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# INORGANIC CHEMICAL ANALYSIS OF MAJOR RIVERS FLOWING INTO THE BAY OF FUNDY, SCOTIAN SHELF AND BRAS D'OR LAKES

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Canada

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## ABSTRACT

Dalziel, J.A., P.A. Yeats, and B.P. Amirault. 1998. Inorganic chemical analysis of major rivers flowing into the Bay of Fundy, Scotian Shelf and Bras d'Or Lakes. Can. Tech. Rep. Fish. Aquat. Sci. 2226: vii + 140 p.

DFO's Marine Chemistry Section at the Bedford Institute of Oceanography has conducted systematic measurements of the inorganic chemical content of the major freshwater rivers flowing into the marine waters of the Bay of Fundy, Scotian Shelf and Bras d'Or Lakes. These measurements are required to provide input information for modeling purposes and to improve the knowledge of the fluxes of land derived chemicals entering the marine environment. This project entailed seasonal collection of water samples and field measurements from 29 rivers located throughout mainland Nova Scotia, Cape Breton and New Brunswick. The river sampling began in the fall of 1992 and finished in late August of 1996. The data from the on site measurements (temperature, dissolved oxygen, pH, conductivity) and the chemical analysis of the various water samples (DOC, nutrients, Hg, dissolved and particulate elements - Al, Sb, As, Ba, Be, Bi, Br, B, Cd, Ca, Cr, Co, Zn, Cu, I, Mg, Pb, Ni, Fe, Mn, Mo, Hg, P, Se, Ag, Sr, Te, Tl, Th, Ti, U, V) have been collated and will be illustrated in this report.

## RÉSUMÉ

Dalziel, J.A., P.A. Yeats, and B.P. Amirault. 1998. Inorganic chemical analysis of major rivers flowing into the Bay of Fundy, Scotian Shelf and Bras d'Or Lakes. Can. Tech. Rep. Fish. Aquat. Sci. 2226: vii + 140 p.

La Section de la chimie marine du MPO à l'Institut océanographique de Bedford a effectué des mesures systématiques de la concentration de substances chimiques inorganiques dans les principales rivières d'eau douce qui se jettent dans les eaux salées de la baie de Fundy, du plateau néo-écossais et des lacs Bras d'Or. Ces mesures sont destinées à recueillir des renseignements à des fins de modélisation et à améliorer notre connaissance du cheminement des produits chimiques d'origine terrestre dans le milieu marin. On a donc prélevé des échantillons saisonniers d'eau et effectué des mesures dans 29 rivières de la péninsule néo-écossaise, du Cap-Breton et du Nouveau-Brunswick. L'échantillonnage a commencé en automne 1992 et s'est terminé en août 1996. Les résultats des mesures réalisées sur place (température, oxygène dissous, pH et conductivité) et de l'analyse chimique des divers échantillons d'eau (COD, matières nutritives, mercure, éléments dissous et éléments particuliers - Al, Sb, As, Ba, Be, Bi, Br, B, Cd, Ca, Cr, Co, Zn, Cu, I, Mg, Pb, Ni, Fe, Mn, Mo, Hg, P, Se, Ag, Sr, Te, Tl, Th, Ti, U, V) ont été rassemblés et sont présentés dans le présent rapport.

## INTRODUCTION

The objectives of DFO's Science Branch Toxic Chemicals Green Plan Project 1.2.2 were: to acquire comprehensive information on the input fluxes of toxic chemicals into the coastal waters through runoff; to collate and store this information on the National Contaminants Information System (NCIS) and to provide the data for coastal embayment modeling applications.

The existing sources of inorganic contaminant data for rivers, such as DOE's NAQUADAT, have reported many metals less than or equal to ( $\leq$ ) detection limits. This type of data base has forced scientists calculating the flux of contaminants from rivers to coastal waters to use analytical detection limits in their calculations. These detection limits can be several fold higher than the actual concentrations found in the rivers, as is often the case with cadmium and mercury. A second concern arising from using the "older" data is the level of contamination from not using today's high purity reagents and "clean" sampling and processing techniques. Also, the more recent advances in analytical instrumentation such as Inductively Coupled Plasma Mass Spectrophotometry (ICP-MS) for inorganic multi-element analysis and Atomic Fluorescence techniques for mercury determinations have lowered analytical detection limits 10 to 1,000 fold. This report compiles data collected from a series of rivers using today's more sensitive clean sampling, processing and analytical measurement techniques.

The sampling for this project began in the fall of 1992 with a series of rivers selected from mainland Nova Scotia. In the fall of 1993, ten rivers from Cape Breton and eight from New Brunswick were included in the survey set. This brought the total number of rivers sampled to 29 - 11 in mainland Nova Scotia (Musquodoboit River, East River-Sheet Harbour, St. Mary's River, Gold River, LaHave River, Medway River, Mersey River, Roseway River, Clyde River, Tusket River, Annapolis River), 10 in Cape Breton (Inhabitants River, Grand River, Framboise River, Sydney River, North River, Margaree River, Chetichamp River, Middle River, Baddeck River, River Denys) and 8 in New Brunswick (Petitcodiac River, Kennebecasis River, St. John River, LePreau River, New River, Magaguadavic River, Digdeguash River, St. Croix River). The locations of all rivers from this study are illustrated in Figure 1. It should be noted that this project was not a comprehensive survey of all rivers flowing into the region. The number of rivers surveyed for this project was limited by field logistics and the sampling/analytical budget. The river selection was based on three factors; river flow information from Environment Canada's Historical Streamflow Summary of the Atlantic Provinces (1), geographical coverage, and interest expressed by clients within and outside DFO.

During 1993, 1994 and 1995, three surveys per year were conducted at the 29 river sites; first in May to sample the winter runoff, then in August to sample waters at low river flow and finally in November to sample the rivers during the runoff from the early winter rains. In 1996, the final year of this project, two surveys of all rivers were conducted, one in May and one in August.

This report will illustrate and discuss the data from the on-site measurements of temperature, dissolved oxygen, pH and conductivity. The data from the analysis of various water samples collected for DOC, nutrients, Hg, dissolved and particulate elements (Al, Sb, As, Ba, Be, Bi, Br, B, Cd, Ca, Cr, Co, Zn, Cu, I, Mg, Pb, Ni, Fe, Mn, Mo, Hg, P, Se, Ag, Sr, Te, Tl, Th, Ti, U, V) for each river site will also be illustrated and discussed. All data will be stored in the NCIS.

## **METHODS**

### **ON-SITE MEASUREMENTS**

The on-site measurements and sample collection were carried out by Marine Chemistry personnel for the two 1992 surveys and most of the 1993 sampling. The field work was contracted out to Sprytech Biological Services for a late fall survey of the mainland Nova Scotia rivers in 1993 and all the remaining field sampling for 1994 through to 1996. The contractor was instructed in all aspects of on-site measurements and clean field sample processing before each seasonal survey.

On-site measurements were made for pH, dissolved oxygen, conductivity and water temperature. The pH measurements and temperature were measured using an Orion®™ (Model 250 - 1992 to 1994; Model 230A - 1995 to 1996) Meter with temperature probe and ROSS® SURE-FLOW™ pH electrodes. The pH meter was calibrated with 2 buffers, pH 4 and pH 7. A sample of river water was collected in a beaker and measured for pH while being stirred with a battery powered stirrer. Separate aliquots were drawn and measured from the river site until a precision of ±0.05 pH units was obtained. Water temperature was measured by holding the temperature probe just below the surface until a stable reading was noted on the Orion® meter. The dissolved oxygen was measured in the fall of 1994 using an Orion® (Model 97-02) oxygen electrode connected to the Orion® (Model 250) meter. Water samples were carefully collected in glass BOD bottles and the sample was stirred near the electrode sensor using an on-site battery powered magnetic stirrer. The oxygen measurements from the spring of 1995 to 1996 were collected using an Orion® 840 Dissolved Oxygen Meter. The oxygen probe was placed in the river near to the sampling location and the concentration was noted when a stable reading occurred. The conductivity measurements were made using a YSI (Model 33) conductivity meter with probe.

The latitude and longitude coordinates of each river site were noted using a hand held global positioning system (Garmin GPS 75 Personal Navigator™).

## **SAMPLE COLLECTION AND ANALYSIS**

The following series of water samples were collected on-site initially by personnel from Marine Chemistry Section and later under contract by Sprytech Biological Services:

- duplicate unfiltered nutrient samples
- duplicate filtered dissolved organic carbon (DOC) - beginning in 1994
- 100 ml unfiltered water sample for Rapid Chemical Analysis - from 1992-1994
- 1 liter unfiltered water sample for suspended solids (SPM)
- 500 ml filtered water sample for dissolved metals
- 500 ml unfiltered water sample for total Mercury - beginning in the fall of 1994

All the above samples were collected by hand at each site while wearing disposable plastic gloves to reduce contamination.

### Nutrients

The unfiltered nutrient samples were collected in 30 ml acid cleaned high density polyethylene bottles after rinsing twice with river water. The samples bottles were bagged in plastic and stored at -4 °C until analysed. At a later date, the samples were thawed and analysed at our laboratory with a Technicon Auto Analyser II using modified Technicon procedures(2).

### DOC

The DOC samples were collected in duplicate using a glass syringe and filtering through a Gelman glass fiber filter into precleaned 8 ml screw top glass culture tubes. The glass fiber filters and culture tubes were prepared for the DOC sampling by overnight heating at 260°C. Each of the DOC samples were acidified with 20µL of phosphoric acid in a clean bench at BIO and stored at -4 °C. The samples were analysed by the contractor (Fenwick Laboratories, later called MDS Environmental) using a persulphate/UV oxidation EPA Method 415.1.

### Rapid Chemical Analysis package (RCAp)

This analytical package has been defined by Fenwick Laboratories - the contractor - to be a complete chemical water quality analysis consisting of 31 analytes. The unfiltered RCap samples were collected in 100 ml polyethylene bottles that were cleaned and supplied by the contractor. The collected samples were sent to the contract lab for analysis within 24 hours of arrival at BIO. The sampling for the RCap stopped at the completion of the 1994 field season. The detection limits and method used for each of the analytes in the RCap are listed in Table 1.

### Suspended Particulate Matter

The SPM samples were collected in acid cleaned 1 L polypropylene bottles. The water was filtered within 24-48 hours of collection through an all plastic, acid cleaned filtering system incorporating tared, acid cleaned 0.4µm Nuclepore polycarbonate filters and modified polypropylene separatory funnels designed to pressure filter the samples with nitrogen at 10 psi. The filter was air dried in a "Clean Bench" and weighed with a micro balance to determine gravimetric SPM concentration. The SPM samples were later digested in the clean room fume hood with high purity Seastar HNO<sub>3</sub> (2 ml) and HF (1 ml) in a Teflon bomb, evaporated to dryness and redissolved in Seastar high purity HNO<sub>3</sub>. This was a modification of the Loring-Rantala method (3). The SPM digest was analysed by the contractor (Fenwick and later RPC) using ICP-MS. Digested filter blanks and analysis of certified reference material (CRM) were used to determine digestion efficiency and accuracy. The data from the analysis of CRM's are listed in Appendix 1.

### Dissolved Metal Samples

The water sample collected for dissolved metals was filtered on-site through an acid cleaned, sampling system which incorporated a 0.45µm Gelman mini capsule filter cartridge (cat. # 12123). A new cartridge was used at each river site and was cleaned prior to use by flushing with 15 to 20 liters of filtered high purity 18 megohm water (SQ) in our clean laboratory. The water sample was drawn from the river through acid cleaned silicon tubing using a Masterflex hand pump. The tubing was weighted at the sampling end with a plastic coated weight. The Gelman cartridge was connected in-line with the silicon tubing and drained into a 500 ml sample bottle with the cover modified with a bulk-head connector. This sampling system with filter was flushed with several portions of river water prior to collecting the filtered trace metal sample in the acid cleaned 500 ml bottle. The bottled sample was bagged in plastic for storage and transport back to the clean room at BIO where the outside of the bottle was rinsed down with SQ before the sample was opened and acidified with high purity Seastar Nitric acid - 1 ml per liter. A 30 ml aliquot of these filtered samples were later shipped in acid cleaned polyethylene bottles to the contract lab (Fenwick Laboratories and later RPC) for analysis by ICP-MS. Filtered SQ blanks and "blind" analysis of river water certified reference material SLRS-2 were used to evaluate the quality assurance of the dissolved metal data. The data from the analysis of the river CRM's are listed in Appendix 2.

### Total Mercury

Unfiltered water samples for total Hg were collected by hand directly into acid cleaned 500 ml Teflon bottles. The samples were double bagged in plastic for storage and transport to the clean room at BIO. In the clean room, the outside of the bottle was rinsed down with SQ before the sample was opened and oxidized with 2½ ml of the 0.2N BrCl solution. The samples were exposed to UV light for 24 hours with additional BrCl added if the sample color indicated that the oxidant was depleted. The organic content of some rivers required more BrCl to be added. Prior to analysis, 2 ml of 30% NH<sub>2</sub>OH·HCl were added to the 500 ml sample and allowed to react for 5 minutes to neutralize the excess BrCl. The Hg in the sample was reduced with SnCl<sub>2</sub>,

preconcentrated on a gold trap and detected with Cold Vapor Atomic Fluorescence Spectroscopy (4).

## RESULTS and DISCUSSIONS

A general description of the 29 sampling sites along with their GPS position is listed in Table 2. The data from DOC, SPM analysis and the on-site measurements of temperature, pH, conductivity and oxygen are listed in Tables 3-1 to 3-13. The mainland Nova Scotia data are listed in Tables 3-1 to 3-5 and show the low pH values (<5) typical of rivers located along the south shore. The lowest values were observed in the spring and late fall sampling and noted especially in the Mersey, Roseway, Clyde, Tusket and Sheet Harbour rivers. These rivers were also seen to have higher DOC values. The Cape Breton and New Brunswick data show a gap for August 1995 due to the high salinity measured at the Inhabitants, Grand, Framboise and St. John rivers sites as a result of the very high tides caused by intense coastal storms. The pH data from the November survey of 1995 in Cape Breton was not collected due to a broken pH electrode. The New Brunswick field data listed in Tables 3-10 to 3-13 show the New River and Lepreau with lowest pH values in the spring and fall while the Petitcodiac was generally alkaline with pH often measured above 8. The DOC values in the Magaguadavic and Digdeguash rivers were often the highest measured for the New Brunswick rivers.

The nutrient data for unfiltered river water analysed for silicate, phosphate, nitrate+nitrite and ammonia are listed in Tables 4-1 to 4-13. The mainland Nova Scotia data illustrated in Tables 4-1 to 4-5 show very high nitrate plus nitrite for the Annapolis river - as high as 100  $\mu$ Molar and elevated values for the Musquodoboit river. The silicate values for the Annapolis river were the highest of all mainland rivers. The Cape Breton river data illustrated in Tables 4-6 to 4-9 show much higher silicate and nitrate plus nitrite for most rivers compared to mainland Nova Scotia. The data for New Brunswick, listed in Tables 4-10 to 4-13 show the values of nutrients measured in this province compare well with the range of data observed from Cape Breton.

The data from the analysis of the unfiltered RCAP samples are listed in Tables 5-1 to 5-7. The data for the mainland Nova Scotia rivers are listed in Table 5-1 to 5-3; the Cape Breton river data is illustrated in Table 5-4 to 5-5 and the data for New Brunswick listed in Table 5-6 to 5-7. This RCAP analysis package was designed by Fenwick Laboratories to evaluate 30 water quality parameters to enable a comprehensive characterization of the inorganic quality of the river water. Several analytes from this package - conductivity, pH, nutrients - were also analysed on-site or separately using more sensitive techniques. The good agreement between these field measurements and RCAP data gave a good check of the on-site measurements (pH, conductivity, dissolved oxygen) with the caveat that the RCAP samples were often analysed a few days after collection. The measurement of "color" in the RCAP sample enhanced the DOC data and again showed the water in south shore rivers of Nova Scotia mainland - Roseway, Clyde and Tusket - to be very dark due to the high organic content. The RCAP data showed most of the rivers in the region to have "soft" water. The rivers having "hard" water were the Annapolis in mainland Nova Scotia; the Margaree, Middle, Baddeck, and River Denys in Cape Breton and the Kennebecasis and Petitcodiac in

New Brunswick. It is important to note several analytes (especially metals and nutrients) from the RCap tables were also reported in other tables using analytical techniques with greater sensitivity and accuracy.

The ICP-MS data from the analysis of dissolved river samples for metals are listed in Tables 6-1 to 6-13. The mainland Nova Scotia data set run from the fall of 1992 to the last set collected in August of 1996 and are shown in Tables 6-1 to 6-5; the Cape Breton and New Brunswick data sets run from the fall of 1993 to 1996. The Cape Breton data are illustrated in Tables 6-6 to 6-9 and the New Brunswick data in Tables 6-10 to 6-13. A yearly average of all the data from mainland Nova Scotia is illustrated in Table 6-14, similar data for Cape Breton in Table 6-15 and for New Brunswick in Table 6-16. The minimum, maximum, average and standard deviation of all the 1994 and 1995 data from the three areas were calculated to compare metal levels from each area and are illustrated in Table 6-17, 18 and the average values from these table are illustrated in Figures 2 and 3. The data from 1994 and 1995 were selected for this analysis because it was the period with the most comparable and complete three season sampling regime for all analytes.

The dissolved metal data from these tables show highest levels of dissolved Al, Fe, Zn, Cu, Ni and Pb were often observed in the Nova Scotia's south shore rivers - Mersey, Tusket, Clyde and Roseway - where pH values <5 were often noted. When looking at the average concentration of metals in each region over the time scale of the experiment (Table 6-14 to 16), large variability in the data between sampling years was not noted. In the data from the 1994, 1995 comparative study (Table 6-17, 18 and Figure 2, 3), the average levels of Al, Cu, Fe, Pb, and Zn from mainland Nova Scotia were often higher than levels noted in Cape Breton and New Brunswick, while large differences for these elements between Cape Breton and New Brunswick were not evident. The much higher levels of sodium and strontium in much of the data from New Brunswick and Cape Breton are the result of traces of seawater at sampling sites in these two areas.

The particulate metal data from the analysis of digested SPM from the rivers are listed in Tables 7-1 to 7-13. The mainland Nova Scotia data set run from the fall of 1992 to the last set collected in August 1996 and are shown in Tables 7-1 to 7-5; the Cape Breton and New Brunswick data set run from the fall of 1993 to 1996. The Cape Breton data are listed in Tables 7-6 to 7-9 and the New Brunswick data in Tables 7-10 to 7-13. The average particulate metal concentration from each year from 1992-96 for mainland Nova Scotia is listed in Table 7-14, a similar data set for Cape Breton and New Brunswick for the period of 1993-96 are listed in Tables 7-15, 16. The minimum, maximum, average and standard deviation of all the 1994 and 1995 data from Nova Scotia, Cape Breton and New Brunswick were calculated to compare the concentrations from each area for both years and are listed in Table 7-17, 18. Comparisons of the average values from Tables 7-17 and 7-18 for Nova Scotia, Cape Breton and New Brunswick for 1994 and 1995 are also illustrated in Figure 4 and Figure 5.

The comparison of particulate metal data for each region over the length of the experiment shows Nova Scotia as having little variability in the average particulate metal concentrations for the data from 1992-96 (Table 7-14) with the exception of copper in

the 1995 data set. The comparison of yearly values from New Brunswick (Table 7-16) show little variability from 1993 to 1996 except for copper and lead in the 1995 data set and for Cape Breton (Table 7-15) a similar trend with little variability from 1993 to 1996 except for the 1995 data for cadmium, copper, lead and zinc. The elevated 1995 values for Cape Breton occurred in the samples from the spring survey and were not repeated in other spring data sets for Cape Breton. A comparison of the average particulate metal data between Nova Scotia, Cape Breton and New Brunswick for 1994 (Table 7-17 and Figure 4) and 1995 (Table 7-18 and Figure 5) show higher zinc and aluminum in New Brunswick and Cape Breton for both years. The high levels of copper, lead and zinc in the 1995 Cape Breton spring survey give Cape Breton higher average particulate metal concentrations than seen in the data from New Brunswick and Nova Scotia (Figure 5).

The data from the analysis of unfiltered water samples analysed for "Total Mercury" are listed in Table 8-1. The table shows the sampling for Hg began in the fall of 1994 with samples collected from mainland Nova Scotia and New Brunswick. A three season survey of most rivers was completed in 1995 and only a May and August survey from 1996. The data in Table 8-1 and illustrated in Figure 6 show the average concentration from mainland Nova Scotia (5.03 ng/L) to be significantly ( $P < 0.0001$ ) higher than Cape Breton (2.71 ng/L) and New Brunswick (3.26 ng/L) with the highest levels seen in spring and late fall sampling. The high concentrations noted in the mainland Nova Scotia rivers were often observed in the brown water, high DOC, south shore rivers - Clyde, Tusket, Roseway - while the lowest levels were seen in the water from Cape Breton. The high concentration determined from the Baddeck site in November 1995 was collected after a 24 hour period of intense rain and is similar to levels reported in precipitation from the Maritime region (5).

## CONCLUSIONS

The chemical data from the rivers along the Nova Scotia south shore are characterized by low pH (<5), higher DOC levels (>10 mg/L) and elevated levels of dissolved Al, Fe, Zn, Cu, Ni, Pb and total Hg when compared to the concentrations seen in the rivers for Cape Breton and New Brunswick. The higher levels of Na and Sr often observed in the dissolved data in Cape Breton and New Brunswick were attributed to traces of seawater at these sampling sites. The Hg data show the average level from Cape Breton was lower than the other two regional areas although a high value observed during the late fall sampling at Baddeck was attributed to an intense rain event. When comparing the regional average concentration of dissolved metals for each sampling year, large variability between the yearly averages were not noted in the data from Nova Scotia, Cape Breton and New Brunswick. A similar pattern was not noted in the particulate metal data. The 1995 particulate metals for Nova Scotia are high for Cu while the 1995 New Brunswick data were high Cu and Pb and the 1995 Cape Breton data were high for Cd, Cu Pb and Zn. When comparing average levels of particulate metals between Nova Scotia, Cape Breton and New Brunswick, the levels observed in the Nova Scotia data were often lower than levels for the other two areas.

## ACKNOWLEDGMENTS

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- 5) Dr. Stephen Beauchamp, Environment Canada (AES), personal communication.

Figure 1

Locations of rivers sampled in mainland Nova Scotia, Cape Breton and New Brunswick

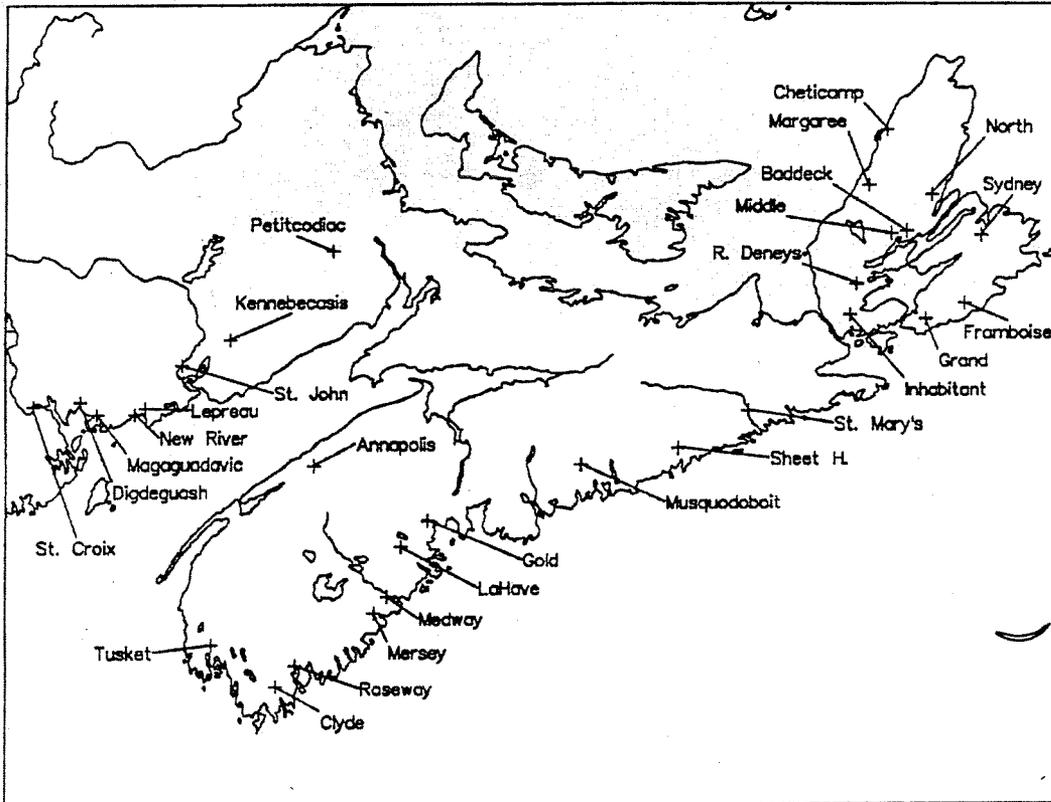


Figure 2

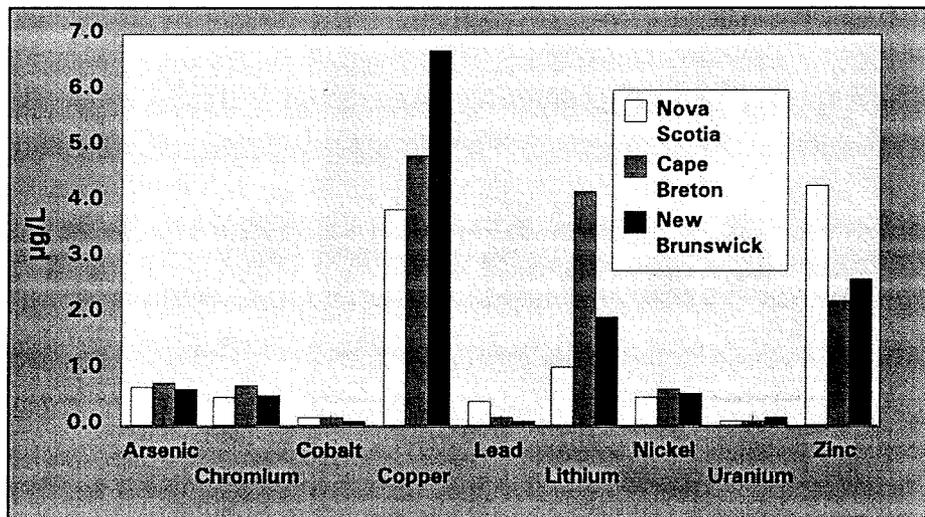
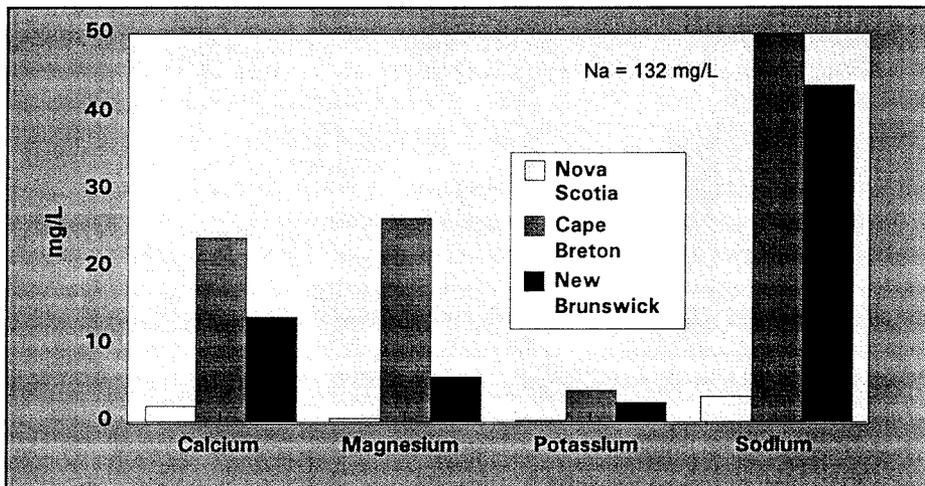
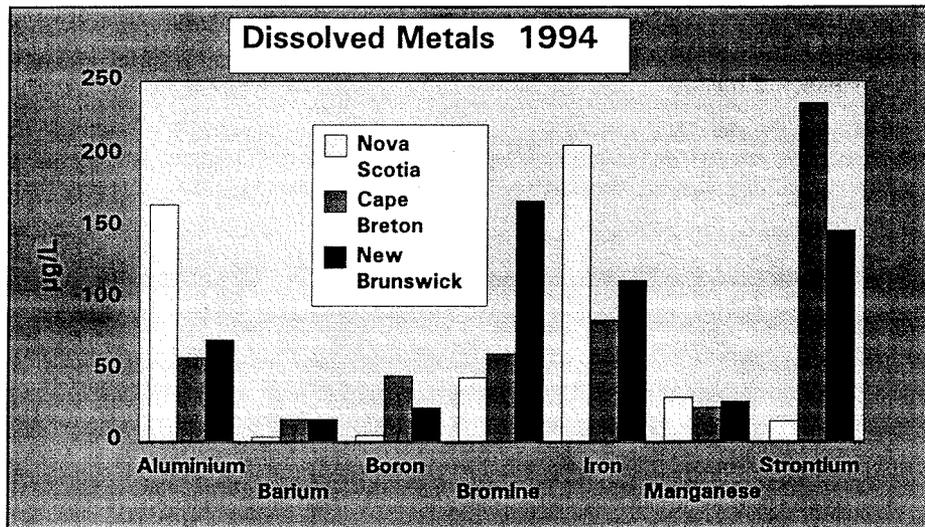


Figure 3

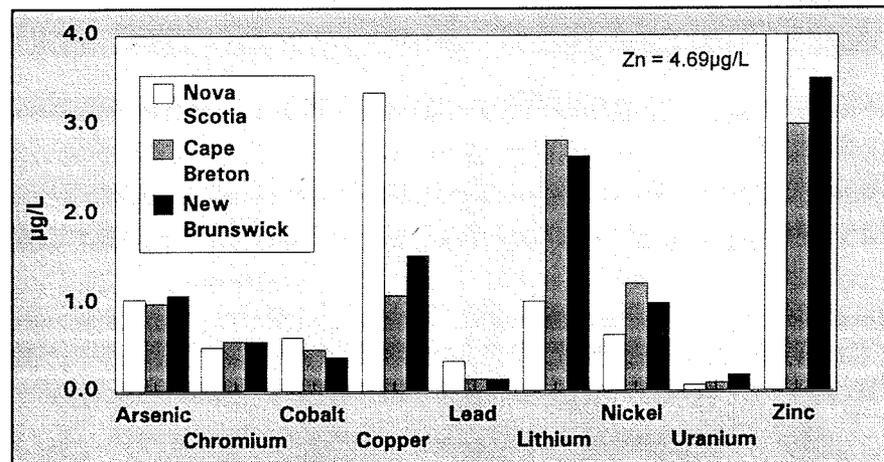
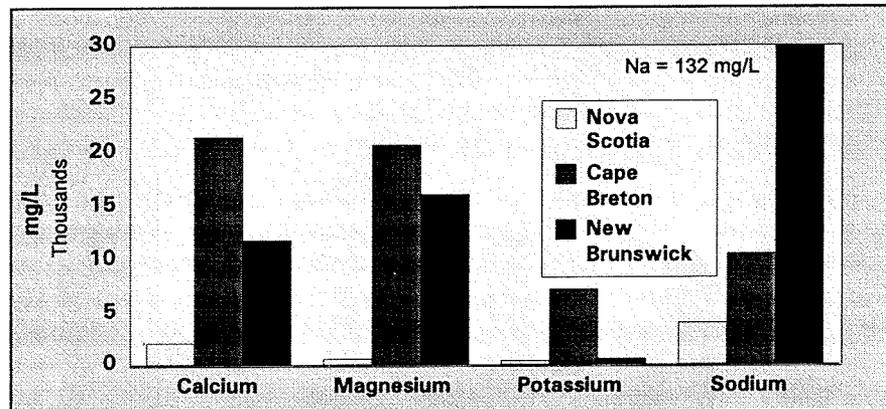
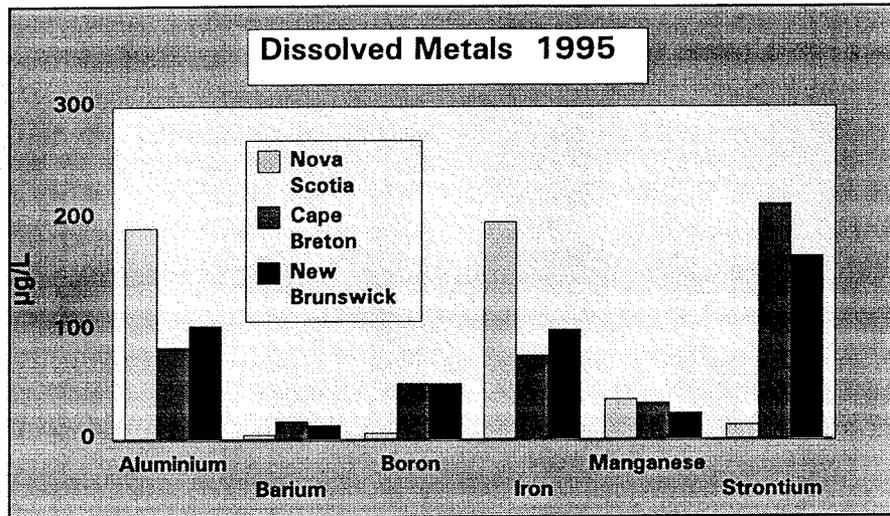


Figure 4

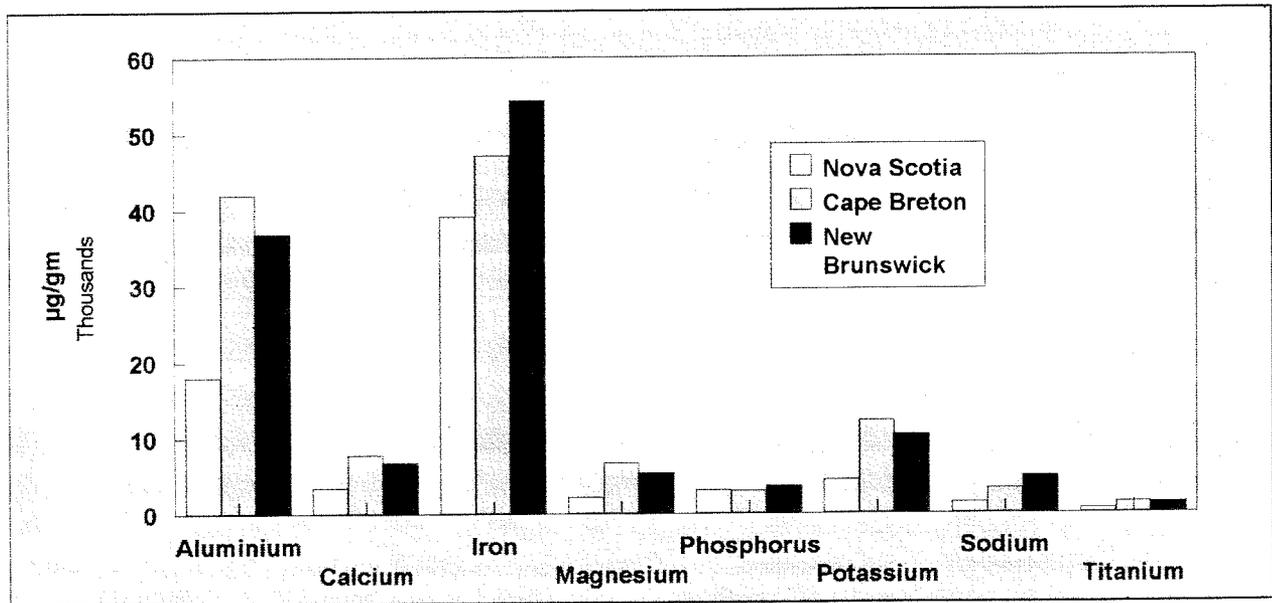
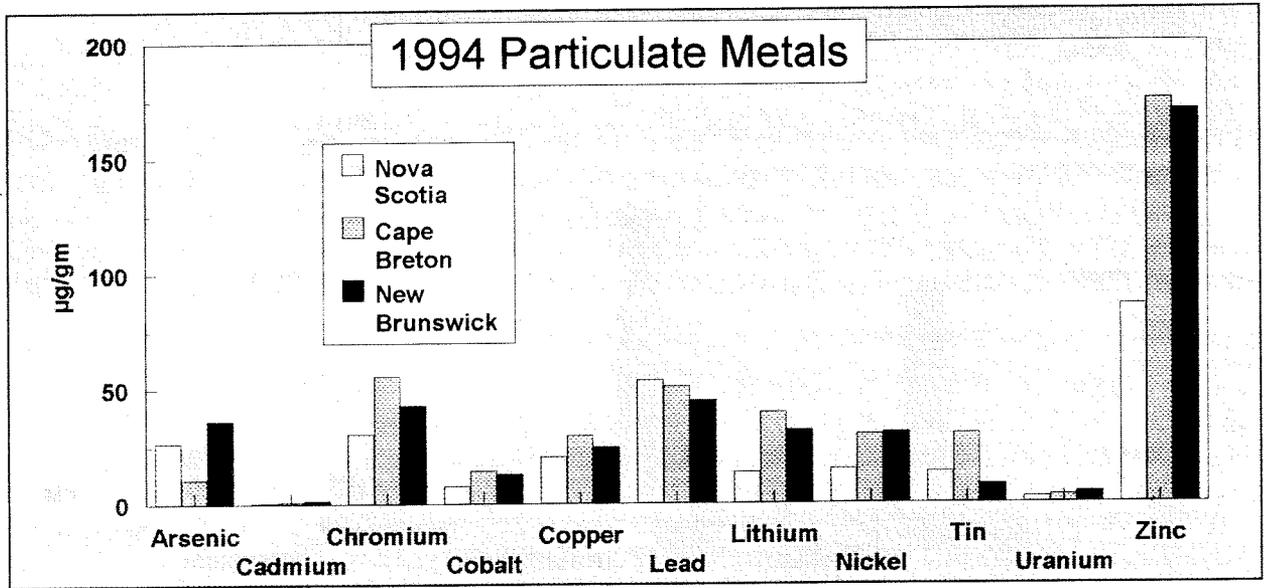
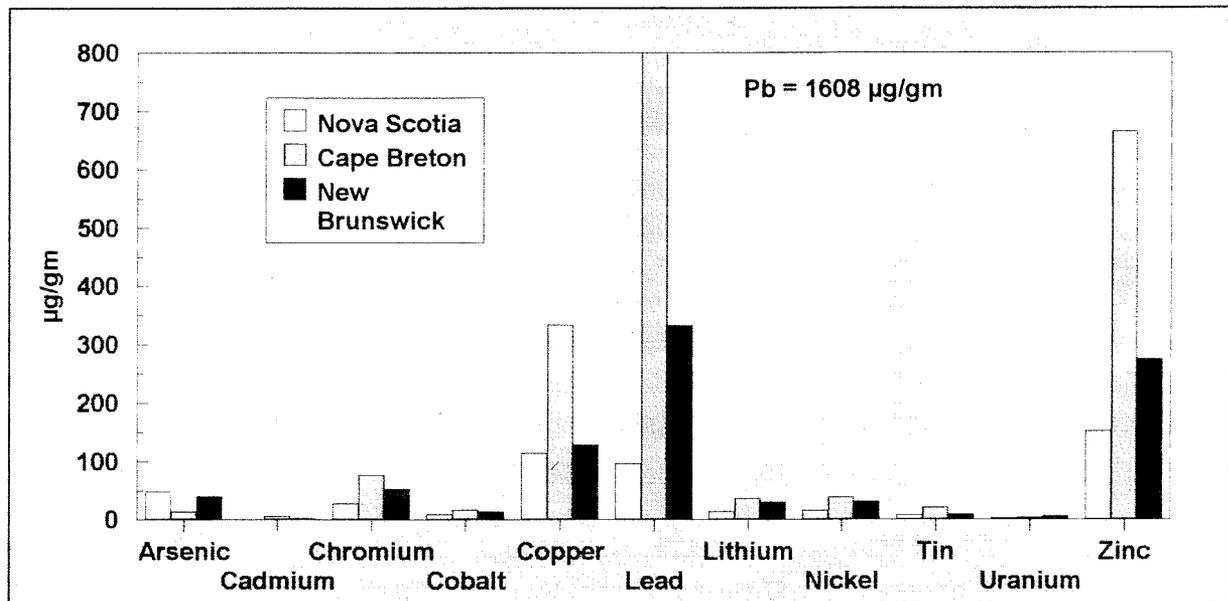
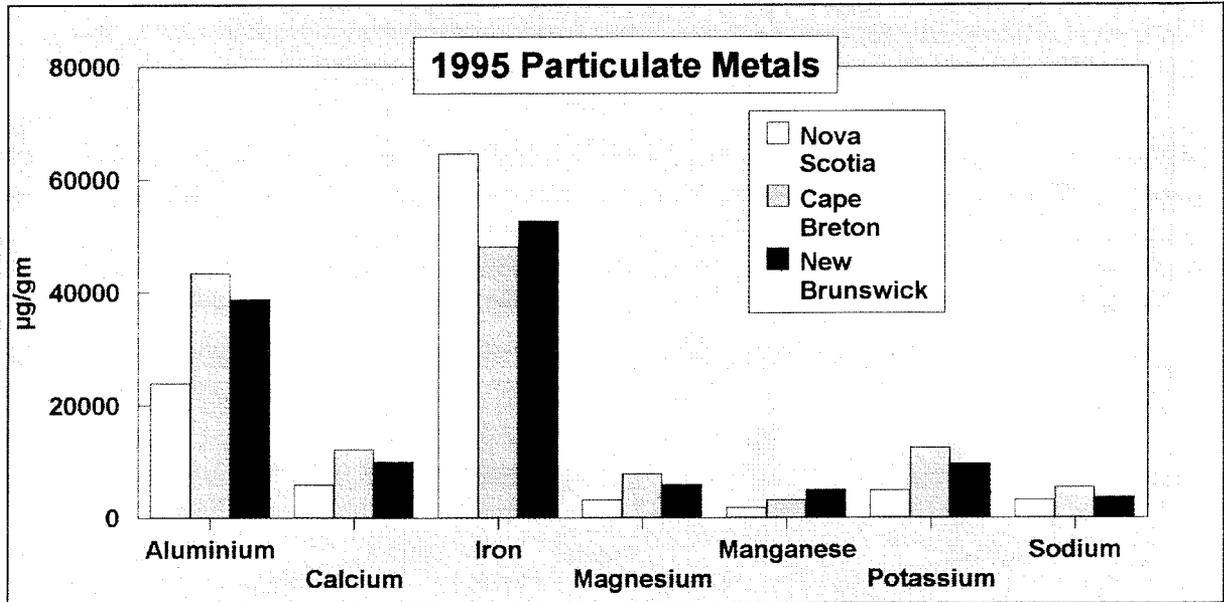


