 East, Loch Lomond

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