Figure 5



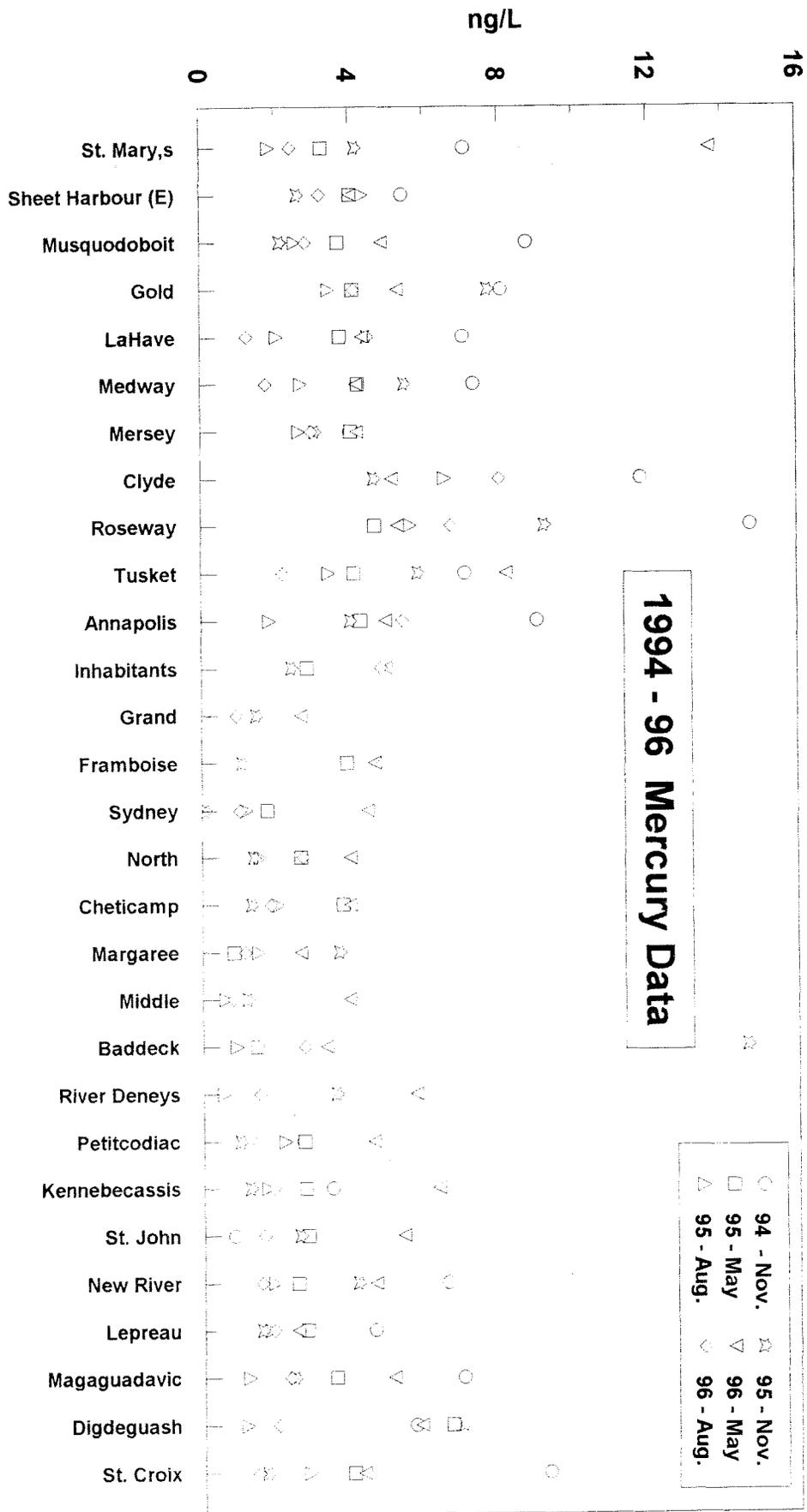


Figure 6

Table 1

### Detection Limits and Method References for RCap

Analytes	Detection Limit		Method	Method References
	mg/L			
Sodium	0.1		ICP	APHA 3120B
Potassium	0.1		ICP	APHA 3120B
Calcium	0.1		ICP	APHA 3120B
Magnesium	0.1		ICP	APHA 3120B
Hardness (as CaCO <sub>3</sub> )	N/A		Calculated	APHA 2340B
Alkalinity (as CaCO <sub>3</sub> )	1		Cobas Fara Centrifugal Analyzer	EPA 310.2
Sulfate	2		Cobas Fara Centrifugal Analyzer	APHA 4500E
Chloride	1		Cobas Fara Centrifugal Analyzer	APHA 4500E
Reactive Silica	0.5		Cobas Fara Centrifugal Analyzer	APHA 4500F
Ortho Phosphate (as phosphorus)	0.01		Cobas Fara Centrifugal Analyzer	APHA 4500F
Nitrate + Nitrite (as Nitrogen)	0.05		Cobas Fara Centrifugal Analyzer	EPA 353.1
Ammonia (as Nitrogen)	0.05		Cobas Fara Centrifugal Analyzer	APHA 4500H
Iron	0.02		ICP	APHA 3120B
Manganese	0.01		ICP	APHA 3120B
Copper	0.01		ICP	APHA 3120B
Zinc	0.01		ICP	APHA 3120B
Colour	N/A		Colorimeter	APHA 2120BC
Turbidity	N/A		Nephelometer	APHA 2130B
Conductivity	N/A		Conductivity Meter	APHA 2510B
pH	N/A		pH Meter	APHA 4500B
Total Organic Carbon	0.5		Technicon Auto-Analyzer	APHA 5310C
Hardness (asCaCO <sub>3</sub> )	N/A		Calculated	APHA 2340B
Carbonate (as CaCO <sub>3</sub> )	N/A		Calculated	APHA 4500D
Bicarbonate (asCaCO <sub>3</sub> )	N/A		Calculated	APHA 4500D
Ion Sum (TDS)	N/A		Calculated	APHA 1030F
Theoretical Conductivity	N/A		Calculated	APHA 1030F
Cation Sum	N/A		Calculated	APHA 1030F
Anion Sum	N/A		Calculated	APHA 1030F
Ion Balance	N/A		Calculated	APHA 1030F
Langelier Index	N/A		Calculated	APHA 2330B
Saturation pH	N/A		Calculated	APHA 2330B

Rapid Chemical Analysis package (RCap) was conducted by MDS Environmental Services Limited previously known as Fenwick Laboratories.

APHA - American Public Health Assoc.

EPA - Environmental Protection Agency

Table 2

## Site Description for River Sampling

River	GPS Position	Site Description
Musquodoboit	N 44° 52.330' W 063° 12.260'	near Crawford's bridge on route 357
Sheet H. - East	N 44° 57.335' W 062° 29.953'	5.2 km upstream from the Sheet Harbour bridge
St. Mary's	N 45° 09.157' W 061° 58.528'	near the Prov. picnic park, upstream from Sherbrooke
Gold	N 44° 33.853' W 064° 21.030'	2.5 km upstream from the Gold River bridge
LaHave	N 44° 25.345' W 064° 33.131'	3.4 km upstream from exit 12 off route 103
Medway	N 44° 09.123' W 064° 39.495'	across the road from the elementary school in Mill Village
Mersey	N 44° 03.602' W 064° 45.218'	just below the falls at Milton
Clyde	N 43° 39.583' W 065° 29.607'	3.6 km up the road to Lower, Middle and Upper Clyde
Annapolis	N 44° 52.027' W 065° 12.385'	near the bridge on Paradise Lane in Paradise
Tusket	N 43° 53.179' W 065° 58.245'	just below the dam at the Vaughan Lake Reservoir
Roseway	N 43° 46.558' W 065° 20.684'	under the bridge crossing the river on route 103
Inhabitants	N 45° 40.088' W 061° 13.954'	upstream from the bridge at Cleveland
Grand	N 45° 39.046' W 060° 39.631'	junction of Frank MacDonald Rd. and Grand River
Framboise	N 45° 44.054' W 060° 22.063'	1.5 km upstream from Framboise, near the bridge
Sydney	N 46° 06.204' W 060° 14.571'	just above the dam off Riverside Dr., near the power station
North	N 46° 18.464' W 060° 37.375'	near the North River bridge by "School on the Hill" craft shop
Margaree	N 46° 22.018' W 061° 04.682'	Tompkins Pool, located across from residence # 1777
Cheticamp	N 46° 38.683' W 060° 57.058'	near the bridge at the entrance to Highlands Nat. Park
Middle	N 46° 06.30' W 060° 55.32'	3 km upstream from Middle River bridge
Baddeck	N 46° 07.420' W 060° 48.148'	at Baddeck Bridge, 1.7 km from turnoff to Big Baddeck
R. Denys	N 45° 50.17' W 061° 10.66'	exit 3 off route 105, sampled at the bridge near Eden Rd.
Petitcodiac	N 46° 00.760' W 065° 03.980'	3.1 km upstream from Salisbury village
Kennebecasis	N 45° 32.505' W 065° 50.224'	sampled near the bridge in Hampton
St. John	N 45° 24.398' W 066° 11.685'	sampled from the concrete wharf in Public Landing
Lepreau	N 45° 10.193' W 066° 28.015'	near the bridge on route 1
New River	N 45° 08.234' W 066° 32.471'	near the bridge on route 1
Magaguadavic	N 45° 08.167' W 066° 49.455'	in the park off Riverside Ave. in St. George
Digdeguash	N 45° 12.500' W 066° 56.624'	near a covered bridge on the Reardon Rd., 3.8 km from route 1
St. Croix	N 45° 10.597' W 067° 17.669'	off the picnic park adjacent to the Milltown hydro plant

Table 3-1

## 1992 - DOC, SPM and Field Data from Nova Scotia Rivers

River	Date (M/D)	DOC (mg/L)	SPM (mg/L)	temp (C°)	pH	conduct. (µmho/cm)
St. Mary's	9\8	2.8	0.91	20.0	6.45	25
Sheet H.(East)	9\8	5.1	5.40	19.5	5.67	19
Musquodoboit	9\8	5.7	0.97	21.0	7.16	155
Gold	9\9	10.0	1.26	20.0	5.97	25
LaHave	9\9	8.0	0.86	22.0	6.49	37
Medway	9\9	4.9	1.34	23.0	6.46	30
Mersey	9\9	6.4	3.74	22.0	5.70	24
Roseway	9\10	17.3	2.24	22.0	4.62	33
Tusket	9\10	5.3	2.03	20.0	5.82	37
Annapolis	9\10	5.6	8.32	18.5	6.91	160
St. Mary's	11\12	5.8	2.04	5.0	6.34	21
Sheet H.(East)	11\12	9.4	1.90	5.0	5.30	27
Musquodoboit	11\12	6.8	2.26	3.0	6.40	197
Gold	11\09	13.2	1.10	4.0	5.42	20
LaHave	11\09	8.2	2.02	5.3	6.06	27
Medway	11\09	6.6	1.52	5.0	6.16	18
Mersey	11\09	5.2	3.17	6.0	5.46	16
Roseway	11\09	24.3	1.98	5.0	4.35	29
Tusket	11\10			river was too low to sample		
Annapolis	11\10	6.2	2.10	4.0	6.88	105

Table 3-2

## 1993 - DOC, SPM and Field Data from Nova Scotia Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	conduct. (µmhos/cm)
Musquodoboit	5/18	2.0	----	13.9	6.51	58
Sheet H.(East)	5/18	5.3	----	12.9	5.34	12
St. Mary's	5/18	2.9	----	15.0	6.41	21
Gold	5/19	5.3	----	14.0	5.50	20
LaHave	5/19	6.6	----	14.0	5.85	22
Medway	5/19	7.3	----	14.0	5.37	20
Mersey	5/19	7.4	----	14.0	5.12	20
Clyde	5/19	10.0	----	14.0	4.54	28
Annapolis	5/20	4.1	----	12.5	6.58	69
Tusket	5/19	7.0	----	14.0	4.86	30
Roseway	5/19	10.6	----	13.8	4.44	31
Musquodoboit	8/16	4.7	1.88	21.0	6.64	100
Sheet H.(East)	8/16	6.3	3.24	21.0	5.42	21
St. Mary's	8/16	3.4	2.31	21.3	6.92	30
Gold	8/17	10.0	1.90	22.0	5.47	25
LaHave	8/17	7.6	1.84	22.0	6.22	40
Medway	8/17	5.4	2.18	24.5	5.84	30
Mersey	8/17	5.0	4.04	25.8	5.62	18
Roseway	8/17	10.7	1.63	25.4	4.64	30
Clyde	8/17	8.2	1.88	23.5	5.25	30
Tusket	8/18	3.6	1.77	22.5	5.63	38
Annapolis	8/18	4.0	1.82	23.8	7.73	138
Musquodoboit	9/21	4.5	----	13.8	6.64	142
Sheet H.(East)	9/21	5.3	4.78	16.8	5.64	18
St. Mary's	9/21	5.7	2.44	16.3	6.27	25
Gold	9/22	6.7	1.82	13.0	5.92	20
LaHave	9/22	5.1	1.45	14.0	6.37	30
Medway	9/22	2.8	1.67	16.0	6.02	22
Mersey	9/22	3.3	3.87	17.8	5.38	21
Roseway	9/22	10.3	0.98	15.8	5.01	33
Clyde	9/22	6.6	3.04	17.0	5.97	29
Tusket	9/23	3.8	3.07	17.0	5.76	34
Annapolis	9/23	2.2	1.10	15.5	9.36	203
Musquodoboit	11/5	7.2	2.70	6.5	6.42	93
Sheet H.(East)	11/5	8.5	2.74	7.0	4.91	18
St. Mary's	11/5	6.9	1.85	6.0	6.09	19
Gold	11/6	12.5	1.85	8.0	4.89	38
LaHave	11/6	6.1	4.09	8.5	5.56	28
Medway	11/6	5.3	3.54	9.8	5.26	23
Mersey	11/6	4.7	2.12	9.3	4.22	25
Roseway	11/6	21.5	3.06	9.8	4.25	43
Clyde	11/6	13.5	2.95	9.0	4.25	38
Tusket	11/7	15.4	5.59	8.0	4.69	38
Annapolis	11/7	10.4	----	4.5	6.54	45

Table 3-3

## 1994 - DOC, SPM and Field Data from Nova Scotia Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	conduct. (µmhos/cm)	oxygen % satur.
St. Mary's	5/10	6.0	4.68	8.8	5.82	16	-----
Sheet H.(East)	5/10	10.0	2.50	10.0	5.04	15	-----
Musquodoboit	5/10	6.5	6.07	10.1	6.45	30	-----
Gold	5/11	8.3	2.07	11.5	5.06	18	-----
LaHave	5/11	6.6	1.61	11.8	5.79	19	-----
Medway	5/11	6.3	1.39	12.5	5.20	20	-----
Mersey	5/11	7.9	2.04	13.5	5.05	20	-----
Roseway	5/11	9.7	1.65	13.8	4.48	28	-----
Clyde	5/11	11.6	2.05	13.8	4.52	25	-----
Tusket	5/12	7.1	1.72	13.0	4.80	30	-----
Annapolis	5/12	7.4	3.92	12.8	6.58	45	-----
Musquodoboit	8/1	3.8	0.41	26.5	6.65	160	91
Sheet H.(East)	8/1	4.0	4.89	24.7	5.62	675	110
St. Mary's	8/1	2.2	1.33	27.1	6.69	40	107
Gold	8/2	4.9	2.28	25.5	6.35	25	103
LaHave	8/2	6.1	1.34	26.3	6.47	30	102
Medway	8/2	3.7	1.68	27.6	5.93	25	112
Mersey	8/2	4.2	3.56	26.3	5.31	25	103
Roseway	8/2	8.2	2.58	25.4	4.68	30	112
Clyde	8/2	12.8	1.99	25.1	4.74	35	96
Tusket	8/3	5.0	1.87	23.1	5.33	108	91
Annapolis	8/3	4.6	1.61	25.9	6.90	75	127
Musquodoboit	11\7	8.5	3.80	10.4	6.38	150	91
Sheet H.(East)	11\7	7.5	3.60	10.6	5.07	105	94
St. Mary's	11\7	6.4	1.65	10.2	5.52	28	101
Gold	11\8	10.1	2.51	7.2	4.94	30	104
LaHave	11\8	10.7	4.56	7.9	5.82	33	88
Medway	11\8	11.1	2.78	8.4	5.13	25	95
Mersey	11\8	7.0	4.96	9.4	5.16	23	100
Roseway	11\8	22.2	3.15	9.0	4.36	40	89
Clyde	11\8	31.7	2.90	9.0	4.27	-----	86
Tusket	11\9	10.6	2.73	10.1	4.94	38	80
Annapolis	11\9	6.9	3.05	7.0	7.19	65	96

Table 3-4

## 1995 - Green Plan Survey of Nova Scotia Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	conduct. (µmhos/cm)	oxygen % satur.
St. Mary's	5/15	4.2	1.59	11.6	6.22	20	92
Sheet H.(East)	5/15	5.2	2.21	11.6	5.04	15	100
Musquodoboit	5/15	6.5	2.60	11.8	6.30	33	92
Gold	5/16	8.0	1.99	11.5	5.32	25	94
LaHave	5/16	5.8	2.15	12.3	6.05	25	94
Medway	5/16	6.4	2.07	12.5	5.39	20	93
Mersey	5/16	7.0	2.68	11.7	5.04	20	102
Roseway	5/16	8.8	0.51	13.3	4.31	30	102
Clyde	5/16	9.7	1.79	12.9	4.41	30	90
Tusket	5/17	6.5	1.68	11.8	4.86	30	94
Annapolis	5/17	7.6	2.82	12.7	6.75	53	92
Musquodoboit	8/14	6.9	2.70	23.6	6.64	105	83
Sheet H.(East)	8/14	6.6	4.79	22.3	5.53	20	97
St. Mary's	8/14	5.0	1.52	21.5	6.78	30	87
St. Mary's	8/14	-----	1.46	-----	-----	-----	-----
Gold	8/22	6.6	-----	21.8	6.11	65	107
LaHave	8/22	6.1	1.69	22.3	6.28	40	90
Medway	8/22	6.7	2.29	23.8	6.04	30	101
Mersey	8/22	7.0	5.89	23.2	5.42	150	99
Roseway	8/22	15.4	3.10	23.3	4.67	48	103
Clyde	8/22	17.2	2.56	23.9	4.77	50	101
Tusket	8/23	8.4	3.28	22.4	5.34	40	92
Annapolis	8/23	6.5	1.66	21.5	6.78	123	110
Musquodoboit	11/7	11.2	3.51	5.2	6.62	40	87
Sheet H.(East)	11/7	7.3	3.29	7.7	5.58	25	94
St. Mary's	11/7	9.2	1.67	8.5	6.41	23	88
Gold	11/9	19.4	4.96	7.8	4.78	25	94
LaHave	11/9	13.2	4.34	7.8	5.77	28	94
Medway	11/9	15.5	7.64	8.4	5.12	28	94
Mersey	11/9	11.3	3.79	8.7	5.44	25	97
Roseway	11/9	36.5	3.81	8.2	4.42	40	98
Clyde	11/9	38.5	4.25	8.5	4.35	40	88
Tusket	11/8	9.6	2.82	9.8	5.33	38	99
Annapolis	11/8	12.0	22.43	8.5	6.92	70	92

Table 3-5

## 1996 - Green Plan Survey of Nova Scotia Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	conduct. (µmhos/cm)	oxygen % satur.
St. Mary's	4/23	5.8	1.48	5.4	6.30	20	95
Sheet H.(East)	4/23	5.7	1.79	6.0	5.25	15	106
Musquodoboit	4/23	4.7	4.67	7.3	6.62	30	89
Gold	4/24	5.9	1.53	7.0	5.20	20	98
LaHave	4/24	6.3	1.64	8.3	5.83	20	100
Medway	4/24	5.1	1.53	8.3	5.32	20	100
Mersey	4/24	6.1	2.10	9.0	5.14	20	103
Roseway	4/24	8.1	1.26	10.3	4.49	30	100
Clyde	4/24	7.7	1.70	10.5	4.61	28	94
Tusket	4/25	6.5	1.40	9.0	4.92	30	103
Annapolis	4/25	5.7	2.90	8.8	6.61	35	93
Musquodoboit	8/12	5.9	3.21	23.5	6.43	75	78
Sheet H.(East)	8/12	7.0	4.11	21.9	5.32	20	94
St. Mary's	8/12	3.7	1.51	22.4	6.42	35	97
Gold	8/13	7.9	2.21	21.3	5.58	25	98
LaHave	8/13	6.2	2.36	20.5	6.13	30	93
Medway	8/13	3.8	2.05	21.8	5.57	28	93
Mersey	8/13	3.1	3.39	21.8	5.19	25	103
Roseway	8/13	15.4	2.01	21.0	4.31	35	97
Clyde	8/13	12.1	2.06	21.0	4.48	33	85
Tusket	8/14	11.5	2.24	21.8	4.81	40	90
Annapolis	8/14	5.7	1.84	20.5	7.19	88	107

Table 3-6

## 1993 - DOC, SPM and Field Data from Cape Breton Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	conduct. (µmhos/cm)
Inhabitants	9/27	3.5	3.47	14.5	6.85	1050
Grand	9/27	2.8	0.82	14.0	6.80	50
Framboise	9/27	6.4	1.49	15.0	6.32	155
Sydney	9/28	4.3	2.31	17.0	7.34	100
North	9/28	4.9	0.52	15.0	7.10	33
Margaree	9/28	0.9	0.57	17.0	7.24	330
Cheticamp	9/28	3.8	0.32	17.0	6.93	30
Middle	9/29	4.3	0.77	12.0	7.01	150
Baddeck (a)	9/29	6.1	1.60	13.0	7.32	145
Baddeck (b)	9/29	-----	2.29	-----	-----	-----
River Denys	9/29	6.6	2.56	15.0	7.08	310

Table 3-7

## 1994 - DOC, SPM and Field Data from Cape Breton Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	oxygen % satur.	conduct. (µmhos/cm)
Inhabitants	5/24	4.2	4.36	13.5	7.00	----	220
Grand	5/24	5.0	1.45	12.8	6.63	----	33
Framboise	5/24	6.8	1.66	11.8	6.16	----	20
Sydney	5/24	5.6	1.74	11.5	6.62	----	50
North	5/25	3.1	0.49	7.5	6.82	----	23
Baddeck	5/25	2.3	0.70	9.0	6.96	----	85
Margaree	5/25	2.6	1.71	10.5	6.97	----	153
Cheticamp	5/25	2.0	torn	9.8	6.86	----	45
Middle	5/26	1.9	1.47	7.8	6.88	----	75
River Denys	5/26	7.2	9.80	8.8	6.95	----	173
Inhabitants	8/8	13.1	12.00	18.6	6.79	93	215
Grand	8/8	10.4	3.72	20.5	6.54	99	50
Grand	8/8	----	3.51	----	----	----	----
Framboise	8/8	5.7	2.49	24.7	6.52	105	456
Sydney	8/9	4.1	1.31	22.3	6.96	90	120
North	8/9	7.1	0.47	15.6	6.82	101	33
Baddeck	8/10	3.4	0.73	17.3	7.06	112	213
Margaree	8/9	2.9	0.82	19.7	6.97	115	400
Cheticamp	8/9	4.5	0.22	16.3	6.97	110	65
Middle	8/9	2.2	0.62	17.6	7.01	102	180
River Denys	8/10	5.1	2.07	21.7	6.95	100	445
Inhabitants	11/14	5.1	2.54	5.5	7.05	99	170
Grand	11/14	4.3	1.23	7.1	6.94	111	38
Framboise	11/14	5.7	1.51	6.4	6.11	90	30
Sydney	11/14	4.1	1.69	6.4	7.05	88	55
North	11/15	3.5	0.43	5.4	6.95	95	30
Baddeck	11/16	2.8	0.65	5.0	7.15	98	70
Margaree	11/15	1.4	1.30	6.6	7.16	120	138
Cheticamp	11/15	2.2	0.16	6.4	7.14	98	48
Middle	11/15	1.8	0.71	7.2	7.55	92	75
River Denys	11/16	2.9	2.08	5.9	7.31	88	210

Table 3-8

## 1995 - DOC, SPM and Field Data from Cape Breton Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	conduct. (µmhos/cm)	oxygen % satur.
Inhabitants	5/30	2.8	3.24	13.0	6.90	315	85
Grand	5/30	4.4	1.53	10.6	6.35	50	97
Framboise	5/30	6.2	2.08	12.7	6.10	28	83
Sydney	5/31	4.2	1.37	14.6	6.77	73	90
North	5/31	4.7	0.79	8.3	6.47	23	101
Baddeck	6/1	3.3	0.96	7.8	6.55	120	101
Margaree	5/31	2.6	1.54	11.1	6.68	173	106
Cheticamp	5/31	5.1	0.32	9.6	6.68	35	97
Middle	5/31	2.2	0.69	10.1	6.68	85	106
River Denys	6/1	4.4	2.42	11.0	6.78	215	100
Inhabitants	8/28	----	----	----	----	16000	----
Grand	8/28	----	----	----	----	29000	----
Framboise	8/28	----	----	----	----	20000	----
Sydney	8/29	6.3	1.47	17.5	6.89	105	72
North	8/29	4.3	0.33	12.3	6.27	40	106
Baddeck	8/30	3.7	0.47	14.0	6.87	195	101
Margaree	8/29	5.5	0.63	11.1	6.44	253	109
Cheticamp	8/29	6.6	0.21	11.9	6.61	45	100
Middle	8/29	1.8	0.44	15.7	6.82	188	107
River Denys	8/30	4.1	2.04	16.2	6.88	1200	100
Inhabitants	11/14	13.9	7.40	5.5	6.92	125	84
Grand	11/14	7.0	1.16	6.6	6.99	40	94
Framboise	11/14	10.7	1.51	6.6	6.49	35	91
Sydney	11/14	7.1	1.79	6.6	----	75	94
North	11/15	5.5	0.79	5.1	----	33	98
Baddeck	11/15	4.8	0.67	6.1	----	205	95
Margaree	11/15	3.4	1.55	6.0	----	128	99
Cheticamp	11/15	3.6	0.24	5.9	----	50	101
Middle	11/15	2.6	0.85	6.5	----	328	94
River Denys	11/16	9.7	18.80	9.6	----	460	97

Table 3-9

## 1996 - DOC, SPM and Field Data from Cape Breton Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	oxygen % satur.	conduct. (µmhos/cm)
Inhabitants	5/1	4.0	6.07	7.5	6.98	95	135
Grand	5/1	3.6	1.21	7.3	6.74	97	38
Framboise	5/1	5.6	1.67	8.0	6.07	93	25
Sydney	5/1	4.3	2.75	9.3	6.98	101	50
North	5/2	3.2	1.25	5.0	6.70	101	20
Baddeck	5/3	3.3	2.13	5.8	7.01	101	48
Margaree	5/2	2.6	4.13	7.1	7.29	97	103
Cheticamp	5/2	3.8	0.72	6.8	7.23	101	33
Middle	5/2	2.5	5.09	7.5	7.16	100	43
River Denys	5/3	4.9	5.96	9.5	6.98	99	123
Inhabitants	8/21	7.3	5.24	19.0	7.22	110	1120
Grand	8/19	3.0	1.40	20.3	7.01	94	63
Framboise	8/19	5.6	1.67	22.1	6.29	88	88
Sydney	8/19	5.1	1.90	22.5	7.08	77	110
North	8/20	3.1	0.78	19.5	7.18	116	43
Baddeck	8/20	3.1	1.19	16.0	7.12	94	160
Margaree	8/20	2.0	1.05	17.8	7.43	108	295
Cheticamp	8/20	3.7	2.85	16.0	7.36	101	60
Middle	8/20	3.6	0.59	15.3	7.44	98	140
River Denys	8/21	2.6	1.90	19.5	7.58	97	1600

Table 3-10

## 1993 - DOC, SPM and Field Data from New Brunswick Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	conduct. (µmhos/cm)
Petitcodiac	10/25	8.9	4.02	6.0	7.13	108
Kennebecasis	10/25	7.0	4.74	7.0	6.66	90
St. John	10/25	9.8	3.25	9.0	7.34	270
Lepreau	10/26	8.8	1.34	4.0	5.31	15
New River	10/26	9.5	1.15	4.0	6.14	18
Magaguadavic	10/26	13.4	2.21	6.0	6.48	27
Digdeguash	10/26	17.2	1.19	5.0	6.22	39
St. Croix	10/26	7.4	4.46	7.0	6.97	78

Table 3-11

## 1994 - DOC, SPM and Field Data from New Brunswick Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	conduct. (µmhos/cm)	oxygen % satur.
Petitcodiac	5/30	5.8	2.42	13.8	7.24	110	----
Kennebecasis	5/30	5.7	3.63	14.0	6.78	93	----
St. John (a)	5/31	5.9	2.19	11.5	6.94	55	----
St. John (b)	5/31	---	2.34	---	---	---	----
Lepreau	5/31	5.5	6.03	14.8	6.05	18	----
New River	5/31	4.9	1.47	16.0	6.34	23	----
Magaguadavic	5/31	7.1	2.25	15.5	6.52	25	----
Digdeguash	5/31	8.4	5.09	15.0	6.74	33	----
St. Croix	5/31	7.3	3.24	17.0	6.82	60	----
Petitcodiac	8/24	1.9	1.29	22.9	9.12	390	168
Kennebecasis	8/24	1.8	3.41	20.0	7.04	255	109
St. John	8/23	5.0	6.51	20.2	7.86	5750(3ppt)	102
Lepreau	8/23	4.1	2.51	18.4	6.63	30	102
New River	8/23	7.4	2.53	20.3	6.74	53	114
Magaguadavic	8/23	5.1	2.54	22.1	6.80	40	83
Digdeguash	8/23	4.0	2.75	21.4	7.06	75	102
St. Croix	8/24	5.0	3.02	21.1	6.91	145	105
Petitcodiac	11/21	5.5	2.43	1.0	8.10	330	125
Kennebecasis	11/21	5.1	4.53	3.7	7.67	140	70
St. John	11/22	5.0	1.60	7.2	7.79	1400	130
Lepreau	11/21	9.1	1.72	3.1	5.63	20	98
New River	11/21	8.2	1.48	2.6	5.99	20	83
Magaguadavic	11/21	7.1	3.85	4.3	6.92	30	85
Digdeguash	11/22	11.1	2.27	3.8	6.99	38	88
St. Croix	11/22	5.2	6.08	5.5	7.48	123	91
St. Croix	11/22		6.29				

Table 3-12

## 1995 - DOC, SPM and Field Data from New Brunswick Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	conduct. (µmhos/cm)	oxygen % satur.
Petitcodiac	5/24	5.6	2.37	13.3	6.85	120	94
Kennebecasis	5/24	4.6	3.17	15.2	6.63	235	80
St. John	5/24	4.5	1.83	11.6	6.76	70	96
Lepreau	5/24	8.7	1.81	16.2	6.05	15	109
New River	5/25	3.7	2.02	15.5	6.29	20	106
Magaguadavic	5/25	7.1	2.26	14.5	6.52	25	95
Digdeguash	5/25	7.1	3.23	14.1	6.74	30	92
St. Croix	5/25	8.7	3.43	14.9	6.82	58	98
St. Croix	5/25	----	3.49	----	----	----	----
Petitcodiac	8/15	5.8	2.10	23.9	8.64	465	107
Kennebecasis	8/15	3.0	1.62	23.1	6.93	300	76
St. John	8/15	----	----	----	----	----	----
Lepreau	8/17	4.7	2.44	19.5	6.39	35	70
New River	8/17	3.5	1.92	17.9	6.21	30	90
Magaguadavic	8/17	6.0	2.30	22.4	6.44	43	73
Digdeguash	8/17	5.2	2.39	22.3	6.51	88	75
St. Croix	8/17	5.7	3.91	25.4	6.93	153	101
Petitcodiac	11/21	11.4	3.46	3.0	6.50	70	95
Kennebecasis	11/21	8.4	3.41	3.6	6.45	53	75
St. John	11/21	16.0	3.64	4.1	6.67	285	94
Lepreau	11/22	11.4	1.58	4.8	5.22	430	112
New River	11/22	11.5	0.99	4.1	5.29	430	112
Magaguadavic	11/22	14.3	2.34	4.1	6.25	1000	99
Digdeguash	11/22	14.9	1.78	3.7	6.29	100	97
St. Croix	11/22	17.2	4.33	4.2	6.64	58	96

Table 3-13

## 1996 - DOC, SPM and Field Data from New Brunswick Rivers

River	Date M/D	DOC (mg/L)	SPM (mg/L)	temp (°C)	pH	conduct. (µmhos/cm)	oxygen % satur.
Petitcodiac	4/28	4.4	5.15	8.3	7.04	48	101
Kennebecasis	4/28	2.9	6.53	10.8	7.18	55	93
St. John	4/28	4.5	16.19	5.2	7.20	70	111
Lepreau	4/29	4.7	1.25	6.8	5.73	15	103
New River	4/29	3.9	1.28	6.0	6.17	18	105
Magaguadavic	4/29	5.7	2.06	7.5	6.39	20	102
Digdeguash	4/29	5.4	1.35	6.5	6.77	38	97
St. Croix	4/29	4.7	4.16	9.5	6.95	40	105
St. Croix			4.37				
Petitcodiac	8/28	3.3	0.93	23.5	9.01	421	124
Kennebecasis	8/27	2.0	2.74	22.5	8.60	268	80
St. John	8/27	4.0		20.3	7.74	3700	86
Lepreau	8/27	3.2	2.02	19.0	6.72	40	94
New River	8/27	2.9	1.24	19.5	6.91	43	94
Magaguadavic	8/27	8.9	2.14	21.0	6.97	50	81
Digdeguash	8/27	7.7	2.31	21.5	7.39	85	91
St. Croix	8/27	5.7	3.51	22.3	6.99	78	106

Table 4-1

## Nutrient Data for Nova Scotia Rivers 1992

River	Sampling Month	Silicate	Phosphate (conc. in $\mu\text{Molar}$ )	Nitrate/ite	Ammonia
St. Mary's	Sept.	4.41	0.050	0.10	dl
Sheet H. (East)	Sept.	dl	0.053	dl	0.17
Musquodoboit	Sept.	15.0	0.068	0.26	dl
Gold	Sept.	dl	0.058	0.15	0.67
LaHave	Sept.	2.79	0.061	0.50	0.36
Medway	Sept.	dl	0.051	0.25	0.24
Mersey	Sept.	dl	0.051	0.64	0.48
Roseway	Sept.	0.55	0.075	0.27	1.39
Tusket	Sept.	0.12	0.099	1.02	0.92
Annapolis	Sept.	47.7	1.037	69.9	3.51
St. Mary's	Nov.	1.41	0.052	2.35	0.49
Sheet H. (East)	Nov.	0.52	0.090	1.46	1.02
Musquodoboit	Nov.	3.31	0.051	3.78	0.50
Gold	Nov.	0.71	dl	0.17	1.23
LaHave	Nov.	0.96	0.050	1.68	0.74
Medway	Nov.	0.45	dl	0.74	0.52
Mersey	Nov.	dl	0.064	1.09	0.37
Roseway	Nov.	0.72	0.069	0.84	1.86
Annapolis	Nov.	101.8	0.737	70.3	0.71
Detection Limit		0.11	0.050	0.10	0.14

Table 4-2

## Nutrient Data for Nova Scotia Rivers 1993

River	Sampling Month	Silicate	Phosphate (conc. in $\mu$ Molar)	Nitrate/ite	Ammonia
Musquodoboit	May	2.73	0.075	2.38	0.88
Sheet H. - East	May	0.59	0.071	0.17	0.84
St. Mary's	May	1.14	0.084	1.26	0.75
Gold	May	0.65	0.242	0.26	1.62
LaHave	May	0.87	0.153	0.81	1.19
Medway	May	0.64	0.087	0.31	1.09
Mersey	May	0.64	0.085	2.33	1.19
Roseway	May	0.61	0.139	0.45	1.76
Clyde	May	0.66	0.101	0.27	1.81
Tusket	May	0.71	0.119	1.14	1.64
Annapolis	May	6.93	0.460	22.96	3.22
Musquodoboit	Aug.	5.40	0.069	3.60	1.20
Sheet H. - East	Aug.	0.70	0.069	0.80	0.92
St. Mary's	Aug.	2.32	0.072	1.49	0.89
Gold	Aug.	0.81	0.074	0.14	1.20
LaHave	Aug.	1.27	0.084	0.61	1.38
Medway	Aug.	0.58	0.095	0.89	0.76
Mersey	Aug.	0.70	0.092	0.08	0.77
Roseway	Aug.	0.72	0.087	0.16	1.56
Clyde	Aug.	0.65	0.102	0.18	1.55
Tusket	Aug.	0.54	0.097	0.33	1.07
Annapolis	Aug.	31.85	0.423	46.15	1.20
Musquodoboit	Sept.	11.98	0.093	14.07	0.99
Sheet H. - East	Sept.	0.92	0.085	1.40	1.34
St. Mary's	Sept.	1.54	0.099	0.61	0.81
Gold	Sept.	1.10	0.091	0.12	1.12
LaHave	Sept.	3.22	0.082	0.39	0.67
Medway	Sept.	0.60	0.071	0.21	0.64
Mersey	Sept.	0.45	0.071	0.75	0.68
Roseway	Sept.	0.99	0.081	0.15	1.40
Clyde	Sept.	1.36	0.115	0.14	1.12
Tusket	Sept.	0.63	0.083	0.10	0.78
Annapolis	Sept.	54.82	0.528	104.67	0.69
St. Mary's	Nov.	0.74	0.187	2.82	0.83
Sheet H.(East)	Nov.	0.46	0.183	0.69	1.81
Musquodoboit	Nov.	1.51	0.153	5.45	1.05
Gold	Nov.	0.60	0.112	0.84	1.38
LaHave	Nov.	0.70	0.181	1.85	1.31
Medway	Nov.	0.45	0.134	2.06	1.11
Mersey	Nov.	0.43	0.128	2.90	0.97
Roseway	Nov.	0.62	0.150	0.68	2.32
Clyde	Nov.	0.57	0.173	0.55	2.30
Tusket	Nov.	0.46	0.108	0.86	1.65
Annapolis	Nov.	3.02	0.618	12.10	1.63
Detection Limit		0.11	0.050	0.10	0.14

Table 4-3

## Nutrient Data for Nova Scotia Rivers 1994

River	Sampling Month	Silicate	Phosphate (conc. in $\mu\text{Molar}$ )	Nitrate/ite	Ammonia
St. Mary's	May	0.61	0.198	2.26	1.10
Sheet H. - East	May	0.53	0.130	0.16	0.80
Musquodoboit	May	1.47	0.200	5.50	1.26
Gold	May	0.68	0.129	dl	1.17
LaHave	May	0.70	0.133	0.37	0.87
Medway	May	0.59	0.125	0.70	0.92
Mersey	May	0.58	0.124	1.11	1.09
Roseway	May	0.58	0.126	dl	1.58
Clyde	May	0.64	0.148	0.11	1.71
Tusket	May	0.58	0.106	0.58	1.24
Annapolis	May	4.10	0.376	13.4	2.15
St. Mary's	Aug.	2.33	0.112	0.47	0.91
Sheet H. - East	Aug.	0.65	0.106	0.59	1.02
Musquodoboit	Aug.	23.5	0.103	0.10	0.78
Gold	Aug.	0.58	0.160	dl	1.18
LaHave	Aug.	0.82	0.126	0.54	0.98
Medway	Aug.	0.47	0.105	dl	0.85
Mersey	Aug.	0.39	0.099	dl	1.14
Roseway	Aug.	0.73	0.139	dl	1.80
Clyde	Aug.	0.82	0.140	0.13	2.19
Tusket	Aug.	0.56	0.102	1.05	1.54
Annapolis	Aug.	5.87	0.305	18.9	1.33
St. Mary's	Nov.	1.64	0.123	2.80	0.74
Sheet H. - East	Nov.	0.88	0.129	0.85	0.87
Musquodoboit	Nov.	2.07	0.143	7.31	1.20
Gold	Nov.	1.18	0.128	0.71	1.51
LaHave	Nov.	1.48	0.128	1.96	1.04
Medway	Nov.	0.95	0.103	0.73	0.97
Mersey	Nov.	0.70	0.151	1.49	0.82
Roseway	Nov.	1.20	0.150	0.44	2.09
Clyde	Nov.	1.43	0.153	0.38	2.65
Tusket	Nov.	1.00	0.122	1.46	1.58
Annapolis	Nov.	12.8	0.587	29.5	1.25
Detection Limit		0.11	0.050	0.10	0.14

Table 4-4

## Nutrient Data for Nova Scotia Rivers 1995

River	Sampling Month	Silicate	Phosphate (conc. in $\mu\text{Molar}$ )	Nitrate/ite	Ammonia
St. Mary's	May	0.69	0.161	2.04	0.70
Sheet H. - East	May	0.47	0.150	0.31	0.84
Musquodoboit	May	1.30	0.173	3.38	1.37
Gold	May	0.59	0.142	0.33	1.28
LaHave	May	0.60	0.135	0.32	0.86
Medway	May	0.47	0.130	0.32	1.00
Mersey	May	0.57	0.139	1.99	1.28
Roseway	May	0.51	0.127	0.34	1.56
Clyde	May	0.54	0.127	0.33	1.41
Tusket	May	0.54	0.138	0.50	1.53
Annapolis	May	4.66	0.538	19.7	3.05
St. Mary's	Aug.	1.79	0.130	0.55	0.92
Sheet H. - East	Aug.	0.87	0.152	0.72	1.25
Musquodoboit	Aug.	4.55	0.162	3.19	1.91
Gold	Aug.	0.82	0.133	0.40	1.43
LaHave	Aug.	0.98	0.187	0.41	0.83
Medway	Aug.	0.57	0.192	0.33	1.13
Mersey	Aug.	0.41	0.168	0.59	0.89
Roseway	Aug.	0.79	0.178	0.44	2.23
Clyde	Aug.	0.78	0.171	0.44	2.09
Tusket	Aug.	0.71	0.143	0.43	1.34
Annapolis	Aug.	17.5	0.483	35.3	1.32
St. Mary's	Nov.	1.46	0.118	3.26	0.87
Sheet H. - East	Nov.	0.63	0.138	1.15	0.82
Musquodoboit	Nov.	2.39	0.183	10.0	1.09
Gold	Nov.	1.38	0.199	1.45	1.66
LaHave	Nov.	1.44	0.169	2.16	1.09
Medway	Nov.	1.22	0.136	1.00	1.41
Mersey	Nov.	0.85	0.126	2.39	1.29
Roseway	Nov.	1.14	0.117	0.62	2.17
Clyde	Nov.	1.20	0.135	0.46	2.67
Tusket	Nov.	0.88	0.132	1.80	1.55
Annapolis	Nov.	9.32	0.876	29.0	2.44
Detection Limit		0.11	0.050	0.10	0.14

Table 4-5

## Nutrient Data for Nova Scotia Rivers 1996

Rivers	Sample Month	Silicate	Phosphate (all conc. in $\mu$ Molar)	Nitrate/ite	Ammonia
St. Mary's	May	0.70	dl	3.28	0.58
Sheet H.(East)	May	0.44	dl	0.30	0.58
Musquodoboit	May	1.77	dl	5.62	1.08
Gold	May	0.61	dl	0.34	0.67
LaHave	May	0.79	dl	0.87	0.70
Medway	May	0.56	dl	0.84	0.73
Mersey	May	0.61	dl	2.13	0.69
Roseway	May	0.64	dl	0.15	1.20
Clyde	May	0.46	dl	0.15	1.15
Tusket	May	0.69	dl	1.29	1.09
Annapolis	May	2.62	0.223	10.8	1.44
St. Mary's	Aug.	2.89	dl	1.50	0.42
Sheet H.(East)	Aug.	0.72	dl	0.42	0.92
Musquodoboit	Aug.	4.25	dl	4.33	1.77
Gold	Aug.	0.89	dl	0.15	0.88
LaHave	Aug.	0.98	dl	0.64	0.80
Medway	Aug.	0.60	dl	0.15	0.56
Mersey	Aug.	0.37	dl	0.15	0.79
Roseway	Aug.	1.06	dl	0.15	1.82
Clyde	Aug.	1.06	dl	0.19	1.92
Tusket	Aug.	1.12	dl	0.75	1.81
Annapolis	Aug.	28.4	0.370	36.1	1.00
Detection Limits		0.11	0.05	0.10	0.14

Table 4-6

## Nutrient Data for Cape Breton Rivers 1993

River	Sampling Month	Silicate	Phosphate (conc. in $\mu$ Molar)	Nitrate/ite	Ammonia
Inhabitants	Sept.	38.3	0.129	1.68	4.00
Grand	Sept.	7.70	0.075	0.91	0.54
Framboise	Sept.	1.24	0.076	0.34	0.74
Sydney	Sept.	29.4	0.098	2.25	0.74
North	Sept.	46.1	0.082	9.07	0.76
Margaree	Sept.	80.3	0.100	4.07	0.81
Chetichamp	Sept.	33.9	0.078	5.39	0.76
Middle	Sept.	103.0	0.104	8.90	0.61
Baddeck	Sept.	61.9	0.085	8.78	0.71
River Denys	Sept.	61.6	0.095	1.52	0.63
Detection Limit		0.11	0.050	0.10	0.14

Table 4-7

## Nutrient Data for Cape Breton Rivers 1994

River	Sampling Month	Silicate	Phosphate (conc. in $\mu$ Molar)	Nitrite+Nitrate	Ammonia
Inhabitants	May	19.4	0.177	2.41	1.38
Grand	May	1.39	0.108	1.49	0.94
Framboise	May	0.69	0.120	0.18	0.81
Sydney	May	2.47	0.120	3.47	0.89
North	May	6.41	0.103	5.03	0.63
Baddeck	May	21.1	0.126	11.1	0.56
Margaree	May	23.7	0.124	2.81	0.64
Chetichamp	May	18.6	0.093	9.90	0.74
Middle	May	57.1	0.132	7.70	0.73
River Denys	May	9.56	0.168	3.04	1.22
Inhabitants	Aug.	6.47	2.19	4.77	1.88
Grand	Aug.	1.30	0.185	1.30	0.99
Framboise	Aug.	1.28	0.106	0.16	0.76
Sydney	Aug.	23.1	0.122	1.04	1.34
North	Aug.	8.21	0.120	11.3	0.93
Baddeck	Aug.	67.5	0.104	7.91	0.54
Margaree	Aug.	60.8	0.107	4.92	1.27
Chetichamp	Aug.	52.2	0.098	17.0	1.18
Middle	Aug.	87.2	0.106	8.15	0.73
River Denys	Aug.	56.4	0.169	1.89	0.88
Inhabitants	Nov.	10.1	0.111	4.61	0.78
Grand	Nov.	3.07	0.092	1.42	0.64
Framboise	Nov.	1.06	0.094	1.02	0.93
Sydney	Nov.	7.39	0.114	5.06	0.94
North	Nov.	6.10	0.078	8.27	0.40
Baddeck	Nov.	16.2	0.069	12.2	0.54
Margaree	Nov.	53.2	0.083	5.89	0.37
Chetichamp	Nov.	6.47	0.064	7.22	0.36
Middle	Nov.	53.4	0.068	7.14	0.35
River Denys	Nov.	56.1	0.080	3.31	0.70
Detection Limit		0.11	0.050	0.10	0.14

Table 4-8

## Nutrient Data for Cape Breton Rivers 1995

River	Sampling Month	Silicate	Phosphate (conc. in $\mu\text{Molar}$ )	Nitrate/ite	Ammonia
Inhabitants	May	23.7	0.219	0.97	1.37
Grand	May	1.53	0.162	2.43	0.85
Framboise	May	0.70	0.157	0.31	0.77
Sydney	May	6.91	0.167	1.37	1.20
North	May	4.01	0.144	4.93	0.87
Chetichamp	May	4.10	0.145	5.42	0.99
Margaree	May	49.9	0.155	3.91	0.69
Middle	May	61.7	0.162	6.20	0.73
Baddeck	May	26.7	0.154	6.01	0.71
River Denys	May	30.8	0.184	1.12	1.06
Sydney	Aug.	22.5	0.134	0.53	1.17
North	Aug.	9.66	0.106	4.11	0.83
Chetichamp	Aug.	7.35	0.086	5.70	0.69
Margaree	Aug.	69.8	0.100	3.93	0.55
Middle	Aug.	99.7	0.127	3.78	0.65
Baddeck	Aug.	63.8	0.122	3.35	0.69
River Denys	Aug.	50.0	0.143	0.35	0.78
Inhabitants	Nov.	5.10	0.306	5.93	1.30
Grand	Nov.	2.35	0.232	1.50	0.78
Framboise	Nov.	1.11	0.119	1.31	1.02
Sydney	Nov.	17.1	0.126	5.15	1.40
North	Nov.	4.80	0.123	7.61	0.76
Chetichamp	Nov.	12.1	0.119	7.26	0.53
Margaree	Nov.	64.9	0.129	6.80	0.45
Middle	Nov.	67.6	0.122	8.92	0.57
Baddeck	Nov.	25.4	0.088	7.52	0.53
River Denys	Nov.	36.7	0.394	2.67	0.96
Detection Limit		0.11	0.050	0.10	0.14

Table 4-9

## Nutrient Data for Cape Breton Rivers 1996

Rivers	Sampling Month	Silicate	Phosphate (all conc. in $\mu$ Molar)	Nitrate/ite	Ammonia
Inhabitants	May	5.42	dl	4.55	1.33
Grand	May	1.63	dl	1.95	0.80
Framboise	May	0.68	dl	0.15	0.57
Sydney	May	2.84	dl	4.76	0.78
North	May	2.84	dl	5.38	0.56
Cheticamp	May	4.73	dl	8.51	0.45
Margaree	May	49.1	dl	6.88	0.42
Middle	May	22.7	dl	7.44	0.51
Baddeck	May	16.4	0.113	6.22	0.60
River Denys	May	7.74	dl	2.85	0.76
Grand	Aug.	7.95	dl	1.31	0.48
Framboise	Aug.	1.20	dl	0.15	1.09
Sydney	Aug.	36.5	dl	1.42	2.15
Baddeck	Aug.	68.8	dl	7.42	0.44
Middle	Aug.	100.6	dl	6.70	0.36
Margaree	Aug.	88.9	dl	5.49	0.35
Cheticamp	Aug.	77.3	dl	12.6	0.48
North	Aug.	78.0	dl	5.00	0.37
River Denys	Aug.	70.2	dl	3.72	0.69
Inhabitants	Aug.	45.7	dl	1.68	0.66
Detection Limits		0.11	0.050	0.10	0.14

Table 4-10

## Nutrient Data for New Brunswick Rivers 1993

River	Sampling Month	Silicate	Phosphate (conc. in $\mu$ Molar)	Nitrate/ite	Ammonia
Petitcodiac	Oct.	26.9	0.451	7.11	0.89
Kennebecasis	Oct.	35.5	1.013	12.9	6.28
St. John	Oct.	37.0	0.373	13.3	1.05
Lepreau	Oct.	0.63	0.115	0.53	0.86
New River	Oct.	0.74	0.102	1.32	0.95
Magaguadavic	Oct.	1.63	0.164	4.41	1.02
Digdeguash	Oct.	2.71	0.130	6.61	1.07
St. Croix	Oct.	5.26	0.467	3.17	2.40
Detection Limit		0.11	0.050	0.10	0.14

Table 4-11

## Nutrient Data for New Brunswick Rivers 1994

River	Sampling Month	Silicate	Phosphate (conc. in $\mu\text{Molar}$ )	Nitrate/ite	Ammonia
Petitcodiac	May	16.9	0.164	0.57	1.33
Kennebecasis	May	29.3	0.348	3.22	3.17
St. John	May	27.4	0.119	9.80	1.19
Lepreau	May	0.76	0.166	dl	0.82
New River	May	0.94	0.102	0.81	0.78
Magaguadavic	May	2.58	0.125	1.26	1.08
Digdeguash	May	2.93	0.128	1.28	1.10
St. Croix	May	3.01	0.224	3.48	5.71
Petitcodiac	Aug.	37.2	0.203	0.17	0.43
Kennebecasis	Aug.	19.3	0.335	0.43	1.48
St. John	Aug.	13.8	0.335	0.91	1.29
Lepreau	Aug.	2.86	0.126	1.67	0.63
New River	Aug.	4.22	0.107	1.71	0.71
Magaguadavic	Aug.	10.3	0.121	1.21	1.37
Digdeguash	Aug.	39.3	0.128	0.18	0.62
St. Croix	Aug.	7.71	1.089	10.2	1.24
Petitcodiac	Nov.	88.3	0.268	6.97	0.48
Kennebecasis	Nov.	50.5	0.465	8.89	1.21
St. John	Nov.	39.7	0.246	10.5	1.10
Lepreau	Nov.	1.28	0.097	2.67	0.78
New River	Nov.	1.44	0.094	3.50	0.77
Magaguadavic	Nov.	8.18	0.121	5.96	0.93
Digdeguash	Nov.	11.0	0.099	15.1	0.92
St. Croix	Nov.	8.56	0.816	8.06	2.15
Detection Limit		0.11	0.050	0.10	0.14

Table 4-12

## Nutrient Data for New Brunswick Rivers 1995

River	Sampling Month	Silicate	Phosphate (conc. in $\mu$ Molar)	Nitrate/ite	Ammonia
Petitcodiac	May	42.1	0.240	0.76	1.66
Kennebecasis	May	45.1	0.511	3.71	3.79
St. John	May	30.4	0.237	11.4	1.67
Lepreau	May	0.59	0.169	0.32	0.76
New River	May	0.90	0.182	0.87	0.79
Magaguadavic	May	3.27	0.208	1.94	1.34
Digdeguash	May	2.85	0.196	2.31	1.36
St. Croix	May	2.52	0.373	4.07	4.14
Petitcodiac	Aug.	11.8	0.248	0.42	2.19
Kennebecasis	Aug.	12.1	0.361	0.80	1.69
St. John	Aug.				
Lepreau	Aug.	3.24	0.156	0.99	0.90
New River	Aug.	4.11	0.190	0.91	1.44
Magaguadavic	Aug.	7.40	0.172	0.53	1.03
Digdeguash	Aug.	31.5	0.185	0.33	0.96
St. Croix	Aug.	10.4	1.294	13.2	1.64
Petitcodiac	Nov.	20.7	0.304	9.48	2.03
Kennebecasis	Nov.	51.4	0.407	15.4	2.17
St. John	Nov.	31.0	0.311	12.9	3.01
Lepreau	Nov.	1.00	0.077	1.01	1.37
New River	Nov.	1.21	0.089	2.80	1.30
Magaguadavic	Nov.	5.28	0.096	3.52	1.20
Digdeguash	Nov.	3.84	0.088	6.52	1.35
St. Croix	Nov.	3.64	0.260	2.90	2.98
Detection Limit		0.11	0.050	0.10	0.14

Table 4-13

## Nutrient Data for New Brunswick Rivers 1996

Rivers	Sampling Month	Silicate	Phosphate (all conc. in $\mu$ Molar)	Nitrate/ite	Ammonia
Petitcodiac	May	15.1	0.137	5.15	1.07
Kennebecasis	May	56.0	2.228	6.31	1.08
St. John	May	35.8	0.437	15.2	1.89
Lepreau	May	0.92	0.412	0.36	0.49
New River	May	0.92	0.302	0.64	0.75
Magaguadavic	May	4.23	0.184	3.60	0.76
Digdeguash	May	2.87	0.160	3.28	0.77
St. Croix	May	4.29	0.189	1.53	2.10
St. Croix	May	4.30	0.187	1.50	2.12
St. John	Aug.	38.8	dl	8.47	0.74
Lepreau	Aug.	2.26	dl	1.25	0.77
New River	Aug.	7.42	dl	1.07	0.83
Magaguadavic	Aug.	7.71	dl	2.29	1.59
Digdeguash	Aug.	36.3	dl	1.60	1.29
St. Croix	Aug.	2.75	0.205	8.63	1.75
Kennebecasis	Aug.	19.5	0.246	0.53	0.70
Petitcodiac	Aug.	28.3	0.549	0.56	0.41
Detection Limits		0.11	0.050	0.10	0.14

Table 5-1

## RCAP Data

Nova Scotia 1992

	Units	Musquodoboit	Sheet H.	St.Mary's	Gold	LaHave(a)	LaHave(b)	Medway	Mersey	Annapolis	Tusket	Roseway	Gold	LaHave	Medway
		Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Nov.	Nov.
Sodium	mg/L	4.6	1.9	3.8	2.9	3.6	3.5	3.3	2.7	12.6	4	3.2	3.5	4.4	3.2
Potassium	mg/L	0.4	0.2	0.3	0.2	0.3	0.3	0.2	0.2	1.8	0.3	0.2	0.3	0.4	0.3
Calcium	mg/L	20.5	0.6	1.6	1	1.4	1.5	0.8	0.7	14.4	1.2	0.7	1.3	2	1
Magnesium	mg/L	2.5	0.4	0.8	0.5	0.8	0.8	0.5	0.4	2.5	0.7	0.5	0.6	0.9	0.5
Alkalinity (as CaCO <sub>3</sub> )	mg/L	20	1	5	3	3	4	1	1	22	< 1	< 1	3	4	3
Sulfate	mg/L	46	2	3	2	4	3	2	2	22	4	2	3	4	2
Chloride	mg/L	6.1	2.8	5.7	4.3	4.9	5.4	5.3	4.2	21.3	6.7	4.9	6.1	7.2	5.3
* Reactive Silica	mg/L	1.1	< 0.5	1.1	0.6	1.4	1.4	< 0.5	< 0.5	3.4	0.7	< 0.5	4.8	3.6	2.3
* Ortho Phosphate (as Phosphorus)	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.07	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Ammonia (as Nitrogen)	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	mg/L	0.06	0.71	0.15	0.18	0.23	0.23	0.14	0.37	0.26	0.2	0.27	0.27	0.29	0.26
* Manganese	mg/L	0.03	0.07	0.05	0.02	0.04	0.04	0.02	0.08	0.03	0.04	0.02	0.02	0.06	0.02
* Copper	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01
Colour	TCU	< 3	34	8	55	26	23	19	29	30	24	120	63	38	35
Turbidity	NTU	0.82	2.32	0.88	0.77	0.68	0.61	0.95	1.19	7.63	0.7	3.35	0.4	0.52	0.59
* Conductivity	µmhos/cm	168	19.8	37.5	26.2	36	36	29.5	25.9	176	37.9	31.8	35.1	44.7	29.1
* pH	Units	7	5.9	6.5	5.8	6.3	6.3	5.9	5.5	6.9	5.8	4.8	5.9	6	5.8
Total Organic Carbon	mg/L	2.8	4.3	1.9	8.2	4.8	4.6	3.6	4.3	4.3	4.6	15	11.4	7.4	5.7
Hardness (as CaCO <sub>3</sub> )	mg/L	61.5	3.14	7.29	4.56	6.79	7.04	4.06	3.39	46.2	5.88	3.81	5.72	8.7	4.56
Bicarbonate (as CaCO <sub>3</sub> )	mg/L	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbonate (as CaCO <sub>3</sub> )	mg/L	20	1	5	3	3	4	1	1	22	< 1	< 1	3	4	3
Ion Sum	mg/L	93	8	19	13	18	18	13	11	96	18	12	21	25	16
Theoretical Conductivity	µmhos/cm	175	18	37	27	34	35	27	24	181	36	30	34	44	29
Cation Sum	meq/L	1.44	0.15	0.32	0.22	0.3	0.3	0.23	0.19	1.52	0.3	0.24	0.28	0.38	0.24
Anion Sum	meq/L	1.53	0.14	0.32	0.22	0.28	0.29	0.21	0.18	1.57	0.27	0.18	0.29	0.37	0.25
Ion Balance	%	3.02	3.87	0.65	0.23	3.28	1.08	4.51	3.62	1.81	4.99	13.6	3.33	1.38	2.35
Langelier Index (5ø C)		-2.2	-6.11	-4.39	-5.51	-4.87	-4.71	-5.99	-6.44	-2.42	-7.91	-9.14	-5.3	-4.89	-5.51
Saturation pH	Units	9.2	12	10.9	11.3	11.2	11	11.9	11.9	9.32	13.7	13.9	11.2	10.9	11.3

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-1

## RCAp Data

## Nova Scotia 1992

	Mersey(a)	Mersey(b)	Roseway	Annapolis	Musquodoboit	Sheet H.	St. Mary's
	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Sodium	2.7	2.7	3.5	10.9	3.4	2.2	3.7
Potassium	0.2	0.2	0.3	1.2	0.4	0.3	0.3
Calcium	0.6	0.7	0.9	15.6	9.5	0.9	1.5
Magnesium	0.4	0.4	0.6	2.7	1.7	0.5	0.8
Alkalinity (as CaCO <sub>3</sub> )	< 1	< 1	7	24	7	2	4
Sulfate	3	3	< 2	22	22	2	3
Chloride	4.6	4.8	6	19.5	5.8	3.8	6.2
* Reactive Silica	< 0.5	< 0.5	4	7.4	2.4	2.4	3
* Ortho Phosphate (as Phosphorus)	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	< 0.05	< 0.05	< 0.05	1	0.07	< 0.05	< 0.05
* Ammonia (as Nitrogen)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	0.31	0.29	0.32	0.25	0.19	0.44	0.16
* Manganese	0.05	0.05	0.01	0.03	0.03	0.06	0.07
* Copper	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Colour	23	25	140	33	32	51	25
Turbidity	1	1	0.35	0.92	0.96	0.98	0.79
* Conductivity	24.9	24.9	36.4	169	93.5	24.5	36.5
* pH	5.7	5.6	4.7	6.8	6.5	5.6	6.2
Total Organic Carbon	4	3.7	22.4	5.6	6	8.9	4.7
Hardness (as CaCO <sub>3</sub> )	3.14	3.39	4.72	50.1	30.7	4.31	7.04
Bicarbonate (as CaCO <sub>3</sub> )	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01
Carbonate (as CaCO <sub>3</sub> )	< 1	< 1	7	24	7	2	4
Ion Sum	12	12	20	98	50	13	21
Theoretical Conductivity	24	25	39	178	92	23	37
Cation Sum	0.19	0.19	0.27	1.51	0.77	0.19	0.31
Anion Sum	0.19	0.2	0.31	1.56	0.77	0.19	0.32
Ion Balance	1.24	1.24	6	1.74	0.41	0.84	1.16
Langelier Index (5ø C)	-8.31	-8.34	-6.29	-2.44	-3.48	-5.93	-4.82
Saturation pH	14	13.9	11	9.24	9.98	11.5	11

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-2

## RCap Data

Nova Scotia 1993

	Units	Musquodoboit	Musquodoboit	Musquodoboit	Musquodoboit	Sheet H. East	Sheet H. East	Sheet H. East	Sheet H. East	St. Mary's	St. Mary's	St. Mary's
		May	Aug	Sept	Nov	May	Aug	Sept	Nov	May	May	Aug
Sodium	mg/L	3	3	6.8	2.9	1.8	2	2.3	2.3	2.8	2.8	3.2
Potassium	mg/L	0.2	0.2	0.9	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2
Calcium	mg/L	6.7	6.8	22.9	4.1	0.4	0.6	0.7	0.7	1.2	1.2	1.6
Magnesium	mg/L	1.1	1.3	2.7	1.1	0.2	0.4	0.3	0.3	0.4	0.4	0.7
Alkalinity (as CaCO <sub>3</sub> )	mg/L	7	11	15	8	< 1	1	< 1	1	2	3	4
Sulfate	mg/L	14	15	50	8	2	2	< 2	2	3	2	2
Chloride	mg/L	5	5.2	10.3	4.8	3.1	3.6	2.9	3.4	4.4	4.6	4.2
* Reactive Silica	mg/L	1.4	2.1	1.4	2.6	1.4	1.3	1.4	2.4	1.3	1.2	2.4
* Ortho Phosphate (as Phosphorus)	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.03	0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	mg/L	0.06	< 0.05	0.22	0.07	< 0.05	< 0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Ammonia (as Nitrogen)	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	0.05	< 0.05	< 0.05	< 0.05	0.05	< 0.05	< 0.05
* Iron	mg/L	0.23	0.47	0.21	0.23	0.17	0.43	0.66	0.39	0.1	0.11	0.45
* Manganese	mg/L	0.13	0.12	0.05	0.04	0.07	0.07	0.06	0.07	0.05	0.04	0.06
* Copper	mg/L	< 0.01	0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	0.04	0.01
* Zinc	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Colour	TCU	24	42	26	43	29	43	44	56	17	17	35
Turbidity	NTU	0.87	1.13	2.5	2.03	0.79	1.05	1.19	1.46	0.38	0.37	0.65
* Conductivity	umhos/cm	69	92.5	184	52	19	21	24.7	25	29	29	31.6
* pH	Units	6.5	6.6	7	6.2	5.2	5.5	5.9	5.3	6.4	6.5	6.3
Total Organic Carbon	mg/L	4.1	8.1	5.9	8.8	5	7.5	7.1	9.7	3.2	3.2	6.7
Hardness (as CaCO <sub>3</sub> )	mg/L	21.3	22.3	68.3	14.8	1.82	3.14	2.98	2.98	4.64	4.64	6.88
Carbonate (as CaCO <sub>3</sub> )	mg/L	7	11	15	6	0	1	0	1	2	3	4
Bicarbonate (as CaCO <sub>3</sub> )	mg/L	0	0	0.01	0	0	0	0	0	0	0	0
Ion Sum	mg/L	36	40	105	28	9	11	8	12	15	14	17
Theoretical Conductivity	umhos/cm	67	73	199	50	18	20	15	21	27	27	30
Cation Sum	meq/L	0.56	0.58	1.68	0.43	0.13	0.16	0.17	0.17	0.22	0.22	0.28
Anion Sum	meq/L	0.58	0.68	1.65	0.43	0.13	0.16	0.09	0.16	0.23	0.23	0.24
Ion Balance	%	1.38	7.65	1.13	0.33	0.27	1.55	32.1	4.51	0.62	2.5	8.09
Langelier Index (50° C)		-3.63	-3.33	-2.28	-4.21	-6.59	-6.29	-5.88	-6.49	-5.01	-4.73	-4.68
Saturation pH	Units	10.1	9.93	9.28	10.4	11.8	11.8	11.8	11.8	11.4	11.2	11

\* Note: more accurate values for these analytes are listed in other tables in this report

Table 5-2

## RCap Data

Nova Scotia 1993

	St. Mary's Sept	St. Mary's Nov	St. Mary's Nov	Gold May	Gold Aug	Gold Sept	Gold Nov	LaHave May	LaHave Aug	LaHave Sept	LaHave Nov	LaHave Nov	Medway May	Medway Aug	Medway Sept	Medway Nov
Sodium	3.2	3.2	2.8	3.5	3.1	3.5	3.1	3.2	3.7	3.9	3.5	3.5	2.9	3.5	3.4	3.3
Potassium	0.2	0.3	0.3	0.3	0.4	0.2	0.3	0.3	0.4	0.3	0.5	0.5	0.2	0.2	0.2	0.3
Calcium	1.5	1.2	1.1	0.8	1.1	1.1	1.1	1	1.4	1.73	1.6	1.6	0.6	0.9	0.8	1
Magnesium	0.7	0.7	0.5	0.4	0.5	0.6	0.5	0.5	0.7	0.8	0.8	0.8	0.3	0.5	0.5	0.5
Alkalinity (as CaCO <sub>3</sub> )	5	3	3	< 1	1	3	< 1	1	3	4	3	3	1	1	2	< 1
Sulfate	2	2	2	4	< 2	2	2	3	4	4	4	4	2	2	2	2
Chloride	4.2	4.5	4.5	5.8	4.2	4.7	4.4	5.1	5.7	5.6	5.1	5.1	4.9	4.8	4.5	4.9
* Reactive Silica	2.3	2.1	2.8	1.5	1.9	2.2	4.1	2.1	1.6	1.8	3.4	3.4	1.7	0.5	< 0.5	2.2
* Ortho Phosphate (as Phosphorus)	< 0.01	0.01	< 0.01	0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.02	0.01	0.01	< 0.01	< 0.01	0.46	< 0.01
* Nitrate + Nitrite (as Nitrogen)	< 0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Ammonia (as Nitrogen)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	0.4	0.31	0.18	0.18	0.21	0.21	0.24	0.17	0.2	0.27	0.29	0.29	0.18	0.18	0.18	0.27
* Manganese	0.05	0.04	0.05	0.03	0.01	< 0.01	0.03	0.05	0.03	0.03	0.07	0.07	0.05	0.02	< 0.01	0.06
* Copper	0.01	< 0.01	< 0.01	0.03	0.01	< 0.01	< 0.01	0.04	0.02	< 0.01	< 0.01	< 0.01	0.03	0.01	< 0.01	< 0.01
* Zinc	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01	0.02	0.02	< 0.01	< 0.01	< 0.01	0.01
Colour	33	41	33	57	64	62	73	38	34	25	52	52	46	28	23	46
Turbidity	0.66	0.9	1.01	0.46	0.64	0.7	0.7	0.44	0.62	0.58	1.62	1.62	0.53	0.59	0.6	1.01
* Conductivity	28.7	30.9	29	32	27.6	30.9	32	30	39.8	40.7	37	37	26	30.7	28.9	31
* pH	6.3	6.3	6.1	5.6	5.6	5.9	5.1	5.9	6.1	6.4	5.4	5.4	5.4	6.3	5.9	5.2
Total Organic Carbon	6.5	7.5	6.4	7.6	10.9	10.3	12.4	6.3	8.3	5.9	9.6	9.6	6.8	7.1	5.1	8.4
Hardness (as CaCO <sub>3</sub> )	6.63	5.88	4.8	3.64	4.8	5.22	4.8	4.56	6.38	7.61	7.29	7.29	2.73	4.31	4.06	4.56
Carbonate (as CaCO <sub>3</sub> )	5	3	3	0	1	3	0	1	3	4	3	3	1	1	2	0
Bicarbonate (as CaCO <sub>3</sub> )	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ion Sum	17	16	16	16	12	16	16	16	19	21	21	21	13	13	13	14
Theoretical Conductivity	30	29	27	31	23	29	27	29	36	38	37	37	25	26	26	28
Cation Sum	0.28	0.26	0.23	0.24	0.24	0.26	0.25	0.24	0.3	0.33	0.31	0.31	0.19	0.24	0.24	0.25
Anion Sum	0.26	0.23	0.23	0.25	0.14	0.23	0.17	0.23	0.3	0.32	0.29	0.29	0.2	0.2	0.21	0.18
Ion Balance	3.21	6.6	0.48	2.38	27.5	5.79	19.6	2.79	0.74	1.35	4.6	4.6	2.54	10.7	6.05	16.1
Langelier Index (5ø C)	-4.62	-4.93	-5.17	-6.19	-6.15	-5.37	-6.65	-5.89	-5.07	-4.55	-5.71	-5.71	-6.39	-5.49	-5.59	-6.59
Saturation pH	10.9	11.2	11.3	11.8	11.7	11.3	11.7	11.8	11.2	11	11.1	11.1	11.8	11.8	11.5	11.8

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-2

## RCAp Data

## Nova Scotia 1993

	Mersey May	Mersey Aug	Mersey Sept	Mersey Nov	Roseway May	Roseway May	Roseway Aug	Roseway Sept	Roseway Nov	Clyde May	Clyde Aug	Clyde Sept	Clyde Nov	Tusket May	Tusket Aug	Tusket Sept	Tusket Nov	Annapolis May
Sodium	2.8	3.5	3	4.3	2	3.7	3.3	4.9	3.4	3.1	4	4.7	3.7	4	4.6	4.5	4.2	7.2
Potassium	0.2	0.3	0.2	0.4	0.2	0.2	0.3	0.4	0.4	0.2	0.4	0.4	0.4	0.2	0.3	0.3	0.4	0.7
Calcium	0.5	0.6	0.5	1.2	0.3	0.3	0.6	0.92	0.8	0.35	0.7	0.8	0.7	0.9	1.2	1.23	1.6	6.5
Magnesium	0.4	0.5	0.4	0.5	0.3	0.3	0.4	0.5	0.6	0.3	0.5	0.5	0.6	0.5	0.7	0.7	0.7	1.3
Alkalinity (as CaCO <sub>3</sub> )	1	1	1	2	<1	<1	<1	<1	<1	<1	<1	3	<1	3	1	3	3	11
Sulfate	2	3	<2	3	<2	<2	<2	2	3	<2	<2	<2	2	2	3	4	6	8
Chloride	4.6	5.4	4.1	5.8	6.2	8	4.7	7.8	5.6	7	5.6	6.7	5.4	6.6	7.3	7.3	5.6	11.8
* Reactive Silica	1.8	<0.5	<0.5	2.2	2.4	2.5	<0.5	0.8	3.6	2.3	0.7	1.9	3.4	2.4	0.5	0.7	4	3.5
* Ortho Phosphate (as Phosphorus)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
* Nitrate + Nitrite (as Nitrogen)	<0.05	<0.05	<0.05	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.36
* Ammonia (as Nitrogen)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
* Iron	0.22	0.32	0.31	0.27	0.16	0.16	0.18	0.18	0.26	0.24	0.24	0.42	0.27	0.21	0.17	0.26	0.33	0.3
* Manganese	0.06	0.05	0.05	0.06	0.01	0.01	<0.01	0.01	0.02	<0.01	<0.01	0.02	<0.01	0.03	0.03	0.04	0.04	0.04
* Copper	0.03	0.02	<0.01	<0.01	0.03	0.04	0.02	<0.01	<0.01	0.03	0.01	<0.01	<0.01	0.03	0.01	<0.01	<0.01	0.04
* Zinc	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	<0.01	<0.01	0.03	<0.01
Colour	42	32	22	42	100	99	88	74	130	100	88	67	160	59	37	32	110	50
Turbidity	0.83	1.19	1.11	1.04	0.37	0.42	3.33	0.72	1.29	0.45	0.51	1.35	0.8	0.51	0.51	1.12	2.22	1.2
* Conductivity	28.2	30.8	25.7	38	35	39	31.3	39.8	46	34	33	35.1	42	36	42.2	40.5	48	90.9
* pH	5.1	6.1	5.5	5.5	4.4	4.5	4.8	5.1	4.3	4.6	5.6	5.9	4.2	4.9	5.9	5.6	4.5	6.8
Total Organic Carbon	6.2	6.6	4.5	8.5	11.2	11.4	10.9	8.2	22.4	10.4	11	7.6	22.8	7.5	6.9	5.7	17.1	6.5
Hardness (as CaCO <sub>3</sub> )	2.89	3.56	2.89	5.05	1.98	1.98	3.14	4.36	4.47	2.11	3.81	4.06	4.22	4.31	5.88	5.95	6.88	21.6
Carbonate (as CaCO <sub>3</sub> )	1	1	1	2	0	0	0	0	0	0	0	3	0	3	1	3	3	11
Bicarbonate (as CaCO <sub>3</sub> )	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
Ion Sum	13	14	9	19	11	15	9	17	17	13	12	17	16	18	18	21	24	47
Theoretical Conductivity	26	29	20	35	34	38	26	38	46	33	26	32	49	37	38	41	51	88
Cation Sum	0.19	0.23	0.2	0.3	0.17	0.24	0.23	0.32	0.3	0.21	0.26	0.3	0.32	0.28	0.33	0.32	0.36	0.76
Anion Sum	0.19	0.23	0.14	0.27	0.17	0.23	0.13	0.26	0.22	0.2	0.16	0.25	0.19	0.29	0.29	0.35	0.34	0.74
Ion Balance	0.37	0.61	18.4	4.68	0.94	2.54	26.9	9.8	14.9	2.43	24.9	8.81	24.3	1.76	6.22	3.58	2.74	1.18
Langelier Index (5ø C)	-6.69	-5.69	-6.29	-5.91	-7.39	-7.29	-6.99	-6.69	-7.49	-7.19	-6.19	-5.41	-7.59	-6.41	-5.81	-5.63	-6.61	-3.15
Saturation pH	11.8	11.8	11.8	11.4	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.3	11.8	11.3	11.7	11.2	11.1	9.95

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-2

## RCAP Data

Nova Scotia 1993

	Annapolis	Annapolis	Annapolis
	Aug	Sept	Nov
Sodium	9.5	17.4	5.1
Potassium	1.2	1.7	1
Calcium	11.7	24.7	4.5
Magnesium	2	3.3	1.3
Alkalinity (as CaCO <sub>3</sub> )	21	37	8
Sulfate	16	26	7
Chloride	17	30.4	8.5
* Reactive Silica	2	3.2	5.2
* Ortho Phosphate (as Phosphorus)	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	< 0.05	1.5	0.14
* Ammonia (as Nitrogen)	< 0.05	< 0.05	< 0.05
* Iron	0.23	0.15	0.38
* Manganese	0.02	< 0.01	0.06
* Copper	0.01	< 0.01	< 0.01
* Zinc	< 0.01	< 0.01	0.01
Colour	28	11	85
Turbidity	1.07	0.8	5.27
* Conductivity	137	243	66
* pH	7.6	7.8	6.3
Total Organic Carbon	5.5	3.1	11.5
Hardness (as CaCO <sub>3</sub> )	37.4	75.3	16.6
Carbonate (as CaCO <sub>3</sub> )	20.9	36.8	8
Bicarbonate (as CaCO <sub>3</sub> )	0.08	0.22	0
Ion Sum	72	138	38
Theoretical Conductivity	140	265	66
Cation Sum	1.19	2.3	0.58
Anion Sum	1.23	2.29	0.56
Ion Balance	1.64	0.39	2.13
Langelier Index (5ø C)	-1.82	-1.07	-3.94
Saturation pH	9.42	8.87	10.2

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-3

## RCAP Data

Nova Scotia 1994

	Units	St. Mary's May	Sheet H.(E) May	Musquodoboit May	Gold May	LaHave May	Medway May	Mersey May	Roseway May	Clyde May	Tusket May	Annapolis May	Musquodoboit August	Sheet H.(E) August
Sodium	mg/L	2.2	1.8	2.7	1.8	2.3	2.5	4.8	2.6	2.3	3.3	4.4	4.9	2.6
Potassium	mg/L	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.6	0.4	0.4
Calcium	mg/L	0.86	0.49	3.95	0.58	1.04	0.64	1.37	0.29	0.29	1.51	4.54	21.4	0.62
Magnesium	mg/L	0.4	0.3	1	0.3	0.4	0.3	0.4	0.2	0.2	0.4	1	2.6	0.3
Alkalinity (as CaCO <sub>3</sub> )	mg/L	2	1	6	< 1	1	< 1	3	< 1	< 1	< 1	9	19	< 1
Sulfate	mg/L	4	3	8	5	5	3	5	3	4	7	9	37	2
Chloride	mg/L	2	2.2	3.3	1	2.4	3.4	5.6	3.9	2.8	4.6	6.2	5.7	2.4
* Reactive Silica	mg/L	1.8	1.4	1.7	2.4	2.3	2.1	2.5	2	1.9	2	3.6	1.5	1
* Ortho Phosphate (as Phosphorus)	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	mg/L	< 0.05	< 0.05	0.12	< 0.05	< 0.05	0.17	0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Ammonia (as Nitrogen)	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.12	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	mg/L	0.15	0.23	0.21	0.14	0.16	0.15	0.23	0.12	0.12	0.18	0.3	0.16	0.78
* Manganese	mg/L	0.04	0.05	0.02	0.03	0.03	0.04	0.05	0.01	0.01	0.03	0.02	0.16	0.1
* Copper	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	mg/L	0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	0.01	0.01	0.01	< 0.01
Colour	TCU	38	40	39	64	47	51	54	94	98	57	46	15	36
Turbidity	NTU	2.52	1.3	5.22	0.75	1.05	0.73	0.97	0.8	0.78	1.03	3.29	1.26	1.34
* Conductivity	µmhos/cm	22.7	18.7	42.4	19	23.6	23.4	38.6	26.9	29	35.7	56.5	149	22.4
* pH	Units	6.4	5.4	6.3	5.6	5.4	5.4	6	4.7	4.5	4.7	6.3	7	5.9
Total Organic Carbon	mg/L	5.5	5.9	6.3	8.5	6.9	6.7	7.3	10.5	12.2	7.9	7.9	4.6	5.8
Hardness (as CaCO <sub>3</sub> )	mg/L	3.79	2.46	14	2.68	4.24	2.83	5.07	1.55	1.55	5.42	15.5	64.1	2.78
Carbonate (as CaCO <sub>3</sub> )	mg/L	2	1	6	< 1	1	< 1	3	< 1	< 1	< 1	9	19	< 1
Bicarbonate (as CaCO <sub>3</sub> )	mg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Ion Sum	mg/L	13	10	25	11	14	13	22	12	12	19	35	85	9
Theoretical Conductivity	µmhos/cm	21	18	46	18	25	23	40	27	30	40	61	151	16
Cation Sum	meq/L	0.18	0.14	0.41	0.14	0.19	0.17	0.33	0.17	0.17	0.28	0.52	1.29	0.15
Anion Sum	meq/L	0.18	0.14	0.39	0.13	0.19	0.17	0.33	0.17	0.16	0.28	0.54	1.31	0.11
Ion Balance	%	0	2.81	2.14	2.71	0.59	1.18	0.05	0.96	1.69	0.28	2.45	0.75	15.5
Langelier Index (5° C)		-5.09	-6.39	-4.12	-6.19	-6.37	-6.39	-5.18	-7.09	-7.29	-6.91	-3.89	-2.21	-5.89
Saturation pH	Units	11.5	11.8	10.4	11.8	11.8	11.8	11.2	11.8	11.8	11.6	10.2	9.21	11.8

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-3

## RCAp Data

## Nova Scotia 1994

	St. Mary's August	Gold August	LaHave August	Medway August	Mersey August	Roseway August	Clyde August	Tusket August	Annapolis August	St. Mary's November	Sheet H.(E) November	Musquodoboit November	Gold November	LaHave November	Medway November
Sodium	4.3	3.3	3.4	3.1	2.9	3.5	3.5	4	5.8	3.3	3	3.4	4	3.8	3.8
Potassium	0.7	0.3	0.5	0.3	0.4	0.3	0.3	0.4	0.8	0.3	0.3	0.1	0.4	0.5	0.3
Calcium	1.56	0.85	1.25	0.78	0.56	0.64	0.68	1.34	6.52	1.6	0.99	6.5	1.61	2.12	1.31
Magnesium	0.8	0.5	0.5	0.4	0.4	0.3	0.5	0.5	1.1	0.8	0.5	1.3	0.8	0.9	0.6
Alkalinity (as CaCO <sub>3</sub> )	4	< 1	< 1	< 1	< 1	< 1	< 1	< 1	10	< 1	< 1	< 1	< 1	< 1	< 1
Sulfate	3	2	3	3	3	5	7	5	8	5	4	14	7	7	5
Chloride	5.4	3	3.3	2.9	2.9	3.5	3.9	4.8	8.8	5.2	3.7	5.5	5.1	5.9	4.6
* Reactive Silica	1	< 0.5	0.9	< 0.5	< 0.5	1.2	1.9	1.1	1.6	2.9	1.8	2.5	4.4	4.1	2.8
* Ortho Phosphate (as Phosphorus)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.29	< 0.05	< 0.05	0.12	< 0.05	< 0.05	< 0.05
* Ammonia (as Nitrogen)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	0.2	0.19	0.22	0.17	0.39	0.27	0.31	0.31	0.18	0.19	0.43	0.27	0.29	0.41	0.35
* Manganese	0.03	< 0.01	< 0.01	0.02	0.08	0.02	< 0.01	0.06	0.03	0.07	0.07	0.08	0.04	0.11	0.07
* Copper	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Colour	13	40	28	26	30	110	130	51	29	47	68	64	100	73	74
Turbidity	0.43	0.46	0.32	0.48	1.27	0.72	0.46	0.56	0.62	0.58	0.92	1.11	0.64	1.16	0.7
* Conductivity	36.9	25.1	29.8	23.8	23.6	26.6	29.7	36.5	76.3	33.8	26	60.1	34.7	40.9	31.1
* pH	6.6	6.1	6.1	5.8	5.5	4.9	4.8	5.4	6.6	5.7	4.9	5.9	4.8	5.3	5
Total Organic Carbon	3.7	7.8	7.1	5.8	5.5	12.7	17.6	8.1	5.8	7.6	9.4	11.4	15.1	12	10.8
Hardness (as CaCO <sub>3</sub> )	7.19	4.18	5.18	3.59	3.04	2.83	3.76	5.4	20.8	7.29	4.53	21.6	7.31	9	5.74
Carbonate (as CaCO <sub>3</sub> )	4	< 1	< 1	< 1	< 1	< 1	< 1	< 1	10	< 1	< 1	< 1	< 1	< 1	< 1
Bicarbonate (as CaCO <sub>3</sub> )	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Ion Sum	19	10	13	10	10	14	18	17	40	19	14	34	23	24	18
Theoretical Conductivity	33	19	22	20	20	29	35	31	72	31	27	60	40	40	32
Cation Sum	0.27	0.19	0.2	0.18	0.17	0.2	0.22	0.23	0.61	0.24	0.19	0.51	0.27	0.3	0.23
Anion Sum	0.29	0.13	0.16	0.14	0.14	0.2	0.26	0.24	0.64	0.25	0.19	0.45	0.29	0.31	0.23
Ion Balance	4.17	21	13.2	10.2	8.93	1.37	8.18	2.13	1.78	1.34	1.15	5.54	4.23	1.2	0.29
Langelier Index (5° C)	-4.4	-5.69	-5.59	-5.99	-6.29	-6.89	-6.99	-6.26	-3.39	-5.89	-6.89	-5.09	-6.79	-6.17	-6.67
Saturation pH	11	11.8	11.7	11.8	11.8	11.8	11.8	11.7	9.99	11.6	11.8	11	11.6	11.5	11.7

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-3

## RCAP Data

Nova Scotia 1994

	Mersey November	Roseway November	Clyde November	Tusket November	Annapolis November
Sodium	3.4	4	3.8	4.6	7.5
Potassium	0.3	0.4	0.4	0.3	0.8
Calcium	0.89	0.82	0.83	2.81	8.2
Magnesium	0.5	0.6	0.6	0.7	1.5
Alkalinity (as CaCO <sub>3</sub> )	< 1	< 1	< 1	< 1	12
Sulfate	4	8	9	9	13
Chloride	5.2	5.8	5	5.7	10.8
* Reactive Silica	0.9	4.4	4.1	2.9	4.5
* Ortho Phosphate (as Phosphorus)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	< 0.05	< 0.05	< 0.05	< 0.05	0.38
* Ammonia (as Nitrogen)	< 0.05	< 0.05	0.09	< 0.05	< 0.05
* Iron	0.36	0.31	0.35	0.38	0.27
* Manganese	0.07	0.02	0.02	0.06	0.03
* Copper	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Colour	53	110	220	110	58
Turbidity	1.6	0.62	0.52	0.48	0.76
* Conductivity	27.3	45.7	43.7	45.5	89.9
* pH	4.9	4.2	4.1	4.9	6.6
Total Organic Carbon	7.5	22.3	28.2	14.5	7.9
Hardness (as CaCO <sub>3</sub> )	4.28	4.52	4.54	9.9	26.6
Carbonate (as CaCO <sub>3</sub> )	< 1	< 1	< 1	< 1	12
Bicarbonate (as CaCO <sub>3</sub> )	< 1	< 1	< 1	< 1	< 1
Ion Sum	15	24	24	26	55
Theoretical Conductivity	31	58	64	45	99
Cation Sum	0.21	0.3	0.31	0.3	0.85
Anion Sum	0.23	0.33	0.33	0.35	0.84
Ion Balance	4.67	5.3	2.73	6.92	0.51
Langelier Index (5° C)	-6.89	-7.59	-7.69	-6.45	-3.21
Saturation pH	11.8	11.8	11.8	11.3	9.81

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-4

## RCAp Data

## Cape Breton 1993

	Units	Inhabitants	Grand R.	Framboise	Sydney	North R.	Margaree	Cheticamp	Middle	Baddeck(A)	Baddeck(B)	River Denys
		Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.
Sodium	mg/L	178	5.1	24.1	7.7	3.9	46	7.3	7.6	5.8	5.9	9.2
Potassium	mg/L	4.8	0.4	1	0.6	0.4	0.7	0.5	0.6	0.4	< 0.1	0.7
Calcium	mg/L	43.8	4.33	3.11	11.9	2.8	24.9	3.9	28.4	27.1	27.8	55.6
Magnesium	mg/L	15.8	1.1	3	1.7	0.9	2.1	1.1	2.2	1.8	1.4	3.3
Alkalinity (as CaCO <sub>3</sub> )	mg/L	30	8	3	22	8	21	12	33	24	24	51
Sulfate	mg/L	101	8	7	14	3	41	4	43	48	46	120
Chloride	mg/L	300	7.4	43.4	11.7	5.2	70.4	10.3	10.1	8.2	7.8	12.3
* Reactive Silica	mg/L	3.7	1.4	1.2	2.3	6.2	4.9	5.4	6.2	4.3	4.3	3.8
* Ortho Phosphate (as Phosphorus)	mg/L	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	0.16	0.07	0.1	0.11	0.14	0.14	< 0.05
* Ammonia (as Nitrogen)	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	mg/L	0.36	0.14	0.16	0.26	0.09	< 0.02	0.12	< 0.02	0.08	0.19	0.2
* Manganese	mg/L	0.1	0.01	0.05	0.13	< 0.01	< 0.01	< 0.01	< 0.01	0.03	0.01	0.03
* Copper	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	mg/L	< 0.01	0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Colour	TCU	38	19	37	24	37	8	44	8	27	27	25
Turbidity	NTU	3.11	0.78	0.83	1.84	0.27	0.54	0.44	0.67	1.13	2.41	2.5
* Conductivity	µmhos/cm	1360	63	175	117	43.8	395	67.8	200	187	187	448
* pH	Units	7.1	6.9	6.2	7.3	7.1	7.5	7.1	7.4	7.3	7.3	7.5
Total Organic Carbon	mg/L	5.1	4.5	8.5	5.7	6.2	1.5	7.1	2	6.3	6.3	6.3
Hardness (as CaCO <sub>3</sub> )	mg/L	174	15.3	20.1	36.7	10.7	70.8	14.3	80	75.1	75.2	152
Bicarbonate (as CaCO <sub>3</sub> )	mg/L	0.04	0.01	0	0.04	0.01	0.06	0.01	0.08	0.04	0.04	0.15
Carbonate (as CaCO <sub>3</sub> )	mg/L	30	7.99	3	21.9	7.98	20.9	12	32.9	23.9	23.9	50.8
Ion Sum	mg/L	665	33	85	63	28	203	40	118	111	108	236
Theoretical Conductivity	µmhos/cm	1390	62	179	121	43	405	70	217	204	199	434
Cation Sum	meq/L	11.4	0.54	1.48	1.08	0.39	3.43	0.62	1.94	1.76	1.76	3.46
Anion Sum	meq/L	11.2	0.54	1.43	1.06	0.38	3.26	0.62	1.85	1.72	1.67	3.86
Ion Balance	%	0.85	0.35	1.62	1.07	1.72	2.56	0.42	2.56	1.25	2.7	5.44
Langelier Index (5° C)		-1.67	-3.36	-4.65	-2.09	-3.35	-1.62	-3.03	-1.45	-1.71	-1.7	-0.89
Saturation pH	Units	8.77	10.3	10.8	9.39	10.4	9.12	10.1	8.85	9.01	9	8.39

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-5

## RCap Data

## Cape Breton 1994

	Units	Inhabitants	Grand	Framboise	Sydney	North	Baddeck	Margaree	Cheticamp	Middle	R. Denys	Inhabitants	Grand River	Grand River	Frambois
		May	May	May	May	May	May	May	May	May	May	May	August	August	August
Sodium	mg/L	35	3	2.9	5.6	3.1	< 0.1	26.5	6.1	6.4	5.5	31.6	4.9	5.2	72.5
Potassium	mg/L	0.6	0.2	0.2	0.4	0.2	0.3	0.5	0.5	0.4	0.7	0.7	0.3	0.4	3
Calcium	mg/L	17.8	3.6	1.11	5.92	2.18	18.1	14.8	5.27	14.2	40	13.7	3.93	4.19	4.61
Magnesium	mg/L	1.8	0.7	0.4	0.9	0.6	1.2	1.6	1.2	1.4	2	2	1	1	7.8
Alkalinity (as CaCO <sub>3</sub> )	mg/L	21	5	2	9	6	14	15	13	15	23	17	4	5	4
Sulfate	mg/L	32	7	3	9	4	29	24	6	19	81	26	11	8	16
Chloride	mg/L	50.6	4.6	4	8	3.8	5.8	37.2	8.2	6.5	6.5	41.7	6.5	5.3	120
* Reactive Silica	mg/L	3.5	1.4	1	1.9	5	4	3.9	5.2	5.3	2.8	3.8	2	2	0.8
* Ortho Phosphate (as Phosphorus)	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	0.06	0.22	< 0.05	0.2	0.15	< 0.05	0.08	< 0.05	< 0.05	< 0.05
* Ammonia (as Nitrogen)	mg/L	0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	mg/L	0.33	0.09	0.18	0.13	0.02	0.02	0.04	< 0.02	0.04	0.44	0.73	0.33	0.36	0.31
* Manganese	mg/L	0.04	0.03	0.02	0.05	< 0.01	< 0.01	0.01	< 0.01	< 0.01	0.05	0.11	0.05	0.07	0.02
* Copper	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	mg/L	0.02	0.01	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.03	< 0.01	0.01	< 0.01	< 0.01
Colour	TCU	29	18	39	31	13	6	7	6	8	46	80	64	58	27
Turbidity	NTU	3	1.25	2.23	1.35	0.37	0.67	0.92	0.31	1	9.2	7.5	1.43	1.29	0.45
* Conductivity	µmhos/cm	284	44.8	27.3	67.2	34.6	123	216	68.9	107	255	254	52.1	52	474
* pH	Units	7	6.6	6	6.6	6.7	7	7.1	7.1	7.1	7	6.5	6.1	6.1	6.2
Total Organic Carbon	mg/L	5	5.3	7.8	6.1	2.7	2.2	1.9	1.9	2.2	7.5	15.3	15.1	14.9	7.3
Hardness (as CaCO <sub>3</sub> )	mg/L	51.9	11.9	4.42	18.5	7.91	50.1	43.5	18.1	41.2	108	42.4	13.9	14.6	43.6
Carbonate (as CaCO <sub>3</sub> )	mg/L	21	5	2	9	6	14	15	13	15	23	17	4	5	4
Bicarbonate (as CaCO <sub>3</sub> )	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ion Sum	mg/L	154	24	14	37	23	68	117	41	63	152	130	32	29	227
Theoretical Conductivity	µmhos/cm	305	44	26	70	35	123	232	71	114	283	252	57	50	481
Cation Sum	meq/L	2.58	0.37	0.22	0.62	0.3	1.01	2.04	0.64	1.11	2.42	2.15	0.46	0.44	3.99
Anion Sum	meq/L	2.51	0.38	0.22	0.59	0.31	1.06	1.85	0.63	0.89	2.33	2.06	0.49	0.42	3.8
Ion Balance	%	1.35	0.29	1.23	2.53	2.66	2.55	4.83	0.76	11.2	1.89	1.99	3.79	2.8	2.44
Langelier Index (5° C)		-2.26	-3.94	-5.44	-3.47	-3.98	-2.41	-2.38	-2.87	-2.38	-1.87	-2.96	-4.5	-4.38	-4.38
Saturation pH	Units	9.26	10.5	11.4	10.1	10.7	9.41	9.48	9.97	9.48	8.87	9.46	10.6	10.5	10.6

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-5

## RCAp Data

## Cape Breton 1994

	Sydney August	North River August	Cheticamp August	Margaree August	Middle August	Baddeck August	River Denesys August	Inhabitants Nov.	Grand Nov.	Framboise Nov.	Sydney Nov.	North Nov.	Cheticamp Nov.	Margaree Nov.	Middle Nov.
Sodium	9.2	4	6.8	53.6	8	7.3	12.8	29.4	4.0	4.6	6.9	4.1	6.4	23.5	5.4
Potassium	0.7	0.4	0.5	0.8	0.6	0.6	1	0.5	0.3	0.3	0.4	0.2	0.4	0.5	0.4
Calcium	12.4	3.42	6.75	24.5	28.5	38.9	80.3	17.7	4.8	2.0	7.2	2.6	3.6	13.5	11.7
Magnesium	1.9	0.9	1.4	2.2	2.1	2	4	1.7	1.0	0.7	1.2	0.8	1.1	1.6	1.1
Alkalinity (as CaCO <sub>3</sub> )	22	8	17	24	36	30	44	16	6	2	11	6	6	14	16
Sulfate	14	6	6	44	44	66	147	42	9	< 2	10	< 2	< 2	31	15
Chloride	13.4	3	6.2	76.6	7.8	7.2	15.5	42	5.5	7.6	11.2	7.6	12.1	33.3	7.3
* Reactive Silica	1.6	6.2	6.1	4.5	6.4	4.8	4.1	4.1	1.5	2	3.4	3.4	4.4	5.3	5.8
* Ortho Phosphate (as Phosphorus)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.22	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	< 0.05	0.17	0.23	0.08	0.16	0.12	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.14	0.13	0.11	0.13
* Ammonia (as Nitrogen)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	0.07	0.08	0.02	0.04	0.03	0.04	0.17	0.27	0.11	0.21	0.19	0.03	0.03	0.03	< 0.02
* Manganese	0.08	< 0.01	< 0.01	0.01	0.01	0.01	0.06	0.06	0.05	0.04	0.09	0.01	0.01	0.01	0.01
* Copper	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	< 0.01	< 0.01	< 0.01	0.01	0.02	0.02	0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Colour	16	48	18	10	7	14	20	34	16	49	< 3	15	13	8	5
Turbidity	0.96	0.18	0.15	0.54	0.36	0.28	1.53	1.56	0.66	0.47	1.13	0.25	0.15	0.54	0.3
* Conductivity	131	45.8	76.2	443	200	276	526	254	51.6	40	81.5	42	62.8	195	99.2
* pH	7	6.7	7	7.1	7.2	7.2	7.3	6.8	6.6	5.9	6.7	6.6	6.7	7.0	7.1
Total Organic Carbon	4.3	9.2	3.9	2.7	2.3	4.4	6.6	5.5	5.1	9.4	7.7	3	2.9	2.1	1.3
Hardness (as CaCO <sub>3</sub> )	38.8	12.2	22.6	70.2	79.8	105	217	51.2	16.2	7.78	22.9	9.71	13.5	40.3	33.7
Carbonate (as CaCO <sub>3</sub> )	22	8	17	24	36	30	44	16	6	2	11	6	6	14	16
Bicarbonate (as CaCO <sub>3</sub> )	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ion Sum	66	29	45	221	120	145	291	147	30	18	47	23	32	118	57
Theoretical Conductivity	125	45	71	438	212	260	534	279	52	31	83	41	55	224	94
Cation Sum	1.1	0.43	0.66	3.7	1.86	2.25	4.59	2.21	0.42	0.27	0.67	0.38	0.46	1.84	0.8
Anion Sum	1.11	0.38	0.66	3.56	1.87	2.18	4.37	2.38	0.46	0.25	0.74	0.34	0.47	1.87	0.85
Ion Balance	0.48	5.88	0.01	1.93	0.21	1.57	2.45	3.66	5.34	2.37	5.27	4.64	1.16	0.84	3.06
Langelier Index (5° C)	-2.37	-3.66	-2.74	-1.97	-1.61	-1.56	-1	-2.58	-3.74	-5.3	-3.21	-4.01	-3.77	-2.55	-2.44
Saturation pH	9.37	10.4	9.74	9.07	8.81	8.76	8.3	9.38	10.3	11.2	9.91	10.6	10.5	9.55	9.54

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-5

## RCap Data

## Cape Breton 1994

	Baddeck	River Denys
	Nov.	Nov.
Sodium	5.6	7.6
Potassium	0.3	0.4
Calcium	14.6	49.2
Magnesium	1.2	2.6
Alkalinity (as CaCO <sub>3</sub> )	10	34
Sulfate	24	101
Chloride	8.2	11.9
* Reactive Silica	4.4	4.1
* Ortho Phosphate (as Phosphorus)	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	0.2	0.08
* Ammonia (as Nitrogen)	< 0.05	< 0.05
* Iron	0.04	0.14
* Manganese	0.01	0.05
* Copper	< 0.01	< 0.01
* Zinc	< 0.01	0.02
Colour	12	15
Turbidity	0.29	1.52
* Conductivity	103	320
* pH	6.9	7.2
Total Organic Carbon	2.9	3.2
Hardness (as CaCO <sub>3</sub> )	41.4	134
Carbonate (as CaCO <sub>3</sub> )	10	34
Bicarbonate (as CaCO <sub>3</sub> )	0	0
Ion Sum	65	198
Theoretical Conductivity	114	364
Cation Sum	0.97	2.98
Anion Sum	0.94	3.12
Ion Balance	1.52	2.41
Langelier Index (5° C)	-2.75	-1.41
Saturation pH	9.65	8.61

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-6

## RCap Data

## New Brunswick 1993

	Units	Petitcodiac October	Kennebecasis October	St. John October	Lepreau October	New River October	Magaguadavic October	Digdeguash October	St. Croix October
Sodium	mg/L	13.9	9.4	45.8	2.1	2.6	2.3	2.9	16.4
Potassium	mg/L	1	1.4	2.1	0.3	0.3	0.3	0.2	1.2
Calcium	mg/L	14.7	11.9	18.8	1.2	1.7	3.8	6	5.1
Magnesium	mg/L	2	1.5	6.6	0.5	0.6	0.9	1.4	0.9
Alkalinity (as CaCO <sub>3</sub> )	mg/L	18	22	40	1	2	8	8	22
Sulfate	mg/L	29	14	18	4	4	7	11	17
Chloride	mg/L	19.3	14.4	77.5	1.9	2.7	2.9	4.4	9.7
* Reactive Silica	mg/L	5.3	5.1	3.5	3.8	4.4	3.8	4.3	2
* Ortho Phosphate (as Phosphorus)	mg/L	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	mg/L	0.09	0.21	0.21	< 0.05	< 0.05	0.08	0.11	< 0.05
* Ammonia (as Nitrogen)	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	mg/L	0.23	0.19	0.1	0.16	0.17	0.18	0.14	0.21
* Manganese	mg/L	0.01	0.01	< 0.01	0.04	0.04	0.02	0.01	0.04
* Copper	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	mg/L	< 0.01	0.01	0.01	0.02	< 0.01	0.02	< 0.01	< 0.01
Colour	TCU	43	31	30	37	44	51	58	39
Turbidity	NTU	3.14	3.04	2.09	0.57	0.89	1.52	0.78	2.56
* Conductivity	umhos/cm	173	138	376	28	33	45	64.4	116
* pH	Units	7.3	7.3	7.7	5.3	5.6	6.4	6.6	7.1
Total Organic Carbon	mg/L	9.6	6.9	7.4	7.7	9.3	11.9	15.3	8.4
Hardness (as CaCO <sub>3</sub> )	mg/L	44.9	35.9	74.1	5.05	6.71	13.2	20.7	16.4
Carbonate (as CaCO <sub>3</sub> )	mg/L	18	21.9	39.8	1	2	8	8	22
Bicarbonate (as CaCO <sub>3</sub> )	mg/L	0.03	0.04	0.19	0	0	0	0	0.03
Ion Sum	mg/L	96	72	197	14	18	26	35	66
Theoretical Conductivity	umhos/cm	179	132	405	23	27	43	61	120
Cation Sum	meq/L	1.53	1.16	3.53	0.21	0.26	0.37	0.55	1.07
Anion Sum	meq/L	1.51	1.15	3.37	0.16	0.2	0.39	0.52	1.07
Ion Balance	%	0.48	0.42	2.21	13.3	12.7	2.78	2.38	0.26
Langelier Index (5ø C)		-2.1	-2.09	-1.26	-6.41	-5.66	-3.91	-3.52	-2.66
Saturation pH	Units	9.4	9.39	8.96	11.7	11.3	10.3	10.1	9.76

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-7

## RCAp Data

## New Brunswick 1994

		Petitcodiac	Kennebecasis	St. John(A)	St. John(B)	Lepreau	New River	Magaguadavic	Digdeguash	St. Croix	St. John	Lepreau
	Units	May	May	May	May	May	May	May	May	May	August	August
Sodium	mg/L	11.6	7.8	3.2	2.8	2.1	2.3	1.9	2.4	8.8	1120	4.3
Potassium	mg/L	0.7	0.9	0.5	0.5	0.6	0.4	0.3	0.2	0.7	36.1	0.6
Calcium	mg/L	13.9	12	10.1	9.88	1.31	1.75	3.53	4.95	3.98	47.8	2.61
Magnesium	mg/L	1.5	1.4	1.4	1.3	0.4	0.4	0.6	0.8	0.6	130	0.6
Alkalinity (as CaCO <sub>3</sub> )	mg/L	21	26	23	21	2	3	7	10	10	40	4
Sulfate	mg/L	22	10	8	8	5	5	6	7	13	276	5
Chloride	mg/L	14.7	11.1	3.5	3.5	2.4	2.8	2.1	2.7	5.8	1810	4.3
* Reactive Silica	mg/L	4	4	3.4	3.4	1.4	1.4	2.7	2.3	1.9	1.5	3.1
* Ortho Phosphate (as Phosphorus)	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	mg/L	< 0.05	< 0.05	0.16	0.14	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Ammonia (as Nitrogen)	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.11	< 0.05	< 0.05
* Iron	mg/L	0.21	1.28	0.15	0.15	0.27	0.12	0.17	0.2	0.17	0.17	0.24
* Manganese	mg/L	0.02	0.05	0.03	0.03	0.02	0.02	0.02	0.02	0.06	0.07	0.02
* Copper	mg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	mg/L	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	< 0.01
Colour	TCU	34	25	29	30	40	28	47	54	42	21	37
Turbidity	NTU	2.4	3.12	2.57	3.29	6.65	1.82	2.6	2.29	2.28	2	0.93
* Conductivity	µmhos/cm	138	108	75.8	71.3	23.1	27.2	32.6	41.3	69.1	7180	39.1
* pH	Units	7.2	7.1	7.2	7.2	6.1	6.3	6.6	6.7	6.8	7.5	6.6
Total Organic Carbon	mg/L	6.3	4.8	6.3	6.1	5.9	5.7	8.1	9.3	7.4	4.1	7.5
Hardness (as CaCO <sub>3</sub> )	mg/L	40.9	35.7	31	30	4.92	6.02	11.3	15.7	12.4	654	8.99
Carbonate (as CaCO <sub>3</sub> )	mg/L	21	26	23	21	2	3	7	10	10	40	4
Bicarbonate (as CaCO <sub>3</sub> )	mg/L	0	0	0	0	0	0	0	0	0	0	0
Ion Sum	mg/L	81	63	45	43	14	16	21	26	41	3450	23
Theoretical Conductivity	µmhos/cm	152	117	80	76	25	28	36	47	74	7410	33
Cation Sum	meq/L	1.34	1.08	0.77	0.73	0.21	0.23	0.32	0.42	0.66	62.7	0.25
Anion Sum	meq/L	1.29	1.04	0.74	0.7	0.21	0.24	0.32	0.42	0.63	57.6	0.31
Ion Balance	%	1.8	1.67	2.3	2.77	1.41	2.52	1.24	0.1	1.76	4.28	9.55
Langelier Index (5ø C)		-2.15	-2.21	-2.24	-2.29	-5.27	-4.77	-3.8	-3.4	-3.4	-1.22	-4.18
Saturation pH	Units	9.35	9.31	9.44	9.49	11.4	11.1	10.4	10.1	10.2	8.72	10.8

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-7

## RCAp Data

## New Brunswick 1994

	New River August	Magaguadavic August	Digdeguash August	St. Croix August	Kennebecassis August	Petitcodiac August	Petitcodiac Nov.	Kennebecassis Nov.	Lepreau Nov.	New River Nov.	Magaguadavic Nov.
Sodium	3.6	2.9	5	21.1	26.3	44.3	60.8	20.8	2.7	2.5	2.5
Potassium	0.7	0.5	0.4	1.4	2.6	1	1.1	1.9	0.4	0.3	0.4
Calcium	2.5	4.64	8.85	7.43	21.7	26.2	54.5	22.2	1.7	2.3	5.5
Magnesium	0.6	0.7	1.5	0.8	2.2	3.1	6.0	2.2	0.5	0.5	0.8
Alkalinity (as CaCO <sub>3</sub> )	5	11	25	16	39	33	44	41	1	2	9
Sulfate	6	5	5	29	25	50	116	24	4	4	6
Chloride	3.6	3.9	5.6	15.3	40.8	59.4	81.7	35	2.5	3.5	3.6
* Reactive Silica	3.6	2.7	3.7	1.3	1.7	2.3	4.6	3.4	4.9	5.1	4.3
* Ortho Phosphate (as Phosphorus)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	< 0.05	< 0.05	< 0.05	0.07	< 0.05	< 0.05	0.12	0.16	< 0.05	0.06	0.13
* Ammonia (as Nitrogen)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	0.28	0.2	0.23	0.17	0.25	< 0.02	0.12	0.28	0.18	0.21	0.24
* Manganese	0.01	0.03	0.04	0.05	0.08	0.01	0.04	0.05	0.04	0.04	0.03
* Copper	0.06	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01
Colour	44	30	17	32	7	< 3	19	21	43	49	50
Turbidity	0.7	1.15	2	1.17	1.49	< 0.05	1.25	3.08	0.77	0.55	2.26
* Conductivity	38	44.1	77.3	151	268	404	643	240	37.1	31	43.3
* pH	6.6	6.8	7.3	7.1	7.3	8	7.5	7.4	5.7	5.8	6.6
Total Organic Carbon	8.1	7.1	5.7	7.6	2.2	2.2	4.5	4.2	8.3	9.5	10.3
Hardness (as CaCO <sub>3</sub> )	8.71	14.5	28.3	21.8	63.2	78.2	161	64.5	6.35	7.88	16.9
Carbonate (as CaCO <sub>3</sub> )	5	11	25	16	39	33	44	41	1	2	9
Bicarbonate (as CaCO <sub>3</sub> )	0	0	0	0	0	0	0	0	0	0	0
Ion Sum	24	27	45	86	144	206	352	135	17	20	29
Theoretical Conductivity	39	48	82	162	286	403	679	266	21	30	48
Cation Sum	0.35	0.43	0.79	1.39	2.47	3.39	5.69	2.3	0.17	0.27	0.43
Anion Sum	0.33	0.43	0.76	1.36	2.45	3.38	5.61	2.32	0.17	0.23	0.42
Ion Balance	3.34	0.66	1.99	1.12	0.49	0.23	0.77	0.33	0.83	8.08	2.23
Langelier Index (5ø C)	-4.1	-3.29	-2.16	-2.64	-1.6	-0.9	-0.98	-1.47	-5.86	-5.32	-3.51
Saturation pH	10.7	10.1	9.46	9.74	8.9	8.9	8.48	8.87	11.6	11.1	10.1

\* note: more accurate values for these analytes are listed in other tables in this report

Table 5-7

## RCAp Data

## New Brunswick 1994

	St. Croix (A) Nov.	St. Croix (B) Nov.	Digdeguash Nov.	St. John Nov.
Sodium	28.7	28.3	2.9	312.0
Potassium	1.5	1.5	0.3	11.5
Calcium	6.5	6.5	7.3	27.6
Magnesium	1.0	1.0	1.2	39.4
Alkalinity (as CaCO <sub>3</sub> )	24	24	11	47
Sulfate	28	36	7	89
Chloride	17.9	18.4	4.8	553
* Reactive Silica	1.8	1.8	4.8	2.9
* Ortho Phosphate (as Phosphorus)	< 0.01	< 0.01	< 0.01	< 0.01
* Nitrate + Nitrite (as Nitrogen)	0.15	< 0.05	< 0.05	< 0.05
* Ammonia (as Nitrogen)	< 0.05	< 0.05	< 0.05	< 0.05
* Iron	0.22	0.23	0.19	0.1
* Manganese	0.12	0.12	0.02	0.04
* Copper	< 0.01	< 0.01	< 0.01	< 0.01
* Zinc	< 0.01	< 0.01	< 0.01	< 0.01
Colour	42	43	57	21
Turbidity	3.36	3.27	1.16	0.88
* Conductivity	179	179	55.9	2180
* pH	7.1	7.2	6.7	7.5
Total Organic Carbon	8.1	7.8	13.4	4.6
Hardness (as CaCO <sub>3</sub> )	20.4	20.3	23.1	231
Carbonate (as CaCO <sub>3</sub> )	24	24	11	47
Bicarbonate (as CaCO <sub>3</sub> )	0	0	0	0
Ion Sum	101	108	35	1060
Theoretical Conductivity	188	200	59	2280
Cation Sum	1.7	1.68	0.57	18.7
Anion Sum	1.58	1.75	0.5	18.4
Ion Balance	3.6	2.09	6.11	0.8
Langelier Index (5ø C)	-2.52	-2.43	-3.2	-1.3
Saturation pH	9.62	9.63	9.9	8.8

\* note: more accurate values for these analytes are listed in other tables in this report

Table 6-1

## Dissolved Metal data

## Nova Scotia 1992

Metals (all conc. in µg/L)	Detection	Musquodoboit	Sheet H.(E)	St. Mary's	Gold	Lahave	Medway	Mersey	Annapolis
	Limits	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.	Sept.
Aluminum	5.0	dl	90.6	8.8	139.7	42.0	42.9	84.2	62.3
Antimony	0.02	0.19	0.20	0.21	0.14	0.20	0.12	0.14	0.26
Arsenic	0.20	0.34	2.41	0.47	1.02	0.58	0.69	0.50	0.90
Barium	0.45	11.47	1.11	3.71	1.05	1.04	1.03	1.33	15.78
Beryllium	0.11	dl	dl	dl	dl	dl	dl	dl	dl
Cadmium	0.027	0.122	dl	dl	dl	dl	dl	0.092	dl
Chromium	0.10	dl	0.13	dl	0.22	0.16	dl	0.13	0.28
Cobalt	0.05	0.04	0.21	dl	0.06	0.10	0.05	0.24	0.11
Copper	0.28	1.58	1.31	0.71	0.39	0.96	0.47	0.60	2.54
Iron	12.0	43.3	472.2	106.6	159.2	241.9	132.0	250.6	164.6
Lead	0.025	0.033	0.265	0.044	0.117	0.115	0.140	0.202	0.108
Manganese	2.0	26.4	63.8	40.3	5.7	30.8	6.3	69.3	42.7
Molybdenum	0.10	0.11	dl	dl	dl	dl	dl	dl	0.11
Nickel	0.10	0.67	0.21	0.17	0.14	0.42	0.14	0.26	0.63
Selenium	1.00	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.02	dl	dl	dl	dl	dl	dl	dl	dl
Strontium	2.65	125.9	5.62	11.43	4.73	8.43	6.25	5.45	89.6
Thallium	0.02	0.04	dl	dl	0.02	dl	dl	dl	0.03
Tin	0.14	dl	dl	dl	dl	dl	dl	dl	dl
Uranium	0.02	0.03	0.02	dl	0.34	0.04	dl	dl	0.18
Vanadium	0.12	dl	0.21	dl	0.30	0.16	dl	0.19	0.72
Zinc	1.00	1.09	2.18	1.04	2.10	1.31	1.17	2.67	1.84
Calcium	50	22488	634	1778	929	1580	916	727	15816
Magnesium	50	2644	360	842	481	789	520	426	2462

Table 6-1

## Dissolved Metal data

## Nova Scotia 1992

Metals (all conc. in µg/L)	Tusket	Roseway	Musquodoboit	Sheet H.(E)	St. Mary's	Gold	Lahave	Medway	Mersey
	Sept.	Sept.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	100.4	265.3	81.3	196.5	73.1	250.6	121.2	104.4	85.4
Antimony	0.14	0.12	0.09	0.08	0.08	0.11	0.09	0.08	0.12
Arsenic	0.93	0.58	0.25	1.12	0.20	0.81	0.48	0.75	0.35
Barium	2.37	1.44	10.57	4.59	7.23	2.67	3.58	2.06	2.13
Beryllium	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cadmium	dl	dl	dl	dl	dl	0.038	dl	dl	dl
Chromium	0.19	0.32	0.18	0.20	0.10	0.28	0.21	0.17	0.13
Cobalt	0.12	0.12	0.08	0.23	dl	0.13	0.14	0.08	0.12
Copper	0.84	0.63	0.92	0.82	0.79	4.90	2.01	0.49	4.22
Iron	173.2	301.3	139.2	358.0	126.1	264.7	235.3	229.8	219.7
Lead	0.230	0.639	0.065	0.216	0.044	0.211	0.116	0.231	0.157
Manganese	30.3	6.8	37.1	59.6	24.5	19.0	39.5	16.6	36.4
Molybdenum	dl	dl	dl	dl	dl	dl	dl	dl	dl
Nickel	0.31	0.24	0.73	0.36	0.29	0.24	1.02	0.31	0.23
Selenium	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl	dl	dl	dl	dl
Strontium	8.38	5.54	56.8	8.23	10.45	6.30	10.37	7.15	5.26
Thallium	dl	dl	dl	dl	dl	dl	dl	dl	dl
Tin	dl	dl	dl	dl	dl	dl	dl	dl	dl
Uranium	0.02	0.11	0.04	0.02	dl	0.29	0.04	0.02	dl
Vanadium	0.26	0.47	dl	0.19	dl	0.39	0.17	0.19	0.18
Zinc	3.85	2.59	1.94	3.67	1.95	3.99	3.08	2.43	2.46
Calcium	1196	743	12594	1121	2073	1801	2427	1393	729
Magnesium	683	493	1497	448	771	653	858	522	436

Table 6-1

**Dissolved Metal data**

**Nova Scotia 1992**

Metals (all conc. in µg/L)	Annapolis		Roseway	
	Nov.	Nov.	Nov.	Nov.
Aluminum	42.6	344.1		
Antimony	0.19	0.08		
Arsenic	0.63	0.52		
Barium	14.32	2.91		
Beryllium	dl	dl		
Cadmium	dl	dl		
Chromium	0.34	0.30		
Cobalt	0.07	0.14		
Copper	0.84	1.33		
Iron	206.9	334.1		
Lead	0.067	0.935		
Manganese	19.8	8.9		
Molybdenum	dl	dl		
Nickel	0.63	0.27		
Selenium	dl	dl		
Silver	dl	dl		
Strontium	88.01	6.68		
Thallium	0.03	0.04		
Tin	dl	dl		
Uranium	0.31	0.13		
Vanadium	0.40	0.52		
Zinc	1.16	3.59		
Calcium	19694	978		
Magnesium	2666	550		

Table 6-2

## Dissolved Metal Data

## Nova Scotia 1993

Metals (all conc. in µg/L)	Detection	St. Mary's	Sheet H.(E)	Musquodoboit	Gold	Lahave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis	St. Mary's
	Limit	May	May	May	May	May	May	May	May	May	May	May	August
Aluminum	5.0	69.6	151.5	71.0	205.6	138.2	161.0	178.1	246.3	211.5	195.3	101.9	64.6
Antimony	0.05	0.12	0.09	0.20	0.11	0.12	0.13	0.13	0.08	0.10	0.10	0.16	0.24
Arsenic	0.50	dl	dl	dl	1.02	dl	0.65	dl	dl	dl	0.57	0.79	0.60
Barium	0.25	5.76	3.57	9.83	2.01	2.71	2.05	3.19	1.36	1.76	2.92	8.01	6.28
Beryllium	0.07	0.09	0.12	0.09	0.12	0.13	0.15	0.10	0.12	0.10	0.11	0.16	0.06
Cadmium	0.030	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.035	dl	dl
Chromium	0.40	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.05	0.06	0.24	0.19	0.15	0.16	0.23	0.21	0.13	0.12	0.20	0.15	0.09
Copper	0.40	0.62	0.58	0.93	2.71	2.33	2.52	2.31	1.32	2.57	1.57	1.23	1.37
Iron	10.0	79.8	157.6	227.0	201.8	154.7	194.2	213.7	182.5	215.2	184.4	258.5	307.1
Lead	0.050	dl	0.098	0.088	0.191	0.117	0.242	0.249	0.534	0.527	0.398	0.192	0.100
Manganese	2.00	42.96	68.42	160.6	23.11	45.09	49.29	76.38	12.40	6.50	35.38	41.20	47.83
Molybdenum	0.10	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.14	0.34	dl
Nickel	0.20	dl	dl	0.46	dl	0.48	dl	dl	dl	dl	0.23	0.28	dl
Selenium	1.20	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.02	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Strontium	2.00	7.78	5.09	39.34	4.52	6.44	5.79	5.69	3.66	4.91	7.19	35.68	10.44
Tin	0.10	dl	dl	dl	dl	dl	dl	dl	0.28	0.44	0.57	0.86	dl
Uranium	0.020	dl	dl	0.032	0.242	0.051	0.025	dl	0.109	0.086	0.059	0.224	dl
Vanadium	0.30	dl	dl	dl	0.43	dl	dl	dl	0.39	0.42	0.35	0.54	dl
Zinc	1.00	1.74	2.17	1.25	2.27	2.41	2.34	1.76	2.08	2.30	4.16	1.96	1.76
Calcium	50	1373	629	7944	995	1469	973	715	509	587	1097	7623	1722
Magnesium	50	538	319	1217	424	536	454	415	351	377	582	1400	628

Table 6-2

## Dissolved Metal Data

## Nova Scotia 1993

Metals (all conc. in µg/L)	St. Mary's August	Sheet H.(E) August	Musquodoboit August	Gold August	Lahave August	Medway August	Mersey August	Roseway August	Clyde August	Tusket August	Annapolis August	St. Mary's September	Sheet H.(E) September
Aluminum	65.1	150.8	66.5	211.4	84.9	92.7	108.3	254.6	196.3	133.1	19.7	106.1	147.6
Antimony	0.14	0.08	0.18	0.22	0.34	0.09	0.12	0.33	0.28	0.25	0.23	0.14	0.11
Arsenic	0.55	2.70	0.47	1.09	0.64	0.80	0.51	0.54	dl	0.92	0.87	0.52	2.93
Barium	6.28	3.10	8.62	1.84	3.39	1.07	0.66	0.45	1.60	3.23	9.58	4.27	2.65
Beryllium	dl	dl	0.07	0.13	dl	0.12	dl	0.15	0.12	0.11	0.14	dl	dl
Cadmium	dl	0.031	dl	dl	0.059	dl	dl	dl	dl	0.043	dl	dl	dl
Chromium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.10	0.24	0.13	0.11	0.20	0.12	0.19	0.11	0.08	0.12	0.08	0.09	0.25
Copper	1.76	0.57	1.72	1.25	2.21	0.70	0.88	0.87	0.75	0.54	0.71	2.75	1.01
Iron	321.0	315.5	369.6	198.5	175.2	143.5	242.3	202.6	259.6	136.9	198.3	236.3	453.8
Lead	0.102	0.275	0.108	0.232	1.320	0.204	0.246	0.483	0.562	0.227	0.187	0.115	0.222
Manganese	50.90	63.31	118.9	12.56	89.07	14.89	44.62	6.66	dl	26.10	22.35	26.21	52.76
Molybdenum	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.11	dl	0.11
Nickel	dl	0.27	0.43	dl	0.93	0.24	0.46	dl	dl	0.25	dl	0.28	0.21
Selenium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	dl	dl	dl	0.02	dl	dl	dl	dl	dl	dl	dl	dl	0.03
Strontium	11.36	6.64	40.62	4.94	11.29	6.61	6.44	3.73	5.91	8.35	58.61	8.55	6.60
Tin	dl	dl	dl	dl	dl	0.11	dl	0.22	0.15	dl	dl	0.30	0.54
Uranium	dl	dl	0.037	0.342	0.049	dl	dl	0.123	0.080	0.026	0.170	0.023	0.037
Vanadium	dl	dl	dl	0.47	dl	dl	dl	0.38	0.39	dl	0.52	dl	dl
Zinc	2.10	3.39	1.73	3.04	3.89	3.89	3.89	1.77	1.77	3.36	dl	1.84	2.36
Calcium	1723	765	7793	1145	2009	1036	728	552	805	1319	12470	1336	832
Magnesium	686	371	1280	476	765	469	495	395	474	621	1790	595	368

Table 6-2

## Dissolved Metal Data

## Nova Scotia 1993

Metals (all conc. in µg/L)	Musquodoboit	Gold	Lahave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis	St. Mary's	Sheet H.(E)
	September	September	September	September	September	September	September	September	September	November	November
Aluminum	51.9	161.4	44.5	59.3	82.9	187.9	107.0	95.3	5.5	120.4	231.9
Antimony	0.30	0.10	0.09	0.11	0.13	0.13	0.28	0.17	0.58	dl	0.10
Arsenic	0.53	1.70	0.59	0.65	0.52	0.85	dl	0.90	0.74	dl	0.78
Barium	15.78	1.49	1.44	0.83	1.20	1.25	1.24	1.32	9.77	7.85	4.58
Beryllium	0.08	dl	dl	dl	0.08	0.07	dl	0.07	0.09	dl	0.07
Cadmium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.036
Chromium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.16	0.13	0.14	0.11	0.15	0.15	0.12	0.14	0.12	0.08	0.32
Copper	1.07	0.86	1.88	2.60	1.19	12.00	5.55	1.53	3.78	0.94	3.08
Iron	134.2	200.8	244.6	159.1	204.4	190.5	308.1	180.9	132.8	172.7	352.1
Lead	0.067	0.151	0.092	0.145	0.142	0.376	0.197	0.198	dl	0.071	0.248
Manganese	59.89	10.41	19.67	10.44	44.10	12.57	9.78	29.15	8.73	50.63	73.45
Molybdenum	0.29	0.15	dl	dl	dl	dl	dl	dl	0.13	dl	dl
Nickel	0.67	dl	dl	dl	0.50	dl	dl	dl	dl	0.34	0.41
Selenium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.03	dl	dl	0.02	dl	dl	dl	dl	dl	0.03	0.02
Strontium	108.18	5.58	8.74	6.25	5.09	5.38	6.77	8.10	115.51	8.64	7.70
Tin	0.76	0.22	0.24	0.16	0.11	0.19	dl	dl	dl	dl	dl
Uranium	0.069	0.358	0.046	dl	dl	0.086	0.057	0.025	0.583	dl	dl
Vanadium	dl	0.37	dl	dl	dl	0.35	dl	0.31	0.58	dl	0.30
Zinc	2.11	2.45	1.15	1.82	2.10	2.94	2.28	3.14	1.11	2.84	3.78
Calcium	21875	1013	1868	1076	646	819	947	1192	23585	1388	853
Magnesium	2519	513	783	467	418	486	514	658	3114	670	437

Table 6-2

## Dissolved Metal Data

## Nova Scotia 1993

Metals (all conc. in µg/L)	Musquodoboit	Gold	Lahave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis
	November	November	November	November	November	November	November	November	November
Aluminum	147.4	279.3	228.8	168.5	240.72	404.1	322.5	380.9	237.1
Antimony	0.12	0.08	0.11	0.08	0.06	0.17	0.11	0.11	0.19
Arsenic	dl	0.66	dl	0.73	dl	0.48	dl	0.73	0.52
Barium	9.91	3.07	4.50	3.15	4.53	3.23	3.32	4.38	7.92
Beryllium	dl	0.15	0.08	dl	0.07	0.17	0.08	0.14	dl
Cadmium	dl	dl	0.041	dl	dl	0.037	0.038	0.073	dl
Chromium	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.15	0.22	0.36	0.27	0.47	0.20	0.18	0.30	0.15
Copper	1.87	1.31	1.40	1.38	1.83	3.58	1.91	1.84	4.03
Iron	194.0	252.1	248.1	247.2	253.0	255.4	276.5	319.0	252.5
Lead	0.098	0.300	0.199	0.357	0.409	1.000	0.912	0.720	0.160
Manganese	47.48	33.54	70.31	46.33	61.90	13.12	11.43	32.05	36.41
Molybdenum	dl	dl	dl	dl	dl	dl	dl	dl	dl
Nickel	0.33	dl	0.51	0.23	0.59	dl	dl	0.21	dl
Selenium	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.02	dl	dl	0.02	dl	dl	dl	dl	0.02
Strontium	24.98	5.81	9.13	8.61	9.49	6.77	7.54	10.30	25.84
Tin	dl	dl	dl	dl	dl	dl	dl	dl	dl
Uranium	0.035	0.235	0.060	0.020	dl	0.124	0.082	0.089	0.146
Vanadium	dl	0.53	0.37	dl	0.34	0.71	0.69	0.65	0.75
Zinc	2.94	3.35	4.66	2.85	6.70	4.58	3.60	9.68	3.58
Calcium	5058	1196	1751	1228	1135	761	786	1741	4822
Magnesium	1190	585	787	557	542	549	589	780	1280

Table 6-3

## Dissolved Metal Data

## Nova Scotia 1994

Metals (all conc. in µg/L)	Detection Limit	St. Mary's May	Sheet H. (E) May	Musquodoboit May	Gold May	LaHave May	Medway May	Mersey May	Roseway May	Clyde May	Tusket May	Annapolis May
Aluminum	5.0	127.2	99.2	110.2	148.2	134.7	109.2	171.8	175.3	145.7	169.7	140.4
Antimony	0.0	0.355	0.201	0.128	0.100	0.143	0.082	0.120	0.094	0.118	0.105	0.141
Arsenic	0.5	dl	0.7	dl	0.8	dl	dl	dl	dl	dl	dl	0.5
Barium	0.8	4.41	2.96	6.90	dl	dl	dl	dl	dl	dl	2.26	6.53
Beryllium	0.1	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cadmium	0.020	0.024	dl	dl	dl	dl	dl	dl	dl	dl	0.066	dl
Calcium	50	598	361	3224	444	718	458	374	246	245	997	4092
Chromium	0.5	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.05	0.059	0.157	0.094	0.126	0.145	0.165	0.250	0.061	0.061	0.141	0.104
Copper	0.6	10.9	10.8	4.7	2.8	5.2	5.0	4.2	1.6	5.4	4.1	2.7
Iron	15.0	143	120	112	106	96	123	187	133	113	144	230
Lead	0.02	0.090	0.167	0.086	0.245	0.203	0.273	0.295	0.534	0.560	0.425	0.152
Lithium	0.05	0.33	0.41	0.49	0.83	0.77	0.52	0.53	0.62	0.42	2.62	0.91
Magnesium	50	484	193	789	231	350	279	314	249	260	434	987
Manganese	2	32.53	45.88	28.06	21.72	28.61	34.77	45.56	5.32	4.55	22.82	19.13
Molybdenum	0.2	dl	dl	0.03	0.02	dl	dl	dl	dl	dl	dl	0.04
Nickel	0.2	0.2	0.2	0.5	dl	0.5	dl	dl	dl	dl	dl	0.3
Phosphorus	10.0	33	31	dl	dl	dl	dl	dl	dl	dl	dl	20
Potassium	50.0	274	155	295	173	189	171	171	228	213	251	604
Rubidium	0.22	0.42	0.65	0.42	0.98	0.72	0.58	0.65	0.91	0.75	1.09	1.09
Selenium	1	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.02	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	50	3106	1819	2924	1873	2457	2688	2606	3295	2825	3644	5626
Strontium	1	5.3	4.5	19.2	3.2	5.3	5.0	4.9	2.9	3.3	6.3	20.5
Tin	0.1	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Titanium	1	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed
Uranium	0.02	dl	dl	0.029	0.217	0.060	dl	dl	0.087	0.054	0.041	0.152
Vanadium	0.4	dl	dl	dl	0.45	dl	dl	dl	0.40	0.54	dl	0.60
Zinc	1	3.1	2.9	2.0	3.0	3.4	2.8	2.9	2.3	2.0	6.4	2.3

Table 6-3

## Dissolved Metal Data

## Nova Scotia 1994

Metals (all conc. in µg/L)	St. Mary's August	Sheet H. (E) August	Musquodoboit August	Gold August	LaHave August	Medway August	Mersey August	Roseway August	Clyde August	Tusket August	Annapolis August	St. Mary's Nov.
Aluminum	16.2	112.3	6.7	105.8	56.3	81.8	89.7	246.5	238.6	177.7	34.1	122.1
Antimony	2.1	2.54	0.57	2.14	2.24	2.77	0.7	2.09	2.16	1.62	1.99	2.53
Arsenic	dl	1.8	dl	1.4	dl	0.7	dl	dl	dl	1.2	1.0	dl
Barium	3.70	2.80	13.20	1.40	1.20	1.10	2.50	1.80	2.80	3.00	6.00	10.00
Beryllium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cadmium	0.065	0.074	0.048	0.044	dl	dl	dl	0.085	0.110	0.081	0.046	0.021
Calcium	1212	546	22323	1038	827	604	412	366	566	1491	6384	1757
Chromium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	dl	0.200	0.070	dl	0.070	dl	0.130	0.080	0.110	0.150	dl	0.220
Copper	6.7	2.5	9.1	2.1	1.8	1.8	1.5	3.3	2.7	1.7	2.3	1.1
Iron	133	361	77	151	175	113	211	197	265	194	130	211
Lead	0.43	1.43	0.49	0.41	0.14	0.18	0.19	1.02	1.1	0.53	0.46	0.052
Lithium	0.44	0.54	1.15	2.6	1.12	0.79	0.6	1.03	0.91	1.81	1.3	0.5
Magnesium	696	323	2578	466	491	372	295	328	442	488	952	771
Manganese	13.7	75.2	61.8	3.3	23.6	8.2	39.5	4.9	5.8	48.9	13.7	56.6
Molybdenum	dl	dl	0.12	0.18	0.04	dl	dl	dl	dl	dl	0.05	0.11
Nickel	0.9	0.8	1.4	0.5	0.3	dl	dl	1.0	1.1	0.7	0.7	0.5
Phosphorus	47	dl	dl	15	14	19	dl	11	14	dl	19	dl
Potassium	422	277	480	293	243	214	145	353	310	314	645	404
Rubidium	1.08	1.03	1.18	1.59	1.26	0.88	0.87	1.14	1	1.18	1.61	0.82
Selenium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	4437	2670	5485	3439	3128	3049	2356	3379	3636	4296	6115	3482
Strontium	10.5	5.9	196.7	4.2	6.3	5.1	4.8	3.7	6.1	7.6	32.5	10.7
Tin	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Titanium	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	dl
Uranium	dl	dl	0.027	0.376	0.068	0.022	dl	0.149	0.131	0.039	0.115	dl
Vanadium	dl	dl	dl	dl	dl	dl	dl	0.50	0.50	dl	dl	dl
Zinc	3.7	4.6	3.5	3.2	dl	1.4	2.0	5.3	6.1	10.2	3.2	5.2

Table 6-3

## Dissolved Metal Data

## Nova Scotia 1994

Metals (all conc. in µg/L)	Sheet H. (E)	Musquodoboit	Gold	LaHave	Medway	Mersey	Roseway	Clyde (a)	Clyde (b)	Tusket	Annapolis
	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	177.1	171.7	358.6	208	183.3	158.4	406.6	387.1	329	334.2	80.7
Antimony	1.86	1.88	2.43	0.11	0.97	0.21	1.46	2.37	2.39	0.2	0.31
Arsenic	1.2	dl	0.8	0.6	0.9	dl	0.5	dl	0.8	1.0	0.5
Barium	4.50	12.60	4.00	5.40	3.60	3.40	3.20	3.90	4.00	3.80	9.20
Beryllium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cadmium	dl	0.021	0.028	0.032	dl	0.021	0.025	0.033	0.032	0.084	dl
Calcium	931	6092	1519	2219	1142	709	855	888	939	2471	7588
Chromium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.280	0.280	0.280	0.370	0.300	0.240	0.260	0.360	0.370	0.220	0.070
Copper	dl	1.2	0.7	dl	dl	8.2	0.8	1.1	1.3	8.4	14.3
Iron	359	241	279	283	322	284	309	331	325	332	215
Lead	0.231	0.099	0.298	0.198	0.39	0.251	0.936	1.093	1.029	0.623	0.14
Lithium	0.64	0.76	1.97	1.44	0.78	0.61	1.2	0.95	0.91	3.99	1.43
Magnesium	417	1207	619	813	525	400	533	590	575	583	1234
Manganese	57.6	65.3	36.9	65.5	50.5	54.2	13.3	10.3	10.6	32.8	19.3
Molybdenum	0.07	0.08	0.09	0.07	0.06	0.04	0.07	0.06	0.05	0.05	0.08
Nickel	0.4	0.9	0.3	1.2	0.6	0.4	0.3	0.3	0.5	0.5	0.5
Phosphorus	dl	dl	dl	dl	dl	16	dl	dl	dl	17	45
Potassium	327	501	419	491	291	287	377	395	400	350	829
Rubidium	1.16	1	2.28	1.56	0.87	1.03	1.45	1.44	1.52	1.77	1.61
Selenium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	2460	3080	3103	3376	3218	2681	3752	3424	3367	3589	5960
Strontium	7.8	28.5	6.9	11	8.8	6.1	6.4	7.8	8.5	9.2	39.7
Tin	dl	0.11	dl	dl	dl	dl	dl	dl	0.20	dl	dl
Titanium	1.5	1.9	2.1	2	1.5	1.5	3.1	3.8	4	2.4	1.4
Uranium	dl	0.040	0.375	0.089	0.027	dl	0.157	0.137	0.113	0.091	0.187
Vanadium	dl	dl	0.70	dl	dl	dl	0.60	0.80	0.80	0.60	dl
Zinc	5.0	5.3	6.3	6.5	5.3	4.4	5.1	5.6	5.1	11.3	3.2

Table 6-4

## Dissolved Metal Data

## Nova Scotia 1995

Metals (all conc. in µg/L)	Detection Limit	St. Mary's	Sheet Harb.	Musquodoboit	Gold	LaHave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis	St. Mary's	St. Mary's	Sheet Harb.
		May	May	May	May	May	May	May	May	May	May	May	May	August	August
Aluminum	5.0	70.9	127	96.9	205	142	141	184	195	170	165	111	35.4	34.5	181
Antimony	0.05	0.22	0.27	0.33	1.35	0.22	0.28	0.60	0.27	0.86	0.24	0.36	3.98	0.25	0.87
Arsenic	1.0	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	2.30
Barium	0.25	6.4	3.3	9.2	2.6	3.3	2.8	3.3	1.9	2.5	3.6	7.7	4.3	4.6	3.3
Beryllium	0.05	dl	dl	dl	0.07	dl	dl	0.06	0.08	dl	dl	dl	dl	dl	dl
Cadmium	0.020	dl	dl	dl	dl	dl	dl	dl	dl	0.028	0.072	dl	dl	dl	dl
Calcium	50	1005	482	4020	839	1188	781	589	462	538	1190	5209	1418	1190	579
Chromium	0.5	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.05	dl	0.14	0.11	0.13	0.10	0.12	0.29	dl	0.18	0.17	0.13	1.04	0.24	0.70
Copper	0.5	12.7	6.6	5.4	0.9	8.5	6.1	0.6	9.9	0.8	12.0	12.3	1.8	0.6	1.0
Iron	20	49	37	57	58	dl	54	118	45	72	46	162	135	140	378
Lead	0.100	dl	0.147	dl	0.209	dl	0.201	0.237	0.467	0.530	0.382	0.147	dl	dl	0.297
Lithium	0.20	0.37	0.40	0.53	1.15	0.94	0.72	0.65	0.95	0.69	1.81	1.10	0.42	0.43	0.51
Magnesium	50	477	262	819	389	512	428	392	370	467	571	1130	619	653	299
Manganese	0.5	26.9	43.8	68.7	19.5	24.3	31.2	50.3	7.7	6.4	23.9	28.3	15.9	14.1	57.0
Molybdenum	0.05	dl	dl	dl	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Nickel	0.5	dl	dl	0.74	dl	0.66	dl	dl	dl	dl	dl	0.57	dl	dl	dl
Potassium	20	259	242	247	290	269	214	212	283	283	292	542	288	300	204
Rubidium	0.10	0.46	0.77	0.52	1.31	0.85	0.57	0.70	1.24	0.96	1.16	1.12	0.77	0.76	0.78
Selenium	1.0	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.02	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	50	2543	1743	2276	2495	2886	2829	2486	3324	3381	3724	5457	3467	3552	2019
Strontium	1.0	7.0	4.7	22.0	4.6	6.5	6.0	5.4	4.1	5.9	7.9	27.8	9.5	10.0	5.8
Thallium	0.02	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Tin	0.10	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.65	0.71	dl
Titanium	1.0	dl	dl	dl	1.0	dl	dl	dl	1.1	1.3	1.0	1.3	dl	dl	1.8
Uranium	0.02	dl	dl	0.03	0.22	0.07	0.03	0.03	0.10	0.05	0.04	0.17	dl	dl	dl
Vanadium	0.5	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Zinc	0.75	3.7	4.8	3.6	4.5	4.7	4.1	4.5	4.0	3.7	11.2	3.7	2.9	2.4	4.4

Table 6-4

## Dissolved Metal Data

## Nova Scotia 1995

Metals (all conc. in µg/L)	Musquodoboit	Gold	LaHave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis	St. Mary's	Sheet Harb.	Musquodoboit	Gold	LaHave	Medway
	August	August	August	August	August	August	August	August	August	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	58.1	211	86.4	104	150	309	278	200	44.2	146	167	208	393	265	300
Antimony	1.07	0.88	4.58	3.07	3.09	0.84	0.96	0.08	0.90	1.84	3.19	0.97	3.61	3.02	2.11
Arsenic	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	1.52	dl	dl	dl	dl
Barium	12.5	1.8	2.5	2.0	3.1	1.9	2.7	3.7	7.8	11.2	3.9	11.3	3.9	5.1	4.5
Beryllium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.07	dl	dl
Cadmium	dl	dl	dl	dl	dl	dl	dl	0.040	dl	0.025	0.022	dl	0.036	0.030	dl
Calcium	9818	1010	1673	792	564	536	689	1460	9273	1630	791	6145	1391	1750	1210
Chromium	dl	dl	dl	dl	dl	dl	dl	0.6	dl	0.5	dl	0.5	dl	dl	0.5
Cobalt	0.74	0.87	0.56	0.24	0.57	0.64	0.68	0.25	0.30	0.99	1.31	0.31	1.04	2.18	1.94
Copper	1.0	1.1	1.2	0.6	0.8	0.7	0.6	dl	0.7	2.0	1.8	0.8	1.4	2.7	2.6
Iron	344	167	194	140	343	255	319	267	138	164	330	223	264	235	343
Lead	0.205	0.180	0.190	0.160	0.276	0.667	0.729	0.801	0.128	0.279	0.219	0.146	0.478	0.234	0.542
Lithium	0.83	1.96	1.08	0.75	0.63	1.13	0.79	2.02	1.44	0.53	0.60	0.71	1.62	1.29	0.71
Magnesium	1390	564	728	479	392	423	496	647	1495	890	518	1429	604	827	650
Manganese	164.5	8.2	24.3	9.0	71.4	10.6	7.6	41.2	17.6	40.4	42.6	37.7	38.8	61.4	63.0
Molybdenum	0.05	0.06	dl	dl	dl	dl	dl	dl	0.06	0.08	dl	dl	dl	dl	dl
Nickel	1.07	dl	0.57	dl	dl	dl	dl	0.54	0.88	0.65	dl	1.10	dl	1.63	0.92
Potassium	276	275	356	267	251	275	284	309	842	496	363	599	500	537	387
Rubidium	0.70	1.17	1.13	0.74	0.85	1.03	0.87	1.19	1.80	0.71	0.94	0.85	2.39	1.33	0.94
Selenium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	3086	3962	4486	3552	3067	3724	3943	4505	8419	4126	3962	4371	3438	4010	4133
Strontium	56.5	5.6	8.4	6.5	5.8	4.9	6.9	9.4	49.9	12.4	7.9	31.7	6.4	10.3	11.4
Thallium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Tin	0.68	dl	dl	dl	dl	dl	dl	0.40	dl	dl	dl	dl	dl	dl	dl
Titanium	2.3	1.8	1.6	1.5	2.0	2.8	3.2	2.1	2.1	2.1	2.5	3.8	3.0	2.5	2.5
Uranium	0.04	0.38	0.07	dl	dl	0.12	0.08	0.04	0.15	0.02	dl	0.05	0.38	0.09	0.03
Vanadium	dl	dl	dl	dl	dl	dl	dl	0.5	dl	dl	dl	dl	0.6	dl	dl
Zinc	2.5	4.5	2.8	2.7	3.6	3.9	4.0	5.8	2.0	5.3	4.0	4.0	6.3	10.1	5.9

Table 6-4

## Dissolved Metal Data

## Nova Scotia 1995

Metals (all conc. in µg/L)	Mersey	Roseway	Clyde	Tusket	Annapolis
	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	269	450	414	237	332
Antimony	0.83	2.08	3.11	0.19	3.46
Arsenic	dl	dl	dl	dl	dl
Barium	4.3	3.8	4.5	3.7	12.9
Beryllium	dl	0.06	dl	dl	dl
Cadmium	0.028	0.032	0.031	0.052	dl
Calcium	874	920	871	2555	7618
Chromium	dl	dl	0.6	dl	0.7
Cobalt	0.72	1.81	0.66	0.24	1.62
Copper	1.0	2.4	1.3	8.6	3.1
Iron	340	310	347	268	337
Lead	0.498	1.070	1.080	0.490	0.290
Lithium	0.74	1.34	0.93	3.50	1.51
Magnesium	548	707	797	770	1876
Manganese	57.7	15.5	9.0	34.2	43.8
Molybdenum	dl	dl	dl	dl	0.05
Nickel	0.62	0.55	0.52	dl	1.05
Potassium	359	456	404	410	1595
Rubidium	1.02	1.45	1.13	1.58	2.50
Selenium	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl
Sodium	4171	5533	5133	5352	8619
Strontium	9.5	8.6	9.7	11.2	41.5
Thallium	dl	0.02	dl	dl	dl
Tin	dl	dl	dl	dl	dl
Titanium	2.1	4.1	4.6	2.7	9.1
Uranium	dl	0.14	0.08	0.06	0.28
Vanadium	dl	0.7	0.5	0.5	0.5
Zinc	6.5	6.0	4.9	6.9	5.6

Table 6-5

## Dissolved Metal Data

## Nova Scotia 1996

Metal (all conc. in µg/L)	Detection Limit	St. Mary's	Sheet Harb.E	Musquodoboit	Gold	LaHave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis	St. Mary's	St. Mary's
		May	May	May	May	May	May	May	May	May	May	May	August	August
Aluminium	5.0	95.2	135	128	162	134	121	158	160	145	171	149	47.5	47.0
Antimony	0.10	1.2	1.4	0.5	0.5	1.2	0.9	3.8	3.4	2.9	5.7	1.6	2.3	dl
Arsenic	0.50	dl	dl	dl	dl	dl	0.55	dl	dl	0.50	dl	0.66	0.54	0.61
Barium	0.20	5.6	3.2	7.4	2.1	3.0	2.2	2.4	1.3	1.5	2.6	5.7	5.2	5.4
Beryllium	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cadmium	0.050	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.059	dl	dl	dl
Calcium	40	1370	850	3680	1010	1150	790	690	430	560	1320	2810	1640	1610
Chromium	0.50	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.05	1.15	0.27	0.17	0.16	0.15	0.76	0.43	0.73	0.24	0.85	0.14	1.36	0.13
Copper	0.50	1.7	1.0	0.9	0.7	0.5	0.9	2.1	1.0	1.3	1.4	1.7	2.7	0.5
Iron	10	54	93	76	74	62	99	120	64	79	95	127	173	177
Lead	0.050	0.140	0.136	0.052	0.169	0.130	0.207	0.201	0.375	0.417	0.335	0.138	0.062	0.059
Lithium	0.10	0.35	0.41	0.47	0.83	0.76	0.64	0.59	0.73	0.54	1.86	0.75	0.41	0.42
Magnesium	20	480	320	1040	350	540	450	420	280	320	520	970	780	750
Manganese	0.40	27.4	44.6	32.3	17.6	22.4	31.7	39.3	6.5	5.0	24.0	17.8	26.6	25.3
Molybdenum	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Nickel	0.20	0.55	0.29	0.55	0.21	0.46	0.36	0.39	dl	dl	0.30	0.29	0.41	dl
Potassium	20	290	260	330	300	270	190	210	200	200	200	450	250	240
Rubidium	0.10	0.49	0.76	0.52	1.39	0.85	0.58	0.72	0.96	0.81	1.00	1.07	0.65	0.67
Selenium	1.00	dl	dl	dl	dl	dl	dl	dl	dl	1.42	dl	dl	dl	1.16
Silver	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	20	2600	2000	2530	2160	2790	2710	2460	2850	2610	3200	3780	3310	3190
Strontium	1.00	6.3	5.1	18.9	3.6	5.7	5.5	5.4	3.1	3.9	6.7	14.8	10.3	10.6
Thallium	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Thorium	0.10	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Tin	0.10	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Uranium	0.05	dl	dl	dl	0.17	dl	dl	dl	0.09	0.07	dl	0.10	dl	dl
Vanadium	0.50	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.50	dl	dl
Zinc	0.75	6.3	3.0	2.3	3.2	3.1	2.9	3.5	1.9	2.2	5.4	3.2	1.9	1.1

Table 6-5

## Dissolved Metal Data

## Nova Scotia 1996

Metal (all conc. in µg/L)	Sheet Harb.	E Musquodoboit	Gold	LaHave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis
	August	August	August	August	August	August	August	August	August	August
Aluminum	179	80.2	221	131	126	110	361	264	324	94.3
Antimony	0.8	0.9	0.9	0.6	0.4	0.5	1.0	0.5	0.6	0.7
Arsenic	1.87	0.66	1.15	0.71	1.00	0.61	0.68	dl	0.94	0.84
Barium	3.9	9.6	2.2	2.9	2.4	3.2	2.2	2.8	3.6	8.3
Beryllium	dl	dl	dl	dl	dl	dl	0.07	dl	0.08	0.06
Cadmium	dl	dl	dl	dl	dl	0.073	dl	dl	dl	dl
Calcium	920	7590	1330	1340	1020	790	560	800	2060	7460
Chromium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.58	0.42	0.16	0.30	0.14	0.24	0.27	0.16	0.28	0.18
Copper	2.4	1.6	0.6	0.8	0.6	dl	0.8	0.6	0.8	1.0
Iron	292	451	209	201	128	116	253	288	286	234
Lead	0.218	0.196	0.195	0.096	0.181	0.143	0.785	0.908	0.847	0.154
Lithium	0.53	0.73	1.40	1.04	0.76	0.63	0.96	0.75	2.88	1.36
Magnesium	370	1440	450	650	450	410	350	440	560	1400
Manganese	63.8	155	11.5	23.2	12.8	54.4	6.6	5.2	24.0	19.3
Molybdenum	dl	0.08	0.05	dl	dl	dl	dl	dl	0.08	0.11
Nickel	0.30	0.63	0.23	0.60	0.30	0.24	0.24	0.24	0.41	0.36
Potassium	170	220	190	200	160	200	140	120	250	610
Rubidium	0.70	0.61	0.99	0.85	0.62	0.79	0.75	0.64	1.27	1.43
Selenium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	2050	2640	2290	2750	2610	2490	2720	2560	3430	6210
Strontium	6.4	43.2	5.4	7.3	6.2	5.7	4.2	6.1	9.0	38.9
Thallium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Thorium	dl	dl	dl	dl	dl	dl	dl	dl	0.10	dl
Tin	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Uranium	dl	dl	0.33	0.07	dl	dl	0.19	0.14	0.09	0.17
Vanadium	dl	dl	dl	dl	dl	dl	0.54	0.53	dl	dl
Zinc	3.0	2.4	2.6	2.2	2.1	6.6	2.8	2.4	6.6	1.3

Table 6-6

## Dissolved Metal Data

## Cape Breton 1993

Metal (all conc. in µg/L)	Detection Limit	Inhabitants Sept.	Grand Sept.	Framboise Sept.	Sydney Sept.	North Sept.	Margaree Sept.	Cheticamp Sept.	Middle Sept.	Baddeck Sept. (a)	Baddeck Sept. (b)	R. Denys Sept.
Aluminum	5.0	49.1	37.1	131.0	36.1	94.8	13.2	109.9	14.2	53.2	57.3	37.7
Antimony	0.05	0.36	0.16	0.19	0.15	0.15	0.22	0.11	0.12	0.18	0.09	0.15
Arsenic	0.50	0.99	dl	dl	0.47	dl	0.57	0.51	dl	dl	dl	dl
Barium	0.25	27.30	10.67	4.17	24.95	4.69	31.18	9.16	22.33	20.03	19.98	21.51
Beryllium	0.07	0.11	0.08	0.09	0.10	0.09	0.07	0.08	0.07	0.07	0.09	0.10
Cadmium	0.030	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Chromium	0.40	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Copper	0.05	0.92	dl	0.49	0.56	0.46	0.43	0.45	dl	0.58	0.42	0.58
Cobalt	0.40	0.12	dl	0.05	dl	dl	dl	dl	0.05	0.05	dl	dl
Iron	10.0	367.3	83.9	143.8	143.2	74.7	14.9	126.4	13.1	66.7	58.0	141.9
Lead	0.050	0.162	0.054	0.106	0.144	dl	0.052	0.153	ddl	dl	dl	0.059
Manganese	2.00	77.5	35.2	26.2	222.2	4.95	8.50	3.48	7.10	21.1	23.7	37.7
Molybdenum	0.10	0.48	dl	dl	0.18	0.10	0.28	0.12	0.18	0.19	0.19	0.21
Nickel	0.20	0.68	dl	dl	0.22	dl	0.27	0.22	0.27	0.31	dl	0.74
Selenium	1.20	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.02	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Strontium	2.00	327.6	98.4	28.6	86.6	20.3	165.0	13.6	136.6	161.5	163.8	391.1
Thallium	0.02	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Tin	0.10	0.20	dl	0.11	dl	dl	dl	dl	dl	dl	dl	dl
Uranium	0.020	0.193	dl	0.017	0.036	0.161	0.113	0.190	0.071	0.086	0.087	0.120
Vanadium	0.30	1.08	ddl	0.45	0.33	0.31	0.58	0.27	dl	0.35	0.34	dl
Zinc	1.00	1.15	1.15	1.43	1.02	dl	dl	3.59	dl	1.50	0.95	1.58
Calcium	50	39730	5636	3185	12470	3699	23390	4326	28780	29170	29580	60650
Magnesium	50	9466	1104	4197	1640	863	2067	1040	2106	1692	1720	3200

Table 6-7

## Dissolved Metal Data

## Cape Breton 1994

Metals (all conc. in µg/L)	Detection	Inhabitants	Grand	Framboise	Sydney	North	Baddeck	Margaree	Cheticamp	Middle	River Denys	Inhabitants
	Limit	May	August									
Aluminum	5.0	51.1	50.6	132.5	76.6	53.9	24.4	8.0	18.5	15.9	94.0	224.8
Antimony	0.02	0.4	0.2	0.2	0.5	0.2	0.3	0.3	0.2	0.3	0.3	0.69
Arsenic	0.5	0.6	dl	2.5								
Barium	0.8	17.9	10.3	3.5	15.1	3.7	10.9	21.9	9.4	12.58	14.92	17.9
Beryllium	0.1	dl										
Cadmium	0.020	dl	0.041									
Calcium	50	15757	3041	1157	5030	2038	13700	12639	4495	10856	36454	17953
Chromium	0.5	dl	1.00									
Cobalt	0.05	0.11	dl	0.15	0.12							
Copper	0.6	6.20	0.90	4.40	3.10	3.80	3.10	1.60	1.10	0.70	0.80	10.30
Iron	15.0	179.0	18.0	100.0	74.0	37.0	dl	dl	dl	dl	188.0	353.0
Lead	0.02	0.13	dl	0.06	0.10	dl	dl	dl	dl	dl	0.11	0.22
Lithium	0.05	0.74	0.22	0.12	0.29	0.1	0.22	0.72	0.49	0.36	0.39	0.87
Magnesium	50	1670	614	453	844	582	994	1417	1140	1120	1793	2377
Manganese	2	48.59	11.25	16.68	50.37	dl	4.37	6.30	dl	3.68	49.26	37.80
Molybdenum	0.2	0.23	dl	0.29								
Nickel	0.2	0.50	dl	dl	dl	dl	0.40	0.30	dl	0.30	1.60	0.60
Phosphorus	10.0	dl	22.00									
Potassium	50.0	480.0	166.0	130.0	303.0	238.0	246.0	468.0	458.0	372.0	536.0	637.0
Rubidium	0.22	0.55	0.29	dl	0.40	0.48	0.44	0.53	1.13	0.64	0.56	0.74
Selenium	1	dl										
Silver	0.02	dl										
Sodium	50	29200	3145	3343	5971	3529	5021	21700	6431	6016	5355	38694
Strontium	1	144.5	95.1	6.6	58.4	12.9	98.3	106.2	12.4	87.6	216.4	72.5
Tin	0.1	dl										
Titanium	1	not analysed										
Uranium	0.02	0.129	dl	dl	0.024	0.055	0.041	0.077	0.078	0.042	0.093	0.146
Vanadium	0.4	dl										
Zinc	1	1.3	dl	2.3	1.5	1.1	dl	dl	2.6	dl	1.5	2.2

Table 6-7

## Dissolved Metal Data

## Cape Breton 1994

Metals (all conc. in µg/L)	Grand (a) August	Grand (b) August	Framboise August	Sydey August	North August	Baddeck August	Margaree August	Cheticamp August	Middle August	R. Denys August	Inhabitants Nov.	Grand Nov.	Framboise Nov.	
Aluminum	145.3	146.3	dl	6.7	107.3	11.1	5.7	49.2	7.1	6.700	74.8	37.1	140.2	
Antimony	0.31	0.2	0.84	0.35	0.26	0.43	0.42	0.37	0.33	0.540	0.26	0.5	0.34	
Arsenic	dl	dl	5.7	0.8	dl	dl	0.6	0.7	dl	dl	dl	dl	dl	
Barium	14.7	15	49.6	24.2	5.6	20.9	32.2	10	23.3	23.600	19.3	10.9	5.1	
Beryllium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	
Cadmium	0.021	0.027	0.18	dl	dl	dl	dl	0.048	0.023	dl	dl	dl	dl	
Calcium	3054	3974	278581	13945	3599	37611	25373	5260	29564	71957	18252	4590	1927	
Chromium	dl	dl	6.90	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	
Cobalt	0.09	0.08	2.67	dl	dl	0.06	dl	dl	0.06	0.13	0.13	dl	0.06	
Copper	3.60	1.00	9.10	3.60	3.40	5.50	4.40	4.00	2.90	6.00	18.60	16.40	8.60	
Iron	282.0	251.0	37.0	26.0	60.0	17.0	20.0	48.0	dl	59.0	202.0	54.0	158.0	
Lead	0.09	0.08	0.10	0.06	dl	3.43	dl	0.21	dl	dl	0.13	0.03	0.15	
Lithium	0.62	0.52	116	1.3	0.14	0.34	1.02	0.46	0.48	0.560	0.66	0.24	0.16	
Magnesium	948	978	750015	7162	749	1800	2081	1100	2164	3327	1882	810	708	
Manganese	53.60	53.70	40.80	68.00	3.00	6.60	10.70	2.70	5.80	40.10	47.40	14.70	24.20	
Molybdenum	dl	dl	3.68	0.29	dl	dl	0.26	dl	dl	0.26	dl	dl	dl	
Nickel	0.40	0.30	7.90	dl	dl	0.50	0.30	dl	0.40	1.20	0.84	0.35	0.36	
Phosphorus	dl	dl	37.00	dl	dl	dl	dl	dl	dl	dl	31.00	45.00	18.00	
Potassium	292.0	286.0	115447.0	2158.0	243.0	384.0	642.0	427.0	599.0	611.0	539.0	282.0	272.0	
Rubidium	0.55	0.52	52.70	1.54	0.71	0.79	0.94	1.29	1.08	1.00	0.53	0.42	0.48	
Selenium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	
Silver	dl	dl	0.032	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	
Sodium	4810	4580	3717000	44300	4286	7638	47800	6475	10926	11679	27511	3477	3814	
Strontium	52.0	53.0	4233.8	133.9	22.5	241.6	202.0	16.1	161.9	483.2	119.6	103.8	11.5	
Tin	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.1	dl	dl	
Titanium	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	not analysed	1.6	dl	1.1
Uranium	dl	dl	0.722	0.043	0.208	0.073	0.108	0.181	0.082	0.15	0.11	dl	dl	
Vanadium	dl	dl	31	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	
Zinc	3.7	3.1	2.7	1.2	1.5	dl	dl	2.4	1.1	dl	3.3	2.6	4.2	

Table 6-7

## Dissolved Metal Data

## Cape Breton 1994

Metals (all conc. in µg/L)	Sydney	North	Baddeck	Margaree	Cheticamp	Middle	River Denys
	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	95.8	69.3	50.7	29.5	52.1	14.3	18
Antimony	0.38	0.27	1.39	1.25	0.32	0.32	0.33
Arsenic	dl	dl	dl	dl	dl	dl	dl
Barium	22.6	4.6	10.6	23.7	8.4	12.3	18.6
Beryllium	dl	dl	dl	dl	dl	dl	dl
Cadmium	dl	dl	dl	dl	0.025	dl	dl
Calcium	7185	2636	12576	13700	3466	11216	48248
Chromium	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.06	dl	0.09	0.08	dl	dl	0.10
Copper	7.60	3.80	dl	dl	4.30	3.90	5.80
Iron	138.0	49.0	45.0	dl	47.0	dl	89.0
Lead	0.10	0.04	0.04	0.03	0.09	dl	0.10
Lithium	0.36	0.12	0.2	0.62	0.53	0.32	0.41
Magnesium	1146	746	1066	1554	1096	1051	2485
Manganese	72.20	2.70	4.20	5.20	dl	2.70	42.50
Molybdenum	dl	dl	dl	dl	dl	dl	dl
Nickel	0.50	0.25	0.40	0.32	0.36	0.28	1.01
Phosphorus	15.00	dl	dl	dl	dl	14.00	13.00
Potassium	464.0	256.0	284.0	534.0	389.0	384.0	432.0
Rubidium	0.70	0.54	0.51	0.66	1.17	0.66	0.62
Selenium	dl	dl	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl	dl	dl
Sodium	5976	3565	4408	22034	5489	4577	6063
Strontium	50.8	14.9	74.7	85.8	11.5	54.0	244.0
Tin	dl	dl	dl	dl	dl	dl	dl
Titanium	1.1	dl	dl	dl	dl	dl	2.2
Uranium	0.032	0.057	0.045	0.119	0.055	0.052	0.121
Vanadium	dl	dl	dl	dl	dl	dl	dl
Zinc	3.6	3.2	2.6	2.3	7.6	2.1	2

Table 6-8

## Dissolved Metal Data

## Cape Breton 1995

Metals (all conc. in µg/L)	Detection	Inhabitants	Grand	Framboise	Sydney	North	Cheticamp	Margaree	Middle	Baddeck	R. Denys	Sydney	North	Cheticamp	Margaree	Middle
	Limit	May	May	May	May	May	May	May	May	May	May	August	August	August	August	August
Aluminum	5.0	37.3	75.1	103	38.0	108	131	30.0	18.0	44.4	45.3	14.9	53.7	85.4	52.1	10.4
Antimony	0.05	1.82	1.05	0.90	1.67	0.79	0.57	1.18	0.29	0.80	0.83	0.99	2.63	1.86	2.09	3.16
Arsenic	1.0	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Barium	0.25	22.3	10.9	4.2	22.0	4.4	9.1	24.2	14.1	12.4	16.8	23.7	5.6	9.0	29.2	25.3
Beryllium	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cadmium	0.020	dl	dl	dl	dl	dl	0.039	dl	dl	dl	dl	dl	dl	0.030	dl	dl
Calcium	50	21091	3591	1330	7845	2209	3300	13727	13091	17455	42182	12091	3945	3764	17818	29727
Chromium	0.5	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.05	1.13	0.15	0.13	0.28	0.25	0.25	0.19	0.07	0.21	0.52	0.17	0.46	0.48	0.70	0.62
Copper	0.5	1.32	0.84	0.81	1.39	0.74	0.86	0.88	5.97	0.65	1.03	0.72	0.75	0.99	0.95	0.98
Iron	20	156	64	59	49	23	63	dl	dl	dl	75	69	34	56	37	dl
Lead	0.100	0.458	0.263	0.104	0.147	dl	0.235	dl	dl	dl	dl	0.155	dl	0.223	dl	dl
Lithium	0.20	0.77	0.32	dl	0.38	dl	0.43	0.69	0.33	0.24	0.35	0.73	dl	0.48	0.67	0.42
Magnesium	50	2162	764	642	1229	603	841	1419	1238	1133	2229	4467	902	1038	1790	2210
Manganese	0.5	47.9	19.0	33.5	70.9	3.8	1.5	7.8	3.4	4.0	31.4	124.0	4.1	2.8	9.1	6.8
Molybdenum	0.05	0.23	dl	dl	0.06	dl	0.07	0.16	0.09	0.08	0.13	0.22	0.08	0.11	0.19	0.17
Nickel	0.5	1.25	dl	dl	0.65	dl	dl	0.91	0.69	0.88	2.60	0.91	dl	0.63	1.19	1.80
Potassium	20	624	265	200	449	255	370	516	428	317	412	1475	364	454	597	639
Rubidium	0.10	0.60	0.36	0.27	0.57	0.48	0.95	0.61	0.67	0.46	0.53	1.23	0.66	1.14	0.73	1.00
Selenium	1.0	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.02	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	50	48060	4305	3990	7029	3076	4562	24076	5429	4924	6610	29695	4514	5714	41360	9162
Strontium	1.0	190	74.1	9.4	61.2	14.4	9.8	110	74.8	112	280	110	23.6	11.8	134	161
Thallium	0.02	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.02	dl
Tin	0.10	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Titanium	1.0	3.6	1.1	dl	1.3	dl	1.0	2.4	1.9	3.0	7.9	2.9	dl	1.0	3.8	5.0
Uranium	0.02	0.14	dl	dl	0.03	0.08	0.17	0.12	0.05	0.05	0.10	0.03	0.11	0.15	0.21	0.09
Vanadium	0.5	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Zinc	0.75	2.7	2.6	3.2	2.2	3.3	9.1	2.4	1.7	1.9	2.0	2.0	2.3	7.1	2.2	2.0

Table 6-8

## Dissolved Metal Data

## Cape Breton 1995

Metals (all conc. in µg/L)	Baddeck	R. Denys	Inhabitants	Grand	Framboise	Sydney	North	Cheticamp	Margaree	Middle	Baddeck	R. Denys
	August	August	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	17.1	4.7	211	47.8	134	64.6	110	46.3	45.9	24.4	65.0	268
Antimony	3.95	1.76	1.25	1.68	0.64	1.38	0.91	1.34	1.05	1.64	1.75	1.27
Arsenic	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Barium	20.0	98.7	19.3	12.9	5.6	26.2	4.7	9.1	23.0	13.5	10.8	19.6
Beryllium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cadmium	dl	0.073	dl	dl	dl	dl	dl	0.027	dl	dl	dl	dl
Calcium	36636	281800	13000	4755	2100	9636	2409	3945	11364	11091	12273	34182
Chromium	dl	2	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.64	2.28	0.70	0.22	0.15	0.40	0.31	0.74	0.63	0.52	0.45	0.40
Copper	1.27	2.33	1.38	dl	dl	0.70	0.52	0.79	0.73	0.61	0.62	1.16
Iron	dl	84	252	67	230	111	55	28	33	dl	42	200
Lead	dl	dl	0.195	dl	dl	0.116	dl	dl	dl	dl	dl	0.192
Lithium	0.32	70.89	0.66	0.32	0.22	0.40	dl	0.47	0.60	0.36	0.21	0.49
Magnesium	1895	562800	1600	1086	962	1610	739	1181	1457	1219	1038	2352
Manganese	8.4	320.5	32.5	14.0	28.8	67.2	4.2	4.9	6.1	3.6	4.2	48.8
Molybdenum	0.18	2.46	0.09	dl	dl	0.10	dl	0.08	0.13	0.10	0.06	0.11
Nickel	2.14	9.22	1.28	dl	dl	0.72	dl	dl	0.75	0.77	0.81	2.37
Potassium	440	191800	711	364	287	578	312	510	545	463	325	1255
Rubidium	0.66	49.22	0.66	0.43	0.41	0.72	0.55	1.14	0.67	0.73	0.49	1.16
Selenium	dl	3.1	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	dl	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	7467	dl	19505	5267	5352	8533	3895	6333	22552	5390	4676	5486
Strontium	225	3794	99.7	103.9	14.1	74.1	14.3	11.8	83.9	55.7	76.2	199.4
Thallium	dl	0.03	dl	dl	0.03	0.02	dl	0.02	dl	dl	dl	dl
Tin	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Titanium	7.5	72.8	5.1	1.7	1.6	2.4	dl	dl	2.3	1.9	2.6	14.2
Uranium	0.07	0.84	0.10	dl	dl	0.03	0.07	0.08	0.13	0.05	0.04	0.10
Vanadium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Zinc	2.0	2.4	4.1	2.0	3.5	2.3	2.9	6.8	2.3	1.8	2.0	3.1

Table 6-9

## Dissolved Metal Data

## Cape Breton 1996

Metal (all conc. in µg/L)	Detection Limit	Inhabitants	Grand	Framboise	Sydney	North	Cheticamp	Margaree	Middle	Baddeck	River Denys	Inhabitants	Grand	Framboise	Sydney
		May	May	May	May	May	May	May	May	May	May	August	August	August	August
Aluminum	5.0	128	68.4	126	114	107	84.8	64.7	99.4	89.4	116	114	16.3	91.8	34.9
Antimony	0.10	0.8	3.1	0.5	2	0.5	1.5	5.6	5.3	1.5	0.9	0.8	3.6	0.6	1.1
Arsenic	0.50	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.7	dl	dl	0.6
Barium	0.20	15	11.2	4.3	17	4.4	6.9	18.2	9	7.9	10.4	20.4	12.9	4.6	26.8
Beryllium	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.08	dl	dl	dl
Cadmium	0.050	dl	dl	dl	dl	dl	0.060	dl	dl	dl	dl	dl	dl	dl	dl
Calcium	40	14900	4020	1360	5120	1930	2940	9100	6840	7240	23300	22800	5620	2650	10200
Chromium	0.50	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.05	0.23	0.37	0.12	0.3	0.06	0.37	0.68	1.15	0.33	0.14	0.19	0.95	0.1	0.1
Copper	0.50	0.8	0.6	0.9	0.9	0.6	0.7	1.3	1.6	0.8	0.9	1.6	2.7	0.9	1
Iron	10	129	16	40	61	21	34	14	21	18	72	294	33	110	101
Lead	0.050	0.110	dl	dl	0.080	dl	0.120	dl	dl	dl	0.060	0.180	0.060	0.070	0.130
Lithium	0.10	0.46	0.21	0.13	0.32	0.16	0.44	0.54	0.31	0.16	0.27	0.87	0.43	0.36	0.48
Magnesium	20	1450	990	640	1030	640	970	1360	990	820	1620	2330	1130	2160	1850
Manganese	0.40	28.5	10.6	18.2	39.2	4	2.2	6.5	5.9	4.4	15.2	36.7	28.5	18	114
Molybdenum	0.05	0.12	dl	dl	0.09	dl	0.09	0.14	0.08	0.06	0.08	0.46	0.07	0.06	0.19
Nickel	0.20	0.60	0.30	dl	0.30	dl	0.30	0.40	0.40	dl	0.60	0.70	0.40	dl	0.30
Potassium	20	410	260	180	320	220	320	370	300	280	350	520	290	670	500
Rubidium	0.10	0.49	0.37	0.28	0.48	0.48	0.87	0.54	0.59	0.39	0.43	0.81	0.5	0.55	0.99
Selenium	1.00	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	20	17500	3740	3300	4580	2310	3970	14200	3490	2860	3930	57800	4370	15200	7490
Strontium	1.00	112	103	8.1	38.2	10.3	8.7	66.6	32.9	46.2	132	197	123	20.2	88.9
Thallium	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Thorium	0.10	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.22	dl	dl	dl
Tin	0.10	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Uranium	0.05	0.10	dl	dl	dl	dl	0.08	0.11	0.06	dl	0.07	0.28	dl	dl	dl
Vanadium	0.50	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Zinc	0.75	1.7	1.6	3.1	2.4	2.1	6.7	3.9	2	2.3	1.5	1.5	2.3	1.6	0.9

Table 6-9

## Dissolved Metal Data

## Cape Breton 1996

Metal (all conc. in µg/L)	Baddeck August	Middle August	Margaree August	Cheticamp August	North August	River Denys August
Aluminum	39.4	8	21.3	85.2	54.7	15.3
Antimony	4.3	1.2	1.3	1.6	1	0.8
Arsenic	dl	dl	dl	dl	dl	0.6
Barium	17.1	21.3	30.6	10.1	5.3	34.6
Beryllium	dl	dl	dl	dl	dl	dl
Cadmium	dl	dl	dl	dl	dl	dl
Calcium	25400	23300	19700	6480	3520	61700
Chromium	dl	dl	dl	dl	dl	dl
Cobalt	0.2	0.23	0.11	0.53	0.15	0.24
Copper	1.2	0.6	2	1.4	0.6	0.8
Iron	26	dl	12	30	17	39
Lead	dl	dl	0.130	0.140	dl	dl
Lithium	0.28	0.4	0.81	0.5	0.12	0.52
Magnesium	1730	2020	2180	1440	910	4280
Manganese	8	6.6	9.3	4.4	7	35.1
Molybdenum	0.17	0.16	0.27	0.19	0.10	0.27
Nickel	0.60	0.50	0.40	0.40	dl	1.20
Potassium	350	520	630	520	310	510
Rubidium	0.6	0.9	0.81	1.4	0.71	1.14
Selenium	dl	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl	dl
Sodium	5710	7160	42500	6220	3920	10700
Strontium	164	127	155	17.3	21.8	338
Thallium	dl	dl	dl	dl	dl	dl
Thorium	dl	dl	dl	dl	dl	dl
Tin	dl	dl	dl	dl	dl	dl
Uranium	0.07	dl	0.11	0.18	0.11	0.16
Vanadium	dl	dl	dl	dl	dl	dl
Zinc	1.1	1	1.4	3.6	1.3	1

Table 6-10

## Dissolved Metal Data

## New Brunswick 1993

Metal (all conc. in µg/L)	Detection Limit	Petitcodiac October	Kennebecasis October	St. John October	Lepreau October	New River October	Magaguadavic October	Digdeguash October	St. Croix October
Aluminum	5.0	98.2	66.2	24.2	283.8	294.9	155.6	146.2	89.2
Antimony	0.05	0.27	0.21	0.22	0.08	0.10	0.17	0.22	0.13
Arsenic	0.50	0.65	0.56	0.85	dl	dl	0.69	0.74	0.54
Barium	0.25	30.71	38.92	8.34	2.34	3.20	3.47	3.44	6.26
Beryllium	0.07	0.10	0.07	0.07	0.45	0.50	0.08	0.10	0.09
Cadmium	0.030	dl	dl	dl	0.064	0.057	dl	dl	dl
Chromium	0.40	dl	dl	0.52	dl	dl	dl	dl	dl
Cobalt	0.05	0.06	0.08	0.06	0.11	0.12	0.08	0.11	0.05
Copper	0.40	0.61	0.69	0.84	dl	0.37	0.62	0.79	0.67
Iron	10.0	178.7	136.1	80.0	140.4	164.1	146.2	151.6	122.9
Lead	0.050	0.100	0.083	0.048	0.213	0.145	0.064	dl	0.108
Manganese	2.00	22.46	26.95	6.82	44.23	42.33	17.11	17.90	30.54
Molybdenum	0.10	0.27	0.17	0.17	0.09	dl	0.17	dl	0.11
Nickel	0.20	0.44	0.38	0.59	dl	0.25	dl	0.34	0.47
Selenium	1.20	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.02	dl	dl	dl	dl	dl	dl	dl	dl
Strontium	2.00	286.20	101.04	125.18	6.49	9.09	21.53	34.58	23.09
Thallium	0.02	dl	dl	dl	dl	dl	dl	dl	dl
Tin	0.10	dl	dl	dl	dl	dl	dl	dl	dl
Uranium	0.020	0.127	0.084	0.083	0.517	0.300	0.163	0.067	0.046
Vanadium	0.30	0.41	0.39	0.69	dl	dl	0.24	dl	1.41
Zinc	1.00	dl	dl	dl	4.26	5.35	3.22	1.50	3.33
Calcium	50	15430	12970	18240	1539	2124	4971	7607	5165
Magnesium	50	2038	1450	7096	431	520	811	1430	960

Table 6-11

## Dissolved Metal Data

## New Brunswick 1994

Metals (all conc. in µg/L)	Detection Limit	Petitcodiac	Kennebecasis	St. John (a)	St. John (b)	Lepreau	New River	Magaguadavic	Digdequash	St. Croix	Petitcodiac
		May	August								
Aluminum	5.0	42	23.2	42.6	42.2	120.7	102.5	106.8	80.1	58.8	dl
Antimony	0.0	0.328	0.271	0.242	0.145	0.293	0.16	0.103	0.176	0.19	1.22
Arsenic	0.5	0.6	1.1	dl	dl	dl	dl	0.7	0.7	dl	dl
Barium	0.8	28.34	50.59	8.67	8.27	2.36	2.74	2.3	2.08	4.16	41.8
Beryllium	0.1	dl	dl	dl	dl	0.232	0.149	dl	dl	dl	dl
Cadmium	0.020	dl	dl	dl	dl	0.023	dl	dl	dl	0.031	dl
Calcium	50	10781	10644	7481	9829	1063	1086	3188	3706	3044	31480
Chromium	0.5	dl									
Cobalt	0.05	0.084	0.087	0.062	0.06	dl	dl	0.067	0.093	dl	0.07
Copper	0.6	17	5.6	3.2	1.3	2.8	2.5	1.3	3.5	1.2	10.4
Iron	15.0	118	242	79	71	73	104	139	122	69	29
Lead	0.02	0.062	0.082	0.054	dl	0.13	0.142	0.083	0.076	0.083	dl
Lithium	0.05	1.54	0.69	0.4	0.41	0.91	0.61	0.79	0.57	0.32	3.45
Magnesium	50	1293	1297	1124	1451	254	344	534	710	529	3710
Manganese	2	18.12	34.28	16.18	16.36	18.29	12.56	20.22	19.88	34.57	7.7
Molybdenum	0.2	0.29	dl	0.73							
Nickel	0.2	0.8	0.6	0.7	0.7	dl	dl	0.3	0.5	0.4	0.7
Phosphorus	10.0	17	28	dl	dl	14	dl	dl	dl	dl	30
Potassium	50.0	491	982	419	541	241	279	288	157	533	1012
Rubidium	0.22	0.46	0.64	0.42	0.42	1.49	1.48	0.89	0.52	1.56	1.07
Selenium	1	dl									
Silver	0.02	dl									
Sodium	50	10453	9385	2882	3899	1755	2280	2120	2403	8209	23318
Strontium	1	189.8	89.1	77.1	99.2	5.4	7.6	14.2	20	16.9	572.4
Tin	0.1	dl									
Titanium	1	not analysed									
Uranium	0.02	0.138	0.073	0.046	0.04	0.431	0.193	0.152	0.057	0.058	0.327
Vanadium	0.4	dl	0.69	dl							
Zinc	1	1.2	1.3	dl	dl	3.4	2.7	3.1	1.5	2.2	1.1

Table 6-11

## Dissolved Metal Data

## New Brunswick 1994

Metals (all conc. in µg/L)	Kennebecasis	St. John	Lepreau	New River	Magaguadavic	Digdequash	St. Croix (a)	St. Croix (b)	Petitcodiac	Kennebecasis	St. John	LePreau
	August	August	Nov.	Nov.	Nov.	Nov.						
Aluminum	dl	dl	106.1	93.2	32.3	7.7	40.3	39.7	5.7	15.1	8	277.9
Antimony	0.3	0.45	0.25	0.51	0.53	0.58	0.48	0.46	0.55	0.37	0.45	0.28
Arsenic	0.6	1.1	dl	dl	0.8	1.4	dl	dl	0.67	dl	0.58	dl
Barium	57.3	13.5	2.7	2.6	2.8	2.4	11	10.7	57.5	54.1	12.6	4.8
Beryllium	dl	dl	0.113	0.113	dl	dl	dl	dl	dl	dl	dl	0.29
Cadmium	dl	0.029	dl	dl	0.022	dl	0.033	0.028	dl	dl	dl	0.04
Calcium	26297	69829	2649	2908	4845	9400	8160	7801	54309	21927	34796	1802
Chromium	dl	1.7	dl	dl	dl	dl	dl	dl	dl	dl	0.6	dl
Cobalt	0.07	0.4	dl	dl	dl	dl	dl	dl	0.09	0.06	0.07	0.08
Copper	dl	16.3	5.9	15.2	9	15.2	7.1	7.3	8.8	2.9	3.7	11.3
Iron	158	18	168	243	147	69	112	110	53	108	41	143
Lead	dl	0.06	0.12	0.14	0.17	dl	0.08	0.08	0.094	0.077	0.056	0.234
Lithium	1.15	19.91	1.08	0.6	1.06	0.98	0.36	0.37	5.93	1.12	5.76	1.09
Magnesium	2599	77195	1069	649	710	1484	922	876	5561	2105	41195	376
Manganese	83.2	21.6	12.7	12.2	37.9	13.6	32.4	31.8	31.8	27.4	15.6	27.5
Molybdenum	0.34	1.11	0.21	dl	0.35	0.3	dl	dl	0.8	0.31	0.5	dl
Nickel	0.5	2	dl	0.3	0.4	0.5	0.6	0.6	0.93	0.56	0.92	0.35
Phosphorus	12	23	19	27	12	42	58	58	17	18	15	40
Potassium	2780	41922	442	422	408	388	1352	1378	1201	1931	14167	289
Rubidium	1.39	13.44	1.83	1.94	1.57	1.28	3.9	3.88	0.87	0.95	4.46	1.73
Selenium	dl	dl	dl	dl	dl	dl						
Silver	dl	dl	dl	dl	dl	dl						
Sodium	22962	597000	6795	4630	3636	6274	21093	21100	31286	20353	312625	2225
Strontium	242.1	926.6	11.8	11.9	32.8	39.8	28.6	28.7	964.2	175.3	308.1	8.5
Tin	dl	dl	dl	dl	dl	dl						
Titanium	not analysed	not analysed	2.5	1.3	3.1	1.1						
Uranium	0.089	0.286	0.262	0.103	0.173	0.042	0.037	0.035	0.513	0.163	0.131	0.469
Vanadium	dl	dl	dl	dl	dl	dl	1.3	1.3	dl	dl	dl	dl
Zinc	dl	2.9	1.2	1.4	1.5	dl	3.2	3.5	1.6	1.8	2.2	6.1

Table 6-11

## Dissolved Metal Data

## New Brunswick 1994

Metals (all conc. in µg/L)	New River	Magaguadavic	Digdequash	St. Croix (a)	St. Croix (b)
	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	279.2	104.1	106	87.1	89.5
Antimony	0.48	0.39	0.32	0.3	0.42
Arsenic	dl	0.7	0.82	dl	0.71
Barium	4.3	3.6	3.1	10.2	10.7
Beryllium	0.3	dl	dl	dl	dl
Cadmium	0.039	dl	dl	0.034	0.033
Calcium	2224	5095	6603	6206	7062
Chromium	dl	dl	dl	dl	dl
Cobalt	0.1	0.07	0.08	dl	dl
Copper	dl	12.2	10.2	1.2	5.1
Iron	166	149	137	66	89
Lead	0.218	0.126	0.096	0.127	0.14
Lithium	0.81	1.13	0.6	0.3	0.31
Magnesium	498	740	1132	837	918
Manganese	27.9	18.7	14.9	71	72.7
Molybdenum	dl	0.23	dl	dl	0.21
Nickel	0.32	0.62	0.82	0.74	0.79
Phosphorus	dl	23	23	17	30
Potassium	317	354	249	1424	1645
Rubidium	1.77	1.03	0.62	3.95	4.38
Selenium	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl
Sodium	2327	2351	2770	24759	27435
Strontium	9.2	21.6	27.9	26.4	29.2
Tin	dl	dl	dl	dl	dl
Titanium	1.1	1.1	1.2	1.5	1.7
Uranium	0.307	0.229	0.069	0.053	0.049
Vanadium	dl	dl	dl	1.5	1.8
Zinc	6.9	4.1	3.6	5.2	5.2

Table 6-12

## Dissolved Metal Data

## New Brunswick 1995

Metal (all conc. in µg/L)	Detection Limit	Petitcodiac	Kennebecasis	St. John	St. Croix (a)	St. Croix(b)	Digdeguash	Magaguadavic	New River	Lepreau	Petitcodiac	Kennebecasis
		May	May	May	May	May	May	May	May	May	August	August
Aluminum	5.0	29.6	27.2	50.0	125.0	119.7	107.1	105.0	148.1	160.7	22.8	15.1
Antimony	0.05	0.39	1.45	1.89	1.25	0.20	1.25	0.70	1.09	1.23	1.18	2.27
Arsenic	1.0	dl	dl	dl	dl	dl	dl	1.3	dl	dl	1.5	1.5
Barium	0.25	33.9	38.4	9.3	6.5	6.4	2.7	3.1	2.9	3.1	52.9	57.1
Beryllium	0.05	dl	dl	dl	dl	dl	dl	0.1	0.2	0.2	dl	dl
Cadmium	0.020	dl	dl	dl	dl	dl	dl	0.023	0.030	0.028	dl	dl
Calcium	50	11818	10545	9273	4064	3991	4273	3209	1627	1010	32636	22273
Chromium	0.5	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.05	0.12	0.46	0.36	0.32	0.11	0.46	0.26	0.55	0.14	0.37	0.38
Copper	0.5	15.5	1.3	1.2	1.0	0.6	1.1	0.7	1.0	1.0	0.8	0.8
Iron	20	42	144	dl	44	41	90	97	81	45	54	98
Lead	0.100	0.166	0.148	dl	0.132	0.163	0.141	0.143	0.173	0.130	dl	0.142
Lithium	0.20	1.60	0.68	0.44	0.33	0.34	0.57	0.77	0.61	0.89	4.36	1.16
Magnesium	50	1520	1220	1580	776	756	774	488	366	286	3486	2200
Manganese	0.5	23.6	43.7	18.8	42.5	38.3	31.3	26.3	13.8	13.8	17.6	52.5
Molybdenum	0.05	0.23	0.18	0.06	0.08	0.09	0.08	0.16	0.09	0.13	0.85	0.40
Nickel	0.50	1.03	0.98	0.86	0.67	1.09	0.77	dl	dl	dl	1.77	1.39
Potassium	20	546	912	510	799	731	195	281	293	290	1185	2415
Rubidium	0.10	0.51	0.65	0.41	1.80	1.78	0.53	0.89	1.52	1.50	1.32	1.23
Selenium	1.0	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.02	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	50	11886	7581	4962	8495	8286	2276	1752	2038	1714	51950	25695
Strontium	1.0	219	89.5	69.6	20.0	19.7	21.7	15.6	7.7	5.5	682	251
Thallium	0.02	dl	dl	dl	dl	dl	dl	dl	0.03	0.02	dl	dl
Tin	0.10	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.11	0.38
Titanium	1.0	2.0	1.3	1.1	2.0	2.0	dl	1.0	1.0	dl	5.7	2.7
Uranium	0.02	0.13	0.09	0.04	0.07	0.07	0.06	0.17	0.22	0.42	0.50	0.18
Vanadium	0.5	dl	dl	dl	1.0	1.0	dl	dl	dl	dl	dl	dl
Zinc	0.75	2.2	2.1	1.9	3.4	3.6	3.5	4.0	4.6	4.5	1.7	1.6

Table 6-12

## Dissolved Metal Data

## New Brunswick 1995

Metal (all conc. in µg/L)	Lepreau	New River	Magaguadavic	Digdeguash	St. Croix	Petitcodiac	Kennebecasis	St. John	St. Croix	Digdeguash	Magaguadavic	New River	Lepreau
	August	August	August	August	August	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	56.3	54.9	26.7	17.4	76.5	101.4	92.6	127.1	182.7	176.4	162.8	319.2	281.4
Antimony	0.89	1.12	0.24	1.03	0.61	0.69	0.98	1.65	1.77	2.13	2.85	3.27	1.21
Arsenic	dl	dl	dl	1.9	dl	dl	dl	dl	dl	dl	dl	dl	dl
Barium	2.4	2.5	2.2	2.2	11.3	28.5	28.5	9.6	5.7	3.3	3.6	4.4	4.2
Beryllium	0.1	0.1	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.3	0.3
Cadmium	dl	dl	dl	dl	0.056	dl	dl	dl	dl	dl	dl	0.053	0.047
Calcium	3164	2240	4436	8518	5955	10364	9818	11182	4218	3927	3173	1450	1090
Chromium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	0.11	0.51	0.48	0.47	0.17	0.25	0.16	0.42	0.27	0.59	0.86	0.64	0.41
Copper	dl	0.8	0.8	0.8	0.8	0.7	0.9	1.3	0.9	1.0	1.6	1.1	0.6
Iron	123	148	90	83	152	146	119	132	166	137	124	158	128
Lead	0.197	0.152	0.163	0.121	0.133	dl	dl	0.130	0.161	0.123	0.110	0.309	0.328
Lithium	1.46	0.63	0.96	0.99	0.44	1.18	0.58	0.76	0.33	0.49	0.76	0.64	0.78
Magnesium	2629	710	834	1457	909	1362	1143	4743	860	751	563	429	341
Manganese	13.8	12.6	14.2	22.0	38.8	23.5	19.9	18.4	32.7	15.3	17.0	38.4	32.1
Molybdenum	0.35	0.15	0.26	0.29	0.18	0.13	0.10	0.08	dl	dl	0.14	dl	0.06
Nickel	dl	dl	dl	0.72	0.88	0.92	0.82	1.25	0.79	0.81	0.57	dl	dl
Potassium	1135	437	497	478	1505	617	889	1655	576	180	313	296	303
Rubidium	2.31	1.92	1.41	1.40	4.06	0.53	0.63	0.91	1.20	0.45	0.90	1.49	1.54
Selenium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	19800	4343	4400	7838	22267	9124	6343	dl	6200	2152	1905	2371	1924
Strontium	21.7	12.6	21.0	38.5	29.3	173.9	75.0	80.3	20.3	18.7	15.1	7.6	5.8
Thallium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Tin	0.83	0.55	dl	dl	0.88	dl	dl	dl	dl	dl	dl	dl	dl
Titanium	2.8	2.1	1.9	1.9	6.0	2.3	2.9	3.2	3.0	1.5	2.0	1.4	1.3
Uranium	0.29	0.14	0.18	0.05	0.06	0.10	0.06	0.07	0.07	0.07	0.19	0.28	0.40
Vanadium	dl	dl	dl	dl	1.5	dl	dl	dl	0.7	dl	dl	dl	dl
Zinc	2.0	2.3	2.1	3.2	5.4	2.6	2.5	2.6	4.7	5.0	6.0	8.6	6.5

Table 6-13

## Dissolved Metal Data

## New Brunswick 1996

Metal (all conc. in µg/L)	Detection Limit	Petitcodiac	Kennebecasis	St. John	Lepreau	New River	Magaguadavic	Digdeguash	St. Croix	St. Croix	St. John	Lepreau	New River
		May	May	May	May	May	May	May	May	May	August	August	August
Aluminum	5.0	104	65.9	123	183	174	115	107	107	104	33.1	72.6	57.5
Antimony	0.10	1.1	1.3	3.8	0.7	0.6	0.9	0.7	0.2	0.8	1.1	0.9	0.6
Arsenic	0.50	dl	0.60	dl	dl	dl	0.80	0.70	dl	dl	3.60	dl	0.70
Barium	0.20	18.5	22.7	7.7	3.5	3.1	2.9	2.2	4.1	3.8	15.8	2.5	2.6
Beryllium	0.05	dl	dl	dl	0.28	0.23	dl	dl	dl	dl	0.09	0.18	0.16
Cadmium	0.050	dl	dl	dl	0.060	dl	dl	dl	dl	dl	0.060	0.060	dl
Calcium	40	5730	7130	8520	1070	1310	2680	3090	3180	3190	39800	2810	2940
Chromium	0.50	dl	dl	dl	dl	dl	dl	dl	dl	dl	1.22	dl	dl
Cobalt	0.05	0.3	0.14	1.56	0.12	0.26	0.13	0.11	0.07	0.22	0.25	0.12	0.12
Copper	0.50	0.70	1.00	2.30	dl	dl	0.90	0.70	dl	0.70	7.40	0.70	0.60
Iron	10	72	60	94	52	54	60	60	60	63	85	98	113
Lead	0.050	dl	0.060	0.070	0.120	0.100	dl	dl	0.070	0.060	0.160	0.120	0.130
Lithium	0.10	0.63	0.38	0.34	0.72	0.47	0.6	0.34	0.25	0.23	11.5	1.28	0.61
Magnesium	20	1000	1070	2120	370	430	580	760	790	790	104000	760	640
Manganese	0.40	13.3	8.8	22.3	22.5	17.7	13.3	10.5	25.8	26	45.1	12.9	10.9
Molybdenum	0.05	0.14	0.08	dl	0.07	dl	0.12	dl	dl	dl	0.67	0.23	0.12
Nickel	0.20	0.40	0.30	0.80	dl	dl	0.30	0.40	0.40	0.40	1.40	dl	dl
Potassium	20	480	660	650	320	290	290	200	520	510	25700	430	330
Rubidium	0.10	0.54	0.58	0.55	1.73	1.62	0.95	0.55	1.25	1.23	8.44	2.13	1.99
Selenium	1.00	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Silver	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	20	4080	4250	7020	1700	1970	1630	1980	5340	5270	752000	4610	3080
Strontium	1.00	90.3	48.4	55.6	6	6.4	13.2	15.6	16.2	16	636	11.5	12.8
Thallium	0.05	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Thorium	0.10	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Tin	0.10	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Uranium	0.05	0.07	0.06	dl	0.38	0.22	0.15	dl	dl	dl	0.23	0.32	0.13
Vanadium	0.50	dl	dl	dl	dl	dl	dl	dl	dl	dl	1.30	dl	dl
Zinc	0.75	1.6	1.4	1.8	4.3	4.6	3.6	2.1	2.1	2	1.7	1.5	1.5

Table 6-13

## Dissolved Metal Data

## New Brunswick 1996

Metal (all conc. in µg/L)	Magaguadavaic	Digdeguash	St. Croix	Kennebecasis	Petitcodiac
	August	August	August	August	August
Aluminum	63.1	32.3	77.2	23.8	10.7
Antimony	1.7	1.3	0.4	0.9	1.2
Arsenic	1.20	1.90	0.60	1.10	0.90
Barium	2.9	2.5	6.8	54.8	53.5
Beryllium	0.09	dl	0.07	dl	dl
Cadmium	dl	dl	dl	dl	dl
Calcium	4620	8810	4650	22700	30700
Chromium	dl	dl	dl	dl	dl
Cobalt	0.38	0.37	0.08	0.98	0.15
Copper	1.10	1.20	0.70	0.70	0.80
Iron	111	150	116	174	dl
Lead	0.160	0.120	0.110	0.110	dl
Lithium	1.03	0.91	0.37	0.96	3.51
Magnesium	690	1480	700	2300	3640
Manganese	28.9	24	38.4	79.8	14.6
Molybdenum	0.20	0.21	0.08	0.38	0.59
Nickel	0.50	0.70	0.50	0.50	0.60
Potassium	320	260	660	2000	820
Rubidium	1.41	1.06	2.14	1.2	1.16
Selenium	dl	dl	dl	dl	dl
Silver	dl	dl	dl	dl	dl
Sodium	2520	5000	8180	23800	46500
Strontium	20.7	39.3	22.3	218	615
Thallium	dl	dl	dl	dl	dl
Thorium	dl	dl	dl	dl	dl
Tin	dl	dl	dl	dl	dl
Uranium	0.22	0.07	0.09	0.15	0.37
Vanadium	dl	dl	dl	dl	dl
Zinc	2.1	1.6	2.8	1.5	0.9

Table 6-14

**Nova Scotia Data from 1992 to 1996**  
**Dissolved Metals**

(all values in µg/L)

Metals	1992 (19)*		1993 (45)		1994 (34)		1995 (34)		1996 (23)	
	Average	Std	Average	Std	Average	Std	Average	Std	Average	Std
Aluminum	113	91	150	92	165	101	191	107	154	77
Antimony	0.139	0.055	0.16	0.10	1.15	1.01	1.47	1.34	1.42	1.36
Arsenic	0.71	0.48	0.75	0.50	0.69	0.31	1.05	0.24	0.69	0.32
Barium	4.76	4.75	3.98	3.30	3.97	3.23	4.88	3.13	3.86	2.23
Beryllium	0.11		0.10	0.03	0.10		0.05	0.01	0.05	0.007
Bismuth							0.05		0.05	0.004
Boron	4.74	2.50	4.3	1.9	5.2	0.7	7	5	3.88	0.98
Bromine					45	14			29.0	14.9
Cadmium	0.036	0.026	0.033	0.008	0.036	0.025	0.025	0.011	0.051	0.005
Calcium							2090	2518	1817	1950
Chromium	0.19	0.08	0.40		0.50		0.51	0.04	0.50	
Cobalt	0.11	0.06	0.17	0.08	0.17	0.10	0.62	0.58	0.40	0.34
Copper	1.39	1.25	1.91	1.84	3.87	3.50	3.36	3.82	1.12	0.63
Iodine					3.07	1.45				
Iron	219	101	221	78	206	87	197	116	163	101
Lead	0.207	0.222	0.286	0.267	0.434	0.354	0.347	0.266	0.267	0.248
Lithium					1.06	0.77	1.02	0.63	0.86	0.57
Magnesium							695	371	597	327
Manganese	30.7	19.1	39.7	31.7	31.19	21.07	36	30	30.3	31.0
Molybdenum	0.10		0.11	0.05	0.20		0.05	0.01	0.06	0.01
Nickel	0.38	0.24	0.29	0.16	0.51	0.33	0.64	0.25	0.35	0.13
Potassium					338	151	387	252	246	106
Rubidium					1.11	0.41	1.07	0.46	0.83	0.26
Selenium	1.00		1.20				1.00		1.03	0.09
Silver	0.020		0.021	0.003			0.020		0.050	
Sodium					3422	1049	3935	1497	2867	848
Strontium	24.77	36.57	15.3	23.9	15.16	33.21	13	13	10.1	10.4
Tellurium							0.20		0.20	
Thallium	0.026	0.005	0.020		0.050		0.02		0.05	
Thorium									0.10	
Tin	0.14		0.18	0.18	0.10	0.02	0.16	0.17	0.10	
Titanium							2.17	1.56	1.48	0.65
Uranium	0.089	0.110	0.086	0.113	0.088	0.092	0.086	0.097	0.091	0.070
Vanadium	0.26	0.17	0.37	0.11	0.46	0.12	0.51	0.04	0.50	0.01
Zinc	2.32	0.97	2.78	1.54	4.29	2.24	4.69	1.94	3.13	1.58

\* number of samples used in the calculation

Table 6-15

**Cape Breton Data from 1993 to 1996**  
**Dissolved Metals**

(all values in µg/L)

Metals	1993 (11)		1994 (31)		1995 (29)		1996 (20)	
	Average	Std	Average	Std	Average	Std	Average	Std
Aluminum	76	66	59	54	83	76	74	40
Antimony	0.17	0.07	0.42	0.28	1.40	0.81	1.91	1.59
Arsenic	0.55	0.15	0.75	0.99	1.00		0.52	0.06
Barium	16.58	9.57	15.91	9.49	17.72	17.28	14.41	8.85
Beryllium	0.08	0.01	0.10		0.05		0.05	0.01
Bismuth					0.05	0.01	0.05	0.01
Boron	10.9	9.2	46.4	221.6	51	239	6.34	2.14
Bromine			62	15			46.1	23.3
Cadmium	0.030		0.027	0.029	0.023	0.010	0.050	0.001
Calcium					21591	51242	12906	14090
Chromium	0.40		0.72	1.15	0.56	0.30	0.50	
Cobalt	0.07	0.04	0.15	0.47	0.47	0.42	0.33	0.29
Copper	0.83	1.07	4.83	4.25	1.09	1.02	1.08	0.54
Iodine			4.66	7.24				
Iron	122	106	85	90	77	66	55	66
Lead	0.094	0.051	0.177	0.606	0.141	0.078	0.079	0.041
Lithium			4.18	20.75	2.82	13.09	0.39	0.21
Magnesium					20757	104253	1527	835
Manganese	42.4	63.3	23.71	22.95	33	62	20.1	25.1
Molybdenum	0.18	0.11	0.32	0.62	0.18	0.44	0.14	0.10
Nickel	0.27	0.14	0.68	1.38	1.21	1.65	0.43	0.24
Potassium			4160	20657	7111	35522	392	136
Rubidium			2.37	9.35	2.37	9.01	0.67	0.28
Selenium	1.20				1.07	0.39	1.02	0.07
Silver	0.020	0.001			0.021	0.006	0.050	
Sodium			131446	665572	10483	11769	11048	14282
Strontium	111.6	94.0	234.9	748.7	213	692	90.5	82.9
Tellurium					0.21	0.05	0.20	
Thallium	0.020		0.050		0.02		0.05	
Thorium							0.11	0.03
Tin	0.11	0.03	0.10		0.10		0.10	
Titanium					5.60	13.24	1.39	0.71
Uranium	0.102	0.064	0.096	0.127	0.104	0.150	0.088	0.059
Vanadium	0.46	0.25	1.39	5.50	0.50		0.50	
Zinc	1.58	1.01	2.22	1.38	3.00	1.74	2.15	1.37

Table 6-16

**New Brunswick Data from 1993 to 1996**  
**Dissolved Metals**

(all values in µg/L)

Metals	1993 (8)		1994 (27)		1995 (24)		1996 (17)	
	Average	Std	Average	Std	Average	Std	Average	Std
Aluminum	138	104	71	71	108	80	85	49
Antimony	0.18	0.07	0.38	0.21	1.31	0.76	1.06	0.79
Arsenic	0.62	0.30	0.65	0.23	1.09	0.23	0.92	0.79
Barium	13.99	2.72	15.38	18.92	13.53	16.75	12.34	16.91
Beryllium	0.19	0.21	0.12	0.06	0.09	0.08	0.09	0.07
Bismuth					0.05		0.05	
Boron	10.1	7.5	24.1	52.5	12.38	12.45	25.00	70.79
Bromine			168	492			396.6	1498.2
Cadmium	0.038	0.022	0.024	0.007	0.025	0.011	0.052	0.005
Calcium					7261	7270	8996	11179
Chromium	0.42	0.17	0.55	0.23	0.50		0.54	0.17
Cobalt	0.09	0.08	0.08	0.07	0.37	0.19	0.32	0.39
Copper	0.61	0.33	6.72	5.21	1.53	2.99	1.24	1.64
Iodine			3.14	1.84				
Iron	142	72	112	56	103	44	84	40
Lead	0.095	0.074	0.097	0.055	0.15	0.06	0.093	0.038
Lithium			1.94	3.88	0.91	0.81	1.42	2.71
Magnesium					1258	1067	7184	24963
Manganese	26.9	18.4	27.82	19.13	26	12	24.4	17.4
Molybdenum	0.16	0.06	0.31	0.22	0.18	0.17	0.18	0.19
Nickel	0.39	0.19	0.60	0.35	0.81	0.34	0.47	0.30
Potassium			2800	8256	710	542	2026	6115
Rubidium			2.15	2.58	1.29	0.79	1.68	1.82
Selenium	1.20	3.43			1.00		1.00	
Silver	0.020	0.015			0.02		0.050	
Sodium			43568	125279	8971	11371	51702	180809
Strontium	121.9	44.4	147.6	261.7	80	145	108.4	201.1
Tellurium					0.20		0.20	
Thallium	0.020	0.032	0.050		0.02		0.05	
Thorium							0.10	
Tin	0.10	0.06	0.10		0.19	0.23	0.10	
Titanium					2.21	1.31	1.50	0.77
Uranium	0.183	0.420	0.168	0.141	0.16	0.13	0.157	0.115
Vanadium	0.37	0.23	0.57	0.40	0.59	0.24	0.55	0.18
Zinc	2.36	1.89	2.63	1.68	3.61	1.77	2.18	1.03

Table 6-17

## Dissolved Metal Data from the 1994 Survey

(all values in µg/L)

Metals	Detection Limit	Nova Scotia (34)				Cape Breton (31)				New Brunswick (27)			
		Min	Max	Average	Std	Min	Max	Average	Std	Min	Max	Average	Std
Aluminum	5	7	407	165	101	5	225	59	54	5	279	71	71
Antimony	0.02	0.08	2.77	1.15	1.01	0.16	1.39	0.42	0.28	0.10	1.22	0.38	0.21
Arsenic	0.50	0.50	1.80	0.69	0.31	0.50	5.70	0.75	0.99	0.50	1.40	0.65	0.23
Barium	0.79	0.79	13.20	3.97	3.23	3.49	49.60	15.91	9.49	2.08	57.50	15.38	18.92
Beryllium	0.10	0.10	0.10	0.10		0.10	0.10	0.10		0.10	0.30	0.12	0.06
Boron	5.0	5.0	9.2	5.2	0.7	5.0	1240.0	46.4	221.6	5.0	250.0	24.1	52.5
Bromine	25	25	78	45	14	39	88	62	15	26	2138	168	492
Cadmium	0.020	0.020	0.110	0.036	0.025	0.020	0.180	0.027	0.029	0.020	0.040	0.024	0.007
Calcium	50	245	22323	2195	4000	1157	278581	23220	49972	1063	69829	13119	16860
Chromium	0.50	0.50	0.50	0.50		0.50	6.90	0.72	1.15	0.50	1.70	0.55	0.23
Cobalt	0.05	0.05	0.37	0.17	0.10	0.05	2.67	0.15	0.47	0.05	0.40	0.08	0.07
Copper	0.60	0.60	14.30	3.87	3.50	0.60	18.60	4.83	4.25	0.60	17.00	6.72	5.21
Iodine	2.00	2.00	6.70	3.07	1.45	2.00	41.60	4.66	7.24	2.00	9.90	3.14	1.84
Iron	15	77	361	206	87	15	353	85	90	18	243	112	56
Lead	0.020	0.052	1.430	0.434	0.354	0.020	3.430	0.177	0.606	0.020	0.234	0.097	0.055
Lithium	0.05	0.33	3.99	1.06	0.77	0.10	116.00	4.18	20.75	0.30	19.91	1.94	3.88
Magnesium	50	193	2578	596	439	453	750015	25673	134438	254	77195	5560	16285
Manganese	2.00	3.30	75.20	31.19	21.07	2.00	72.20	23.71	22.95	7.70	83.20	27.82	19.13
Molybdenum	0.20	0.20	0.20	0.20		0.20	3.68	0.32	0.62	0.20	1.11	0.31	0.22
Nickel	0.20	0.20	1.40	0.51	0.33	0.20	7.90	0.68	1.38	0.20	2.00	0.60	0.35
Potassium	50	145	829	338	151	130	115447	4160	20657	157	41922	2800	8256
Rubidium	0.22	0.42	2.28	1.11	0.41	0.22	52.70	2.37	9.35	0.42	13.44	2.15	2.58
Sodium	50	1819	6115	3422	1049	3145	3717000	131446	665572	1755	597000	43568	125279
Strontium	1.00	2.91	196.7	15.16	33.21	6.60	4234	234.9	748.7	5.40	964.2	147.6	261.7
Thallium	0.050	0.050	0.050	0.050		0.050	0.050	0.050		0.050	0.050	0.050	
Tin	0.10	0.10	0.20	0.10	0.02	0.10	0.11	0.10		0.10	0.10	0.10	
Uranium	0.020	0.020	0.376	0.088	0.092	0.020	0.722	0.096	0.127	0.035	0.513	0.168	0.141
Vanadium	0.40	0.40	0.80	0.46	0.12	0.40	31.00	1.39	5.50	0.40	1.80	0.57	0.40
Zinc	1.00	1.00	11.30	4.29	2.24	1.00	7.60	2.22	1.38	1.00	6.90	2.63	1.68

Table 6-18

## Dissolved Metal Data from the 1995 Survey

(all values in µg/L)

Metals	Detection Limit	Nova Scotia (34)				Cape Breton (29)				New Brunswick (24)			
		Min	Max	Average	Std	Min	Max	Average	Std	Min	Max	Average	Std
Aluminium	5	35	450	191	107	5	268	83	76	15	319	108	80
Antimony	0.05	0.08	4.58	1.47	1.34	0.29	3.95	1.4	0.81	0.20	3.27	1.31	0.76
Arsenic	1	1	2.3	1.05	0.24	1	1	1		1.00	1.90	1.09	0.23
Barium	0.25	1.8	12.9	4.88	3.13	4.2	98.7	17.72	17.28	2.20	57.10	13.53	16.75
Beryllium	0.05	0.05	0.08	0.05	0.01	0.05	0.05	0.05		0.05	0.31	0.09	0.08
Bismuth	0.05	0.05	0.05	0.05		0.05	0.08	0.05	0.01	0.05	0.05	0.05	
Boron	1	3	27	7	5	4	1293	51	239	3.00	54.0	12.38	12.45
Cadmium	0.02	0.02	0.07	0.025	0.011	0.02	0.07	0.023	0.01	0.020	0.060	0.025	0.011
Calcium	50	462	9818	2090	2518	1330	281800	21591	51242	1010	32636	7261	7270
Chromium	0.5	0.5	0.7	0.51	0.04	0.5	2.1	0.56	0.3	0.50	0.50	0.50	
Cobalt	0.05	0.05	2.18	0.62	0.58	0.07	2.28	0.47	0.42	0.11	0.86	0.37	0.19
Copper	0.5	0.5	12.7	3.36	3.82	0.5	6	1.09	1.02	0.50	15.50	1.53	2.99
Iron	20	20	378	197	116	20	252	77	66	20	166	103	44
Lead	0.1	0.1	1.08	0.347	0.266	0.1	0.46	0.141	0.078	0.10	0.33	0.15	0.06
Lithium	0.2	0.37	3.5	1.02	0.63	0.11	70.9	2.82	13.09	0.33	4.36	0.91	0.81
Magnesium	50	262	1876	695	371	603	562800	20757	104253	286	4743	1258	1067
Manganese	0.5	6	165	36	30	2	321	33	62	13	53	26	12
Molybdenum	0.05	0.05	0.08	0.05	0.01	0.05	2.46	0.18	0.44	0.05	0.85	0.18	0.17
Nickel	0.5	0.5	1.6	0.64	0.25	0.5	9.2	1.21	1.65	0.50	1.80	0.81	0.34
Potassium	20	204	1595	387	252	200	191800	7111	35522	180	2415	710	542
Rubidium	0.1	0.46	2.5	1.07	0.46	0.27	49.22	2.37	9.01	0.41	4.06	1.29	0.79
Selenium	1	1	1	1		1	3.1	1.07	0.39	1.00	1.00	1.00	
Silver	0.02	0.02	0.02	0.02		0.02	0.05	0.021	0.006	0.02	0.02	0.02	
Sodium	50	1743	8619	3935	1497	50	48060	11000	12047	1714	51950	8971	11371
Strontium	1	4	57	13	13	9	3794	213	692	5.50	682	80	145
Tellurium	0.2	0.2	0.2	0.2		0.2	0.48	0.21	0.05	0.20	0.20	0.20	
Thallium	0.02	0.02	0.02	0.02		0.02	0.03	0.02		0.02	0.03	0.02	
Tin	0.1	0.1	0.71	0.16	0.17	0.1	0.1	0.1		0.10	0.88	0.19	0.23
Titanium	1	1	9.1	2.17	1.56	1	72.8	5.6	13.24	1.00	6.00	2.21	1.31
Uranium	0.02	0.02	0.38	0.086	0.097	0.02	0.84	0.104	0.15	0.04	0.50	0.16	0.13
Vanadium	0.5	0.5	0.7	0.51	0.04	0.5	0.5	0.5		0.50	1.50	0.59	0.24
Zinc	0.75	2	11.2	4.69	1.94	1.7	9.1	3	1.74	1.60	8.60	3.61	1.77

Table 7-1

## Particulate Metals

## Nova Scotia 1992

Metals (all conc. in µg/g)	Detection Limits	St. Mary's Sept.	Gold Sept.	LaHave Sept.	Medway Sept.	Mersey Sept.	Annapolis Sept.	Tusket Sept.	Roseway Sept.	Musquodoboit Sept.	Sheet H. (E) Sept.
Aluminum	1421	81591	44925	96172	21417	22014	44202	45453	16836	36566	15110
Antimony	0.14	3.10	0.63	2.38	4.21	1.63	1.76	1.37	0.26	dl	0.58
Arsenic	0.4	50.2	28.4	39.1	50.6	19.2	34.0	70.2	5.2	12.8	185.8
Barium	8.0	744	387	737	208	159	241	265	89	472	69
Beryllium	0.46	1.26	1.11	1.68	dl	0.94	2.82	1.69	dl	dl	0.96
Cadmium	0.17	1.02	0.72	1.25	1.18	0.61	0.70	2.03	0.26	1.25	0.31
Chromium	1.92	dl	dl	dl	dl	10.95	86.17	10.21	dl	dl	dl
Cobalt	0.87	37.33	14.04	56.63	19.47	14.54	18.94	17.31	2.97	30.01	6.91
Copper	2.2	100.4	211.2	240.4	229.3	46.3	82.5	102.1	23.2	22.9	23.2
Iron	1655	107408	36959	108300	48471	61687	44307	60184	9131	33044	93835
Lead	6.4	85.7	86.7	133.0	129.1	83.5	57.5	124.3	95.5	33.7	64.4
Manganese	33	12412	863	5644	1931	1474	1512	1513	130	24113	709
Molybdenum	0.4	21.3	36.8	29.5	39.2	5.2	11.3	14.7	2.3	dl	4.5
Nickel	1.6	201.6	142.7	259.2	150.5	116.8	55.5	144.8	32.0	57.8	13.2
Selenium	0.36	dl	4.45	4.62	6.13	3.48	0.82	5.84	2.46	1.57	4.46
Silver	0.19	2.46	2.56	3.35	2.47	0.93	1.54	1.90	0.80	0.55	0.37
Strontium	4.2	340.6	194.2	399.8	83.6	77.0	82.6	120.1	44.7	161.3	32.7
Thallium	0.05	1.11	0.41	0.92	0.35	0.37	0.71	0.44	0.33	0.34	dl
Tin	0.4	87.5	21.4	44.2	54.1	dl	44.6	104.6	dl	dl	15.0
Uranium	0.55	2.18	9.99	4.70	2.05	1.73	8.98	2.75	2.36	3.28	1.34
Vanadium	7.6	131.4	92.5	180.2	92.3	87.2	120.6	133.3	25.5	59.5	62.9
Zinc	10.0	226.9	126.3	252.2	114.7	90.9	164.7	131.4	53.3	315.6	36.9
Calcium	312	19730	14921	26009	6399	4130	5388	8251	3622	9838	2773
Magnesium	445	10297	5717	12284	2388	1883	5033	5384	2362	4377	1225

Table 7-1

## Particulate Metals

## Nova Scotia 1992

Metals (all conc. in µg/g)	St. Mary's Nov.	Gold Nov.	LaHave Nov.	Medway Nov.	Mersey Nov.	Annapolis Nov.	Roseway Nov.	Musquodoboit Nov.	Sheet H. (E) Nov.
Aluminum	37187	14724	19057	16127	14903	33349	5449	37694	16150
Antimony	0.86	dl	1.04	0.88	1.23	0.19	dl	0.80	0.47
Arsenic	20.9	21.1	32.7	73.9	18.4	43.5	4.5	17.6	57.5
Barium	342	69	112	88	73	253	24	223	84
Beryllium	1.88	dl	0.76	dl	dl	1.32	dl	1.95	dl
Cadmium	0.71	dl	1.12	0.39	0.32	0.35	0.35	1.04	0.27
Chromium	dl	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	13.64	7.62	21.20	12.76	6.01	10.16	1.33	11.05	5.20
Copper	19.1	15.2	22.3	16.9	34.6	39.8	11.5	20.9	17.9
Iron	56454	26580	57412	51241	48683	60463	5954	57450	51930
Lead	45.3	38.1	59.5	108.2	59.8	27.0	27.7	40.6	42.9
Manganese	3480	461	2441	1825	925	1298	dl	1098	512
Molybdenum	1.9	dl	3.0	0.9	1.3	dl	dl	3.1	1.9
Nickel	24.0	35.7	38.4	19.4	11.8	27.9	9.8	29.4	14.2
Selenium	2.86	5.18	4.26	1.96	2.60	1.28	1.77	2.43	3.95
Silver	0.31	0.38	0.35	0.29	0.33	4.05	dl	0.41	0.39
Strontium	74.4	38.8	58.6	46.2	23.2	126.2	28.5	106.5	40.2
Thallium	0.31	0.16	0.16	0.10	0.15	0.28	dl	0.26	0.09
Tin	21.6	dl	30.8	dl	dl	27.9	2.3	32.4	18.4
Uranium	1.63	9.32	2.50	1.47	1.31	10.80	2.58	2.89	1.14
Vanadium	65.1	67.2	74.9	73.8	62.2	81.6	dl	61.5	53.9
Zinc	118.2	41.8	82.0	53.9	31.6	125.6	dl	113.3	23.5
Calcium	5827	6220	7812	4312	2081	16336	3089	12530	3237
Magnesium	4539	2592	2909	1943	1405	6050	2053	4208	1816

Table 7-2

## Particulate Metals

## Nova Scotia 1993

Metal (conc. in µg/g)	Detection Limit	Musquodoboit August	Sheet Harb.(E) August	St. Mary's August	Gold August	LaHave August	Medway August	Mersey August	Roseway August	Clyde August	Tusket August	Annapolis August
Aluminum	1421	31305	19333	17783	14674	21933	10785	12347	6833	6188	19714	20154
Antimony	0.14	0.695	0.415	0.517	0.421	0.911	0.579	0.564	0.119	dl	0.835	0.527
Arsenic	0.4	29.5	193.7	28.3	25.3	17.8	31.8	13.9	dl	dl	44.0	44.0
Barium	8	200.0	91.8	165.0	52.6	191.1	56.1	60.4	40.5	56.3	101.1	222.0
Beryllium	0.46	2.021	0.843	1.483	0.821	1.311	0.673	1.208	dl	dl	0.989	1.297
Cadmium	0.17	0.968	0.289	1.300	3.684	4.756	1.121	dl	0.643	0.354	1.582	3.516
Calcium	312	13263	2226	6617	4105	4844	3196	2228	1643	2104	3560	8484
Chromium	1.92	78.6	44.5	113.9	44.9	111.9	36.1	33.0	dl	13.2	97.5	51.3
Cobalt	0.87	14.5	9.2	13.0	5.5	27.8	10.8	7.4	2.6	2.5	19.8	9.9
Copper	2.21	29.0	19.8	22.9	37.4	30.6	22.0	37.4	6.6	5.8	36.8	39.0
Iron	1655	176000	92830	126500	44421	60889	45794	68812	11905	12500	59121	70110
Lead	6.43	55.7	56.6	50.0	39.1	81.5	57.5	83.1	25.9	26.6	120.2	91.6
Magnesium	445	3053	1283	2167	1832	3044	1252	1089	1000	1208	1868	3473
Manganese	32.9	3958	984	5417	465	8356	1443	1000	79	38	3121	3143
Molybdenum	0.4	3.37	3.65	3.17	3.16	4.22	3.36	2.38	dl	0.42	4.40	1.32
Nickel	1.63	27.4	12.6	30.0	29.5	53.3	20.6	13.9	14.3	18.8	59.3	46.2
Silver	0.19	0.379	0.491	0.267	0.295	dl	0.224	0.327	0.262	0.125	0.440	2.110
Strontium	4.24	113.7	31.4	58.3	27.4	44.4	33.6	26.7	19.0	25.0	41.8	74.7
Tin	0.42	16.8	16.4	15.0	23.2	84.4	16.8	546.5	31.0	27.1	37.4	28.6
Uranium	0.55	3.24	1.52	0.92	7.28	2.67	1.01	1.54	0.81	0.88	1.32	9.71
Vanadium	7.57	67.4	61.6	43.3	58.9	60.0	46.7	46.5	9.5	14.6	83.5	68.1
Zinc	10	138.9	65.4	138.3	128.4	262.2	87.9	60.4	45.2	43.8	145.1	219.8

Table 7-2

## Particulate Metals

## Nova Scotia 1993

Metal (conc. in µg/g)	Sheet Harb.(E) September	St.Mary's September	Gold September	LaHave September	Medway September	Mersey September	Roseway September	Clyde September	Tusket September	Annapolis September
Aluminum	17297	20607	8968	15127	11316	12934	4875	18886	15647	15074
Antimony	0.594	0.410	dl	0.901	0.506	0.385	0.250	0.282	0.484	0.333
Arsenic	302.1	27.9	28.0	39.4	53.2	23.1	dl	10.7	62.7	51.9
Barium	97.9	190.2	43.0	135.2	116.5	74.7	33.3	114.1	104.6	459.3
Beryllium	0.912	1.311	0.774	1.296	0.835	0.560	dl	0.940	0.732	1.148
Cadmium	0.577	0.689	0.882	1.718	0.228	0.330	dl	2.993	0.627	1.852
Calcium	3146	5852	4688	6648	4000	1110	1792	4134	2784	16037
Chromium	64.7	39.9	28.7	234.8	49.0	31.1	22.3	35.4	21.4	64.2
Cobalt	5.9	9.3	5.8	24.2	20.5	5.5	1.7	4.2	14.5	8.9
Copper	30.8	24.2	23.1	24.7	12.1	20.6	11.5	23.8	14.1	62.1
Iron	114644	80820	37419	102254	69114	79341	7500	56913	61176	100741
Lead	62.6	50.6	33.1	63.3	78.4	64.3	21.2	65.6	97.4	38.4
Magnesium	1105	2623	1785	1944	1595	835	958	3866	1412	3481
Manganese	870	3115	624	3746	2418	1099	58	426	2758	6074
Molybdenum	3.35	2.13	2.37	4.23	3.54	2.64	0.83	1.88	2.88	0.74
Nickel	21.8	16.4	12.9	28.2	12.7	11.0	dl	14.8	10.5	11.1
Silver	0.351	0.197	dl	dl	dl	0.198	0.250	0.201	dl	3.370
Strontium	35.1	63.9	32.3	53.5	40.5	15.4	16.7	60.4	32.7	155.6
Tin	10.0	11.5	8.6	36.6	30.4	7.7	45.8	6.7	7.8	33.3
Uranium	1.35	1.28	7.12	2.45	1.39	1.19	1.58	3.01	1.82	3.19
Vanadium	61.9	52.5	51.6	70.4	68.4	61.5	12.5	63.1	85.0	74.1
Zinc	164.0	96.7	66.7	205.6	157.0	36.3	16.7	57.7	87.6	196.3

Table 7-2

## Particulate Metals

## Nova Scotia 1993

Metal (conc. in µg/g)	St. Mary's November	Sheet Harb.(E) November	Musquodoboit November	Gold November	LaHave November	Medway November	Mersey November	Roseway November	Clyde November	Tusket November
Aluminum	23762	16244	53123	12739	37507	15820	18179	16238	10075	29715
Antimony	0.651	0.244	0.542	dl	0.639	0.635	0.786	0.218	dl	0.404
Arsenic	12.7	39.7	20.6	19.8	24.7	67.5	17.9	8.3	dl	17.2
Barium	238.1	93.6	347.1	70.3	222.8	106.7	115.4	88.1	67.7	190.7
Beryllium	1.127	0.573	2.052	0.685	1.315	0.831	0.955	0.528	1.925	0.881
Cadmium	0.476	0.397	0.839	0.324	0.648	0.353	0.806	0.332	dl	0.411
Calcium	4587	1949	9032	3153	3982	2878	3085	2290	2022	2623
Chromium	45.0	40.2	65.0	40.3	54.2	34.0	36.2	31.4	14.3	37.3
Cobalt	6.7	4.9	16.0	5.8	19.5	22.8	8.6	2.2	1.5	7.4
Copper	15.5	15.1	31.9	10.4	22.6	13.9	39.6	10.1	5.1	17.1
Iron	46190	48462	65032	21441	47580	48314	41294	9016	7312	22318
Lead	40.0	40.7	45.5	30.8	43.0	80.4	101.1	24.4	19.3	33.9
Magnesium	2746	1308	5110	1532	3735	1522	1871	1637	1570	3834
Manganese	1746	527	2826	393	2758	3514	1065	104	60	648
Molybdenum	1.59	2.05	2.84	2.34	3.56	3.53	2.09	1.35	0.65	1.79
Nickel	15.9	11.5	32.3	12.6	22.8	11.8	14.9	8.3	4.3	15.2
Silver	0.270	0.282	0.413	0.216	0.347	0.243	0.458	dl	dl	0.225
Strontium	55.6	33.3	105.8	28.8	63.0	42.4	49.8	40.4	37.6	53.6
Tin	4.8	5.1	6.5	5.4	4.6	5.5	9.0	4.1	2.2	4.6
Uranium	0.95	1.13	2.70	5.26	2.52	1.35	0.85	1.44	0.78	1.44
Vanadium	42.9	43.6	68.4	39.6	69.4	60.4	46.8	15.5	11.8	41.1
Zinc	88.9	41.0	174.2	45.0	88.6	45.5	82.6	46.6	21.5	52.3

Table 7-3

## Particulate Metals

## Nova Scotia 1994

Metal (all conc. in µg/g)	Detection Limit	St. Mary's May	Sheet Harb.(E) May	Musquodoboit May	Gold May	LaHave May	Medway May	Mersey May	Roseway May	Clyde May	Tusket May	Annapolis May	Sheet Harb.(E) August	St. Mary's August
Aluminum	1027	48402	14389	58097	13114	20100	10597	12204	5942	16470	9887	53454	17707	12400
Antimony	0.05	2.935	0.295	0.828	0.148	0.357	0.516	0.177	0.248	0.265	0.326	0.660	0.444	1.106
Arsenic	1	13.6	20.0	20.3	14.8	12.9	14.5	dl	dl	dl	8.5	27.7	143.6	44.7
Barium	10	373.4	103.2	489.1	69.8	148.6	87.1	91.2	38.0	127.7	69.5	312.1	53.7	148.2
Beryllium	0.2	2.000	0.726	3.225	0.980	1.443	0.710	0.653	0.350	0.699	0.454	2.582	0.851	1.412
Cadmium	0.05	0.755	0.642	0.518	0.349	0.514	dl	0.354	dl	0.253	0.539	0.752	0.244	5.482
Calcium	248	2118	1621	3729	2174	3429	2177	1946	1620	2843	2312	6596	1675	4541
Chromium	6	36.7	dl	62.2	dl	dl	dl	dl	dl	dl	dl	43.5	22.9	69.0
Cobalt	0.5	13.3	3.9	20.9	3.5	10.3	5.2	4.2	1.3	2.7	2.6	14.9	6.9	15.3
Copper	1	51.2	18.7	35.7	9.1	18.2	15.7	24.2	9.9	6.9	19.5	39.5	21.0	27.7
Iron	2646	43096	25263	54237	10872	26000	18226	17279	3942	8193	11348	55745	117073	88000
Lead	1	46.4	30.0	42.1	17.0	32.7	31.4	41.7	14.6	14.0	28.6	39.5	59.3	389.4
Lithium	2	44.3	8.3	77.5	15.4	26.1	8.5	6.0	3.9	10.8	7.0	62.7	3.3	5.4
Magnesium	172	5195	1558	5177	1799	2614	1468	1619	1168	2458	1376	7298	932	2188
Manganese	27	2594	348	2242	232	904	487	327	48	145	153	1504	1154	11153
Molybdenum	0.2	2.04	1.37	2.81	1.48	2.57	2.74	1.22	1.75	1.08	1.28	1.77	2.87	1.88
Nickel	2	26.6	11.6	44.1	9.4	21.4	14.5	13.6	10.2	8.4	12.8	27.0	11.9	30.6
Phosphorus	88	1882	2514	2159	3247	3184	3562	4719	3181	2516	3119	3949	1891	3879
Potassium	850	14012	4274	21128	3718	6229	3258	3415	2117	5687	3021	16121	1480	3012
Rubidium	0.5	69.9	16.1	93.4	22.6	32.6	14.0	13.6	8.8	22.4	14.3	75.1	6.4	11.0
Silver	0.09	0.613	0.316	0.436	0.255	0.343	0.306	0.354	0.204	0.108	0.227	0.858	0.195	0.353
Sodium	350	5139	2021	4455	1450	1786	1226	1361	1372	5530	1929	2645	374	424
Strontium	5	60.1	31.6	104.6	25.5	45.7	33.9	35.4	21.9	53.0	22.7	87.9	22.8	47.1
Tin	0.8	6.8	21.1	9.7	4.0	24.3	38.7	20.4	39.4	25.3	35.5	5.0	2.2	23.5
Titanium	60	1363	674	1753	511	729	452	654	278	711	554	1532	618	354
Uranium	0.06	1.58	0.89	2.97	3.87	4.11	0.60	0.68	1.12	0.82	0.94	5.44	1.19	0.99
Vanadium	5.5	69.3	31.6	100.7	21.5	47.1	29.0	27.2	8.8	18.1	24.1	92.2	59.6	37.6
Zinc	7.7	211.8	54.7	162.7	52.3	68.6	138.7	44.9	46.7	41.0	58.2	138.3	34.7	216.5

Table 7-3

## Particulate Metals

## Nova Scotia 1994

Metal (all conc. in µg/g)	Gold	LaHave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis	St. Mary's	Sheet Harb.(E)	Musquodoboit	Gold	LaHave	Medway	Mersey
	August	August	August	August	August	August	August	August	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	9963	12646	11051	12485	6408	5103	12619	19947	24451	12300	32659	12537	26915	12609	17072
Antimony	0.171	4.479	0.747	0.460	0.263	0.265	0.662	0.684	0.451	0.300	0.503	0.407	0.683	0.438	0.361
Arsenic	34.1	45.8	60.6	21.3	6.6	dl	48.9	38.6	19.6	66.7	14.4	16.7	23.2	60.9	14.5
Barium	34.1	68.8	46.5	53.6	28.9	38.2	50.4	164.9	329.4	86.7	273.1	63.0	163.4	87.5	95.2
Beryllium	1.256	1.917	0.929	0.664	0.461	dl	0.532	1.825	1.392	0.644	1.533	0.889	1.366	0.813	0.783
Cadmium	0.329	1.563	0.364	0.604	0.132	0.118	0.576	1.632	1.196	0.278	0.790	0.333	0.890	0.484	0.217
Calcium	5780	5646	3333	1183	1474	2353	2604	8333	5706	2189	8263	3093	3988	2594	1325
Chromium	40.7	65.3	63.3	28.4	38.6	49.0	53.7	46.2	20.3	10.4	26.8	15.4	21.1	6.8	124.5
Cobalt	7.7	26.7	11.5	4.3	1.3	1.8	7.9	8.4	8.6	4.4	11.0	5.9	18.4	10.5	4.2
Copper	13.1	22.4	19.7	45.8	10.2	8.5	24.1	25.9	21.1	14.2	22.5	14.4	22.9	13.7	17.8
Iron	43537	68542	55556	65872	8816	13235	61151	46667	52941	47000	42874	28333	47805	46406	42048
Lead	32.8	87.3	67.8	75.9	27.2	28.4	98.1	71.5	39.4	37.5	31.5	27.6	64.7	62.8	46.7
Lithium	2.3	5.4	2.8	2.5	2.1	dl	2.9	17.0	15.9	5.2	27.9	8.9	20.6	6.3	5.5
Magnesium	2183	2063	1374	979	921	1309	1094	2930	3235	1111	3593	1907	2939	1281	1060
Manganese	733	3688	1497	717	38	60	1032	2456	2941	551	1581	454	2232	1389	529
Molybdenum	2.44	3.54	3.84	2.30	1.32	1.62	3.88	1.23	2.94	2.44	2.51	3.70	3.54	4.22	2.29
Nickel	9.8	25.0	16.2	13.6	9.2	8.8	15.8	19.3	15.7	6.7	20.4	5.6	22.0	7.8	7.2
Phosphorus	3742	4393	3371	3616	2854	2733	3941	5103	3468	2376	2657	3423	2779	2545	2191
Potassium	1122	2021	2020	1915	1289	1000	1525	5509	5039	2278	7581	2352	5159	2250	2699
Rubidium	5.5	8.7	6.7	7.1	6.1	4.6	7.1	24.4	32.0	11.8	42.3	15.0	29.6	10.9	14.3
Silver	0.207	0.417	0.283	0.196	0.158	0.176	0.273	0.649	0.196	0.311	0.323	0.259	0.341	0.250	0.554
Sodium	354	dl	dl	391	dl	456	dl	1070	1353	844	1449	1759	2110	797	783
Strontium	37.8	45.8	30.3	15.3	18.4	27.9	21.6	71.9	68.6	33.3	88.6	24.1	48.8	35.9	24.1
Tin	11.0	4.2	8.1	7.7	21.1	7.4	5.8	5.3	17.6	2.2	2.4	3.7	7.3	17.2	3.6
Titanium	269	397	385	562	251	280	605	615	589	623	767	575	684	454	928
Uranium	16.71	3.77	1.94	1.34	2.36	2.15	1.99	4.72	1.29	1.01	1.89	7.28	2.49	0.94	1.02
Vanadium	48.8	72.9	64.6	56.2	7.9	10.3	77.7	54.4	51.0	40.0	51.5	42.6	65.9	57.8	61.4
Zinc	87.8	106.3	42.4	38.3	17.1	17.6	54.7	138.6	264.7	37.8	104.2	57.4	108.5	50.0	39.8

Table 7-3

**Particulate Metals****Nova Scotia 1994**

Metal (all conc. in µg/g)	Roseway	Clyde	Tusket	Annapolis
	Nov.	Nov.	Nov.	Nov.
Aluminum	6302	7008	14153	27922
Antimony	0.333	0.269	0.641	0.297
Arsenic	dl	dl	22.9	26.6
Barium	39.7	55.5	73.3	179.7
Beryllium	0.429	dl	0.534	2.016
Cadmium	0.317	0.773	0.687	0.609
Calcium	1397	2118	3084	9219
Chromium	11.7	7.3	34.1	25.5
Cobalt	1.6	1.7	3.8	7.3
Copper	7.6	6.3	19.5	27.8
Iron	6032	7563	30840	57969
Lead	19.8	24.0	51.9	39.0
Lithium	3.5	3.2	6.3	21.1
Magnesium	937	1462	1527	3656
Manganese	38	47	348	1200
Molybdenum	1.90	1.51	3.21	2.19
Nickel	3.2	5.0	12.2	12.5
Phosphorus	2315	2283	3082	3951
Potassium	1619	2387	2718	5844
Rubidium	8.7	9.0	14.3	32.7
Silver	0.254	0.235	0.412	1.297
Sodium	508	2269	1038	781
Strontium	17.5	30.3	24.4	85.9
Tin	19.0	11.8	4.6	21.9
Titanium	366	354	825	891
Uranium	1.84	0.72	1.91	6.25
Vanadium	9.5	11.8	47.3	64.1
Zinc	41.3	79.0	70.2	126.6

Table 7-4

## Particulate Metals

## Nova Scotia 1995

Metal (all conc. in µg/g)	Detection Limit	St. Mary's May	Sheet Harb. May	Musquodoboit May	Gold May	LaHave May	Medway May	Mersey May	Roseway May	Clyde May	Tusket May	Annapolis May A	Annapolis May B	St. Mary's August A
Aluminum	5807	44223	16430	51153	9994	19570	12026	13684	6848	4608	8760	34150	33090	23973
Antimony	0.04	0.82	1.69	0.17	0.06	0.22	0.38	0.41	2.91	1.40	2.67	1.35	1.17	0.76
Arsenic	3.4	7.7	16.0	7.6	7.6	12.2	17.4	5.5	dl	dl	4.4	26.2	27.6	37.2
Barium	11	274	11	263	56	113	78	90	45	37	46	207	203	245
Beryllium	0.1	0.86	dl	1.47	dl	0.81	dl	dl	dl	dl	dl	1.80	1.78	1.64
Cadmium	0.06	0.24	0.16	0.90	0.16	0.38	0.38	0.38	0.55	0.65	0.93	1.61	1.57	2.36
Calcium	2866	5175	dl	9016	3815	5538	3021	dl	dl	dl	dl	11874	11571	11184
Chromium	9.0	18.5	19.8	35.7	35.0	32.1	40.0	27.0	134.2	dl	dl	53.2	49.7	28.6
Cobalt	0.20	9.67	7.26	13.21	3.16	11.52	4.46	4.73	11.19	1.45	3.66	9.85	9.67	17.56
Copper	0.57	37	dl	38	33	58	65	139	153	44	106	51	50	35
Iron	3807	52320	34120	59548	17241	36970	26526	22629	7291	5557	16667	58632	57485	152749
Lead	0.18	43	49	102	59	63	55	60	522	120	121	136	133	113
Lithium	1.5	33.3	6.5	41.3	6.5	12.4	5.2	4.2	1.2	1.1	2.7	24.7	24.9	5.2
Magnesium	2124	5217	1608	5234	1788	2707	1638	1217	1396	1406	1448	4749	4629	4217
Manganese	10.8	2530	402	1854	257	1486	497	652	64	52	203	1180	1171	15248
Molybdenum	0.24	1.55	0.99	1.94	1.59	1.51	4.03	5.64	6.34	1.97	2.86	3.28	3.07	5.03
Nickel	0.09	24.50	dl	32.50	8.60	22.40	14.50	11.50	22.10	13.60	15.50	18.20	17.70	21.20
Potassium	1833	11206	3640	11183	dl	3387	2712	2219	2689	dl	2257	7658	7488	3007
Rubidium	6.57	53.4	15.5	53.3	9.1	16.9	10.4	8.5	dl	dl	8.3	33.5	32.8	10.8
Silver	0.20	1.65	dl	1.72	1.01	0.70	1.32	0.45	0.45	dl	dl	1.31	1.60	2.85
Sodium	3137	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Strontium	10	63	18	89	22	42	28	21	16	22	19	86	84	87
Thallium	0.02	dl	dl	0.08	dl	dl	dl	dl	dl	dl	dl	0.10	dl	dl
Tin	1.37	8.97	3.04	5.26	2.70	2.94	44.10	15.40	11.53	4.18	6.24	55.92	55.92	4.16
Uranium	0.38	0.78	dl	1.95	4.58	2.45	0.56	0.66	0.69	0.52	0.93	6.31	6.22	1.29
Vanadium	13.0	60.3	38.8	64.2	24.3	49.3	31.3	32.6	dl	dl	22.1	65.3	63.0	48.8
Zinc	4.39	125	60	140	44	93	50	105	179	34	81	169	165	195

Table 7-4

## Particulate Metals

## Nova Scotia 1995

Metal (all conc. in µg/g)	St. Mary's	Sheet Harb.	Musquodoboit	LaHave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis	St. Mary's	Sheet Harb.	Musquodoboit	Gold
	August B	August	August	August	August	August	August	August	August	August	Nov.	Nov.	Nov.	Nov.
Aluminum	23608	82197	93650	15108	9890	18125	5502	5470	11755	16630	26669	18725	46384	19279
Antimony	0.64	1.53	0.75	dl	0.53	0.57	dl	dl	0.48	0.10	dl	0.32	dl	0.16
Arsenic	38.8	676.5	71.2	40.7	48.0	25.9	dl	dl	36.6	40.3	19.1	221.1	18.8	13.7
Barium	245	380	574	63	49	78	26	40	51	145	272	85	280	100
Beryllium	1.57	3.40	5.17	1.12	0.22	0.83	dl	dl	0.21	0.90	0.16	0.21	0.85	0.80
Cadmium	2.32	2.32	1.42	0.85	1.01	0.41	dl	0.10	0.48	1.63	0.46	0.23	0.53	0.26
Calcium	10576	11959	28643	6162	4771	dl	dl	dl	3267	11335	7370	3281	9999	4072
Chromium	23.5	71.8	89.5	dl	dl	18.3	dl	dl	dl	dl	dl	dl	73.7	dl
Cobalt	17.61	34.83	30.56	20.65	14.57	13.26	0.53	0.80	4.03	5.14	6.36	4.76	10.38	5.22
Copper	34	1267	75	510	32	32	138	57	30	356	20	19	43	21
Iron	159553	432166	339308	80688	55019	91201	6845	13652	49185	58224	54407	92323	47008	20848
Lead	111	369	194	81	75	82	40	58	90	109	38	79	43	35
Lithium	4.7	14.1	61.9	2.1	0.6	3.4	1.5	0.3	2.1	9.7	15.9	3.7	36.8	17.8
Magnesium	4131	6393	9116	2134	1796	1386	1037	1554	1367	3325	4134	1574	5215	2562
Manganese	15384	5243	5608	4054	2050	2079	40	48	650	2142	2901	815	1675	619
Molybdenum	3.30	13.44	5.26	2.91	2.81	4.16	dl	1.51	3.09	1.23	dl	1.89	0.92	2.16
Nickel	22.40	48.40	57.80	17.70	9.30	15.60	2.90	4.30	8.00	13.10	11.10	6.50	22.50	5.10
Potassium	3007	7264	19002	dl	dl	2117	dl	dl	dl	4651	5559	2117	10496	4198
Rubidium	10.6	32.8	89.8	dl	dl	8.1	dl	dl	dl	16.4	27.5	8.8	52.0	28.3
Silver	2.43	2.65	1.42	0.33	dl	dl	dl	dl	dl	0.85	dl	dl	dl	dl
Sodium	dl	dl	4026	dl	3564	dl	dl	dl	dl	dl	dl	dl	dl	dl
Strontium	88	154	251	39	41	31	15	31	23	74	67	36	92	32
Thallium	dl	dl	0.08	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.05
Tin	3.97	21.49	8.89	5.11	4.19	5.20	dl	3.30	4.51	3.98	3.78	3.75	7.48	6.24
Uranium	1.20	6.15	8.67	3.09	0.82	1.18	0.47	1.08	1.75	8.02	0.81	1.08	2.04	7.61
Vanadium	49.2	254.2	164.3	58.6	46.6	55.6	dl	dl	52.8	47.5	35.9	54.5	48.6	34.0
Zinc	193	1351	337	483	82	43	153	46	55	220	110	34	114	49

Table 7-4

**Particulate Metals****Nova Scotia 1995**

Metal (all conc. in µg/g)	LaHave Nov.	Medway Nov.	Mersey Nov.	Roseway Nov.	Clyde Nov.	Tusket Nov.	Annapolis Nov.
Aluminum	27500	22016	15546	5762	8695	14639	58806
Antimony	0.51	0.31	0.23	dl	dl	0.32	0.53
Arsenic	21.4	42.5	18.0	dl	dl	43.5	38.5
Barium	158	174	72	36	63	61	361
Beryllium	0.92	0.78	0.47	dl	dl	0.26	3.06
Cadmium	0.70	0.50	0.23	dl	0.13	0.43	0.51
Calcium	5286	3524	3103	dl	dl	4055	4788
Chromium	17.7	12.6	dl	dl	dl	dl	51.4
Cobalt	19.26	13.17	5.72	0.58	0.97	3.95	17.88
Copper	22	106	32	1	4	75	40
Iron	39334	35093	55665	5600	7431	37285	49661
Lead	54	51	79	22	26	76	40
Lithium	20.7	15.0	2.6	1.5	2.7	4.6	65.4
Magnesium	3496	1946	1601	1262	1750	1584	5008
Manganese	2876	1911	618	38	56	501	2150
Molybdenum	2.78	3.55	1.86	dl	0.49	2.43	1.31
Nickel	19.90	9.30	6.60	dl	1.50	5.40	33.10
Potassium	5117	4826	dl	dl	1937	1997	20529
Rubidium	28.8	22.5	dl	dl	7.8	9.8	69.2
Silver	0.22	dl	dl	dl	dl	dl	0.54
Sodium	dl	dl	dl	dl	dl	dl	dl
Strontium	51	61	40	24	38	25	58
Thallium	0.06	0.08	dl	dl	dl	dl	0.59
Tin	2.75	8.74	5.63	1.38	1.51	6.08	4.20
Uranium	2.90	1.19	0.76	0.70	0.62	2.34	8.31
Vanadium	53.0	37.5	53.0	dl	dl	48.5	103.0
Zinc	82	50	41	14	21	129	175

Table 7-5

## Particulate Metals

## Nova Scotia 1996

Metal (all conc. in µg/g)	Detection	St. Mary's	Sheet H.(East)	Musquodoboit	Gold	LaHave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis	St. Mary's	St. Mary's
	Limit	May	May	May	May	May	May	May	May	May	May	May	August	August
Aluminum	2673	45910	17580	69067	14830	22487	11320	11460	7563	7215	13295	46056	19820	16552
Antimony	0.34	1.17	0.38	0.74	1.80	0.35	dl	dl	dl	0.46	0.73	0.60	1.33	1.41
Arsenic	1.3	38.3	20.1	17.3	8.2	18.7	16.6	8.1	3.1	dl	14.7	22.1	30.0	28.2
Barium	95	352	102	472	dl	131	dl	dl	dl	dl	dl	283	200	192
Beryllium	0.44	1.67	0.50	2.55	0.66	0.94	0.76	0.58	0.77	dl	dl	2.21	2.00	1.41
Cadmium	0.26	0.83	0.50	0.33	dl	0.82	0.38	dl	dl	1.37	0.55	0.68	1.00	2.25
Calcium	1764	4967	2415	4494	3803	5544	2662	2023	1785	2489	4220	7574	9300	8366
Chromium	26.8	50.0	314.5	189.3	dl	46.8	dl	dl	dl	30.5	73.4	51.1	66.7	56.3
Cobalt	7.9	12.2	dl	19.9	dl	13.0	11.1	8.3	dl	dl	9.2	16.1	18.7	16.6
Copper	4.68	25.0	15.1	31.3	9.8	16.4	8.9	11.6	9.2	7.6	25.7	30.6	16.7	19.7
Iron	3401	42950	34579	49416	13607	28012	18815	18442	4646	4870	16587	44366	116200	113296
Lead	2.59	56.17	38.87	42.63	19.34	43.39	34.27	31.40	22.15	27.79	48.44	45.96	56.67	45.63
Lithium	3.55	36.00	8.55	69.47	14.10	20.35	6.75	3.60	4.31	dl	6.06	56.43	6.67	5.35
Magnesium	4435	5778	1946	6516	2651	3447	1678	1345	1318	1507	2178	6397	3357	2527
Manganese	34.4	1528	423	1967	243	919	497	295	52	41	228	986	9757	9234
Molybdenum	1.94	dl	dl	dl	dl	2.46	dl	dl	dl	dl	2.94	dl	2.33	1.97
Nickel	5.5	28.3	13.8	42.0	9.8	19.9	14.0	10.5	7.7	9.2	22.0	28.9	20.0	14.1
Potassium	2981	11083	3031	19251	dl	4327	dl	dl	dl	dl	dl	14102	dl	dl
Rubidium	6.77	68.2	18.1	100.2	23.1	29.0	11.8	9.1	10.6	7.2	15.0	68.0	14.0	11.3
Silver	0.16	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.26	dl	dl
Sodium	2713	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Strontium	24.3	66.7	35.2	104.5	dl	43.3	dl	dl	dl	27.5	25.7	81.7	70.0	64.8
Thallium	0.1	0.17	dl	0.58	dl	0.12	dl	dl	dl	dl	dl	0.43	dl	dl
Thorium	0.98	5.0	1.3	10.7	16.4	1.2	dl	1.2	dl	dl	1.8	5.1	dl	dl
Tin	1.6	5.0	3.8	4.1	16.4	3.5	10.2	19.8	4.6	dl	3.7	7.7	6.7	2.8
Uranium	0.4	1.67	1.01	3.21	5.57	2.81	0.64	0.70	0.92	1.22	1.65	5.62	1.00	0.56
Vanadium	8.57	63.3	35.2	90.5	26.2	52.6	29.3	33.7	10.8	9.2	29.4	88.5	50.0	42.3
Zinc	20.2	150	38	165	49	70	51	23	31	31	55	136	200	366

Table 7-5

## Particulate Metals

## Nova Scotia 1996

Metal (all conc. in µg/g)	Sheet H.(East)	Musquodoboit	Gold	LaHave	Medway	Mersey	Roseway	Clyde	Tusket	Annapolis
	August	August	August	August	August	August	August	August	August	August
Aluminum	21660	33239	15183	15143	6343	7939	7830	6058	12654	25496
Antimony	dl	3.28	2.55	2.02	5.49	0.69	dl	dl	dl	0.74
Arsenic	74.9	23.0	21.3	26.3	22.0	16.7	2.3	2.2	18.6	49.4
Barium	115	233	dl	107	dl	dl	dl	dl	dl	183
Beryllium	1.01	1.64	1.06	1.01	dl	dl	dl	dl	dl	1.73
Cadmium	dl	0.49	dl	1.01	dl	dl	dl	dl	5.59	0.99
Calcium	2927	11459	5511	7313	2484	dl	dl	2333	4559	16864
Chromium	33.5	65.6	dl	dl	dl	dl	dl	dl	dl	dl
Cobalt	8.6	13.6	dl	37.4	dl	dl	dl	dl	dl	10.9
Copper	30.2	19.7	8.5	18.2	dl	16.7	dl	6.7	13.6	32.1
Iron	73486	108557	43404	70606	30857	46903	7977	12844	27492	85877
Lead	57.77	94.92	41.28	59.19	32.97	58.47	26.67	32.89	54.75	62.22
Lithium	11.96	24.92	8.51	6.87	dl	dl	dl	dl	6.10	16.79
Magnesium	2868	3946	2866	2721	895	301	1533	1749	2605	4116
Manganese	812	2195	451	6941	631	851	53	62	620	1788
Molybdenum	dl	3.77	2.13	2.63	dl	dl	dl	dl	dl	dl
Nickel	12.3	23.0	8.5	24.2	dl	9.7	6.9	11.1	10.2	14.8
Potassium	3553	5869	dl	dl	dl	dl	dl	dl	dl	3457
Rubidium	19.9	39.8	16.8	11.3	dl	dl	8.5	dl	15.3	22.5
Silver	dl	dl	dl	dl	dl	dl	dl	dl	dl	0.49
Sodium	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Strontium	36.9	88.5	34.0	46.5	dl	dl	dl	26.7	28.8	96.3
Thallium	0.11	1.64	0.85	0.40	dl	0.14	dl	dl	dl	dl
Thorium	2.2	60.7	6.4	10.1	dl	1.4	dl	dl	1.7	17.3
Tin	2.2	9.8	36.2	12.1	2.2	11.1	2.3	4.4	5.1	12.3
Uranium	1.45	2.46	9.79	2.83	dl	0.83	2.30	0.44	1.69	7.41
Vanadium	58.1	62.3	61.7	62.6	28.6	50.0	11.5	13.3	40.7	81.5
Zinc	101	131	64	101	44	83	23	22	85	222

Table 7-6

**Particulate Metals****Cape Breton 1993**

Metals (all conc. in µg/g)	Detection Limit	Inhabitants Sept.	Grand Sept.	Framboise Sept.	Sydney Sept.	North Sept.	Margaree Sept.	Cheticamp Sept.	Baddeck (a) Sept.	Baddeck (b) Sept.	River Denys Sept.
Aluminum	1421	51497	30098	16630	54450	11760	51517	44625	56222	57214	83016
Antimony	0.14	0.466	0.390	0.329	0.800	dl	1.517	dl	0.593	0.496	0.548
Arsenic	0.4	25.8	29.3	dl	23.3	dl	dl	dl	14.8	8.5	19.4
Barium	8	287.1	322.0	79.5	658.3	136.0	358.6	375.0	340.7	336.8	366.1
Beryllium	0.46	2.393	1.220	dl	2.517	dl	2.690	2.625	1.877	1.692	2.435
Cadmium	0.17	0.712	1.024	0.493	1.667	1.040	0.828	3.500	0.691	0.598	0.806
Calcium	312	9448	8976	4082	9833	6240	9034	15375	13086	10769	12581
Chromium	1.92	69.1	89.5	22.8	70.6	74.7	154.1	191.8	84.8	57.0	90.9
Cobalt	0.87	14.0	22.0	12.9	16.2	9.6	14.5	30.0	14.8	13.8	17.7
Copper	2.21	26.7	28.1	21.3	39.6	30.1	25.9	47.0	53.7	23.5	38.3
Iron	1655	88712	81463	60548	70667	24800	42069	75000	48889	43590	86774
Lead	6.43	48.4	24.3	31.2	105.0	22.2	46.1	177.3	42.4	32.8	48.0
Magnesium	445	6613	4537	3507	8317	2640	8414	8250	10346	11094	11758
Manganese	32.9	2650	14195	3671	16667	1240	3310	4625	2963	4068	1774
Molybdenum	0.4	2.45	3.41	3.01	2.00	dl	5.52	3.75	1.98	1.37	2.42
Nickel	1.63	23.3	19.5	11.0	30.0	dl	20.7	37.5	34.6	25.6	40.3
Silver	0.19	0.319	0.293	0.466	0.400	dl	dl	1.250	0.247	0.308	0.371
Strontium	4.24	177.9	248.8	52.1	131.7	48.0	124.1	100.0	148.1	126.5	198.4
Tin	0.42	6.1	34.1	8.2	6.7	56.0	55.2	137.5	9.9	8.5	6.5
Uranium	0.55	6.65	1.76	0.71	0.43	2.48	3.31	7.25	4.10	3.85	3.85
Vanadium	7.57	104.3	63.4	49.3	111.7	24.0	82.8	100.0	101.2	83.8	122.6
Zinc	10	131.3	131.7	79.5	290.0	448.0	131.0	537.5	143.2	119.7	164.5

Table 7-7

## Particulate Metals

## Cape Breton 1994

Metals (all conc. in µg/g)	Detection	Inhabitants	Grand	Framboise	Sydney	North	Baddeck	Margaree	Middle	River Denys	River Denys	Baddeck	Middle	Margaree
	Limit	May	May	May	May	May	May	May	May	May	August	August	August	August
Aluminum	1027	64336	46554	81027	35800	36745	56817	38623	44195	63672	50884	25117	42369	30381
Antimony	0.05	0.673	0.518	1.099	0.538	0.588	0.648	0.377	0.619	0.697	0.589	0.364	0.523	0.476
Arsenic	1	20.9	8.9	10.8	12.3	dl	dl	dl	12.4	13.6	31.6	15.6	24.6	28.6
Barium	10	376.4	400.0	472.1	315.4	192.2	307.0	294.3	325.7	328.0	357.9	161.0	307.7	288.9
Beryllium	0.2	2.636	1.554	2.054	1.923	1.373	2.310	2.509	2.832	2.660	2.211	1.169	2.338	2.317
Cadmium	0.05	0.818	0.804	0.559	1.077	0.471	0.451	0.868	0.673	0.537	1.095	0.597	1.446	1.968
Calcium	248	7545	6161	6541	7185	8784	9070	5698	7451	6667	12632	8208	10338	8762
Chromium	6	53.0	13.1	40.3	49.8	dl	17.9	6.3	21.8	71.1	91.2	26.9	65.7	102.7
Cobalt	0.5	14.6	19.6	20.5	10.3	14.5	14.1	11.1	14.2	16.8	14.1	9.6	18.8	15.2
Copper	1	48.0	28.1	53.6	27.3	30.4	30.3	22.2	29.7	32.8	29.0	15.0	33.1	24.6
Iron	2646	70364	50000	80721	42923	29804	40282	29623	37168	60033	67158	23117	40923	40000
Lead	1	51.1	43.0	53.3	56.6	24.6	32.6	33.7	39.1	39.2	41.0	19.7	120.9	38.7
Lithium	2	64.8	34.6	54.1	38.2	20.4	58.6	53.6	71.7	77.9	61.1	30.1	51.1	36.5
Magnesium	172	6991	5357	11694	5569	8588	11324	6547	9363	6232	7558	5455	8492	5143
Manganese	27	1182	7143	2414	2569	1557	1290	1257	1133	1194	2842	2330	3754	4190
Molybdenum	0.2	2.64	1.79	3.42	2.92	1.57	2.82	0.94	1.77	2.19	2.11	0.78	1.85	2.22
Nickel	2	30.0	25.0	36.0	60.0	27.5	33.8	28.3	35.4	39.8	35.8	13.0	30.8	25.4
Phosphorus	88	2962	2605	3043	2690	3485	2616	2752	1768	1747	3302	2308	4734	5043
Potassium	850	19482	13446	19694	10354	9216	17831	17038	19522	23128	15642	8286	13692	10571
Rubidium	0.5	96.3	61.4	92.1	44.3	40.4	86.8	78.5	68.0	78.6	89.5	44.2	78.2	58.7
Silver	0.09	0.927	1.054	0.847	0.692	0.392	0.394	2.377	0.372	0.448	0.568	0.156	0.338	0.286
Sodium	350	6455	3446	10450	2338	5804	4394	4000	3681	2952	2568	1091	2338	5524
Strontium	5	152.7	244.6	122.5	96.9	98.0	115.5	94.3	93.8	127.4	197.9	83.1	107.7	123.8
Tin	0.8	7.3	7.1	45.0	3.1	35.3	28.2	5.7	44.2	3.6	44.2	15.6	36.9	38.1
Titanium	60	1855	929	2992	1155	2002	1804	1095	1788	2010	1601	780	1386	986
Uranium	0.06	5.89	1.64	2.45	1.38	4.08	4.85	3.11	3.68	4.05	2.67	2.21	3.63	5.49
Vanadium	5.5	107.3	71.4	147.7	73.8	70.6	87.3	64.2	86.7	116.7	103.2	46.8	76.9	66.7
Zinc	7.7	164.5	171.4	191.0	263.1	98.0	123.9	135.8	145.1	190.4	168.4	70.1	160.0	127.0

Table 7-7

## Particulate Metals

## Cape Breton 1994

Metals (all conc. in µg/g)	Cheticamp	North	Sydney	Framboise	Grand (a)	Grand (b)	Inhabitants	Inhabitants	Grand	Framboise	Sydney	North	Cheticamp	Margaree	Middle
	August	August	August	August	August	August	August	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	16261	20919	36162	13078	19000	17213	63246	51134	32358	17425	38482	22978	29059	59317	61014
Antimony	0.435	0.649	0.450	0.344	0.280	0.475	0.629	0.614	0.358	0.425	0.675	0.400	1.412	0.825	1.288
Arsenic	dl	dl	23.4	9.4	9.7	13.8	17.8	15.7	dl	dl	dl	dl	dl	14.3	dl
Barium	182.6	140.5	679.3	82.8	204.3	272.5	356.8	269.3	309.5	120.0	361.4	155.6	282.4	422.2	350.7
Beryllium	dl	dl	1.387	0.531	0.828	1.013	2.549	2.205	1.074	dl	1.542	dl	3.059	4.111	2.603
Cadmium	2.000	0.811	0.991	0.328	0.688	1.113	0.621	0.961	0.737	0.550	1.133	0.978	2.824	1.000	1.479
Calcium	8261	9892	6721	3797	5699	10750	7008	8189	7326	5575	9542	6089	12118	7079	8055
Chromium	81.2	115.4	24.0	33.3	17.6	36.7	63.4	49.4	47.0	30.9	90.0	28.2	133.4	75.1	88.6
Cobalt	20.0	14.6	10.5	10.5	11.3	13.3	16.1	11.7	13.1	7.8	9.2	11.6	29.4	14.3	16.2
Copper	32.7	31.1	23.0	13.7	11.6	19.7	24.5	28.0	18.4	24.4	28.3	21.2	44.2	26.6	40.4
Iron	26957	29189	53153	82500	42473	51875	54167	58740	51368	51000	62651	21778	35294	40952	40274
Lead	60.7	24.2	56.5	42.5	24.5	34.1	41.5	70.7	30.1	40.2	59.7	23.5	144.5	50.3	84.3
Lithium	11.3	8.6	32.4	2.5	12.9	11.6	61.7	44.1	17.1	7.3	25.5	9.3	21.2	66.5	62.2
Magnesium	3565	4811	5676	3766	2634	2513	6511	5134	3705	2700	4964	4133	7647	8873	12658
Manganese	2965	1903	47928	3125	4742	4325	3030	902	5811	1690	2284	1573	3071	1167	1605
Molybdenum	1.74	2.16	2.34	2.97	1.18	2.13	2.35	2.05	1.68	3.25	3.37	0.44	1.18	1.75	1.64
Nickel	34.8	59.5	19.8	7.8	11.8	18.8	29.9	25.2	14.7	10.0	24.1	13.3	47.1	34.9	35.6
Phosphorus	5380	6155	3890	2529	1730	3048	2018	2281	2545	2997	3852	2483	4808	2442	2435
Potassium	6957	4378	9063	1406	4753	3863	16981	13591	6821	2975	7470	5333	6824	19889	19260
Rubidium	18.6	19.1	42.5	3.7	24.8	24.5	95.4	72.3	37.7	14.3	40.5	25.0	34.9	117.1	94.2
Silver	1.043	dl	0.270	0.281	0.226	0.288	0.379	0.661	0.316	0.475	0.361	dl	1.412	0.492	1.178
Sodium	2000	1135	1946	6016	1226	988	4545	3276	1389	525	1422	2222	1176	3000	3671
Strontium	43.5	91.9	102.7	62.5	128.0	221.3	148.9	137.0	237.9	42.5	103.6	62.2	70.6	111.1	101.4
Tin	78.3	64.9	10.8	26.6	5.4	13.8	5.7	18.9	4.2	7.5	2.4	84.4	176.5	30.2	8.2
Titanium	1048	976	812	423	506	676	2887	1528	717	651	1134	1024	1888	1334	1810
Uranium	6.17	6.59	2.41	1.06	0.80	1.11	5.04	3.72	1.03	0.70	2.12	2.76	7.65	7.06	4.47
Vanadium	34.8	48.6	72.1	39.1	36.6	47.5	106.4	89.8	54.7	62.5	77.1	44.4	82.4	96.8	84.9
Zinc	313.0	129.7	176.6	142.2	82.8	120.0	140.9	155.9	130.5	90.0	344.6	93.3	529.4	184.1	194.5

Table 7-7

**Particulate Metals****Cape Breton 1994**

Metals (all conc. in µg/g)	Baddeck	River Denys
	Nov.	Nov.
Aluminum	46971	73712
Antimony	0.853	0.848
Arsenic	17.6	17.6
Barium	273.5	374.4
Beryllium	1.824	2.416
Cadmium	0.853	0.848
Calcium	8029	8800
Chromium	71.6	96.5
Cobalt	13.5	17.3
Copper	34.6	55.6
Iron	38824	66560
Lead	54.9	72.8
Lithium	41.8	69.1
Magnesium	8588	10544
Manganese	1379	1309
Molybdenum	2.65	2.08
Nickel	32.4	46.4
Phosphorus	2320	1646
Potassium	12235	20368
Rubidium	70.6	113.6
Silver	0.353	0.384
Sodium	3206	2800
Strontium	97.1	142.4
Tin	32.4	4.8
Titanium	1972	2225
Uranium	3.53	3.14
Vanadium	76.5	108.8
Zinc	132.4	225.6

Table 7-8

## Particulate Metals

## Cape Breton 1995

Metal (all conc. in µg/g)	Detection	Inhabitants	Grand	Framboise	Sydney	North	Cheticamp	Margaree	Middle	Baddeck	R. Denys	Sydney	North	Cheticamp
	Limit	May	May	May	May	May	May	May	May	May	May	August	August	August
Aluminum	5807	65966	33357	18619	36971	23514	29358	50139	49866	53333	69109	41847	20660	18887
Antimony	0.04	2.02	5.90	3.49	7.78	12.20	20.19	7.62	7.70	9.68	5.07	0.33	dl	dl
Arsenic	3.4	17.40	4.50	dl	7.40	dl	3.80	6.30	9.00	6.70	8.70	28.20	45.90	52.70
Barium	11	372	379	162	433	1385	480	427	430	402	395	525	126	145
Beryllium	0.1	2.6	0.4	0.1	1.2	dl	dl	2.4	1.3	1.0	1.6	1.2	dl	dl
Cadmium	0.06	3.14	6.91	5.57	8.87	12.96	49.31	6.59	7.64	20.40	5.07	1.64	0.96	1.25
Calcium	2866	11960	13466	8388	19219	13089	19644	10414	13633	15723	21256	10230	7890	8022
Chromium	9.0	89.9	182.7	57.4	139.9	151.7	341.8	86.6	144.6	146.8	104.7	dl	dl	82.3
Cobalt	0.20	18.19	28.03	19.32	23.59	24.37	55.90	19.23	28.82	23.95	20.83	10.33	8.88	11.95
Copper	0.57	354	1038	791	706	1166	1598	464	1001	609	464	25	29	22
Iron	3807	84040	55533	45176	67884	39125	57557	40635	44408	42538	63609	70431	19053	24289
Lead	0.18	713	2775	2232	2366	503	17392	1682	6990	5019	2581	108	40	88
Lithium	1.5	56.3	18.7	8.6	31.2	8.8	24.0	62.5	55.6	52.8	69.5	34.2	5.1	2.0
Magnesium	2124	6996	4812	3368	5688	4940	6211	8409	11471	11006	10849	6635	8062	4397
Manganese	10.8	1531	5389	2893	6444	1463	1855	1593	1846	1401	1385	21725	1730	1949
Molybdenum	0.24	8.47	27.24	16.48	26.39	30.12	52.69	14.79	22.82	18.81	10.41	2.78	dl	dl
Nickel	0.09	45.00	68.30	56.10	66.60	98.30	139.50	61.50	91.60	86.70	69.20	18.30	dl	dl
Potassium	1833	18473	8259	3458	7986	3989	7791	17282	17247	14773	18095	9266	6876	6214
Rubidium	6.57	83.0	35.6	12.3	33.8	14.0	26.4	69.6	71.3	69.9	92.7	43.0	13.3	9.5
Silver	0.20	0.81	1.55	1.15	1.59	2.39	2.40	1.13	0.77	1.03	0.77	0.28	dl	dl
Sodium	3137	4266	3242	2409	3597	3606	10439	7480	11754	6357	4421	2052	30825	1948
Strontium	10	164	241	51	117	97	83	113	102	124	177	119	71	33
Thallium	0.02	0.34	dl	dl	dl	dl	dl	0.11	dl	dl	0.20	dl	dl	dl
Tin	1.37	15.24	38.44	40.79	45.20	52.09	73.73	27.12	41.91	41.97	35.03	3.55	15.92	dl
Uranium	0.38	6.02	1.66	0.79	2.69	3.11	6.19	5.67	3.29	4.08	3.74	3.38	2.61	3.98
Vanadium	13.0	114.7	62.3	46.0	81.3	42.4	57.8	68.9	79.1	81.3	104.7	103.5	dl	dl
Zinc	4.39	417	884	427	633	5750	4436	431	652	548	534	248	98	284

Table 7-8

## Particulate Metals

## Cape Breton 1995

Metal (all conc. in µg/g)	Margaree	Middle	Baddeck	R. Denys	Inhabitants	Grand	Framboise	Sydney	North	Cheticamp	Margaree	Middle	Baddeck	R. Denys
	August	August	August	August	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	52381	21677	46568	64013	69059	29014	19122	38133	38859	20821	62805	60900	54291	82090
Antimony	2.37	dl	dl	0.13	0.41	0.33	dl	dl	0.42	dl	dl	dl	dl	0.78
Arsenic	29.20	13.90	14.60	26.40	14.10	9.80	4.30	12.50	dl	dl	11.10	8.10	4.10	17.00
Barium	322	150	279	303	365	325	118	358	216	200	392	391	275	383
Beryllium	1.6	dl	dl	1.5	2.0	0.1	dl	0.9	dl	dl	2.6	1.5	0.2	2.8
Cadmium	1.08	1.06	1.27	1.04	0.44	0.71	0.28	1.02	0.59	11.58	0.52	1.65	0.76	0.46
Calcium	13311	6939	14829	11909	13041	9810	7980	17762	11122	7776	9493	11516	13403	8891
Chromium	dl	dl	119.9	78.6	52.9	15.1	dl	11.3	14.1	dl	41.3	34.3	25.3	87.4
Cobalt	11.26	10.83	9.16	13.69	12.21	13.41	8.15	8.35	13.33	10.66	11.83	14.37	11.00	18.56
Copper	59	118	35	31	24	65	137	30	33	40	22	52	60	35
Iron	46238	23383	35261	87184	45872	51262	66932	65917	31552	17538	39715	38002	42323	53087
Lead	86	62	45	76	41	50	61	79	46	154	50	86	58	43
Lithium	41.4	25.0	37.4	65.2	55.3	13.5	4.8	28.7	17.8	8.5	61.3	59.0	41.2	86.1
Magnesium	10831	5744	10343	10400	7115	4310	3330	6277	9308	5235	9997	13602	10822	10311
Manganese	2528	2893	2099	2095	885	7188	2669	3042	2004	2259	1597	1961	1767	1158
Molybdenum	1.57	dl	dl	0.60	1.76	1.12	3.25	1.92	0.90	dl	0.74	0.91	0.89	2.14
Nickel	20.70	4.00	14.10	34.00	25.60	11.30	8.10	13.40	11.50	dl	22.10	24.60	21.30	44.90
Potassium	16353	11710	13568	18461	18681	6447	2694	7948	8392	8528	19889	19643	14067	28683
Rubidium	66.6	34.3	58.3	72.4	98.1	31.3	10.4	39.7	41.8	23.8	99.0	89.7	70.0	127.6
Silver	0.72	dl	dl	dl	0.21	dl	0.65	dl	dl	dl	dl	dl	dl	0.35
Sodium	6308	6132	4376	6076	2900	1052	1250	1836	4635	6585	4149	4544	3302	2957
Strontium	130	60	125	166	151	245	53	129	103	43	108	106	118	146
Thallium	dl	dl	dl	0.30	0.49	dl	dl	dl	dl	dl	0.15	dl	dl	0.87
Tin	6.36	22.72	4.36	12.93	3.06	2.42	23.74	6.50	2.11	35.72	2.77	3.00	20.81	3.59
Uranium	9.97	0.54	2.98	2.09	4.32	0.89	0.63	2.20	4.05	3.93	7.98	5.63	3.65	3.98
Vanadium	54.5	25.9	51.5	106.6	86.5	38.3	45.6	68.7	55.0	dl	68.6	71.0	62.7	130.9
Zinc	177	260	108	190	141	153	105	241	116	400	182	177	181	185

Table 7-9

## Particulate Metals

## Cape Breton 1996

Metals (all conc. in µg/g)	Detection	Inhabitants	Grand	Framboise	Sydney	North	Cheticamp	Margaree	Middle	Baddeck	River Denys	Inhabitants	Grand	Framboise	Sydney
	Limit	May	May	May	May	May	May	May	May	May	May	August	August	August	August
Aluminum	2673	440144	34656	20152	99802	54123	24356	265898	206523	109192	229879	6694	26890	10649	38686
Antimony	0.34	4.30	dl	0.7	0.9	0.8	dl	2.9	3.8	1.1	2.2	dl	1	dl	0.6
Arsenic	1.3	61.0	5.8	4.9	24.6	6.1	12.3	49.6	64.6	17.7	35.4	2.8	15.0	dl	18.0
Barium	95	2543	251	150	688	303	143	1566	1312	522	997	dl	315	dl	519
Beryllium	0.44	15.5	1.2	1.0	3.5	2.7	1.7	13.3	14.6	4.3	7.9	dl	0.8	dl	1.8
Cadmium	0.26	5.55	0.96	1.57	1.96	0.98	1.05	2.41	8.6	1.49	2.02	dl	7	0.66	1.2
Calcium	1764	27181	6136	6822	12934	10216	5825	22562	22571	15527	34560	2153	9550	6180	10752
Chromium	26.8	407.8	dl	34.2	93	60.7	dl	295.5	349.9	112.9	253.7	dl	dl	dl	dl
Cobalt	7.9	95.4	12.6	8.9	20	21.5	7.9	55.5	74.5	22.9	47.4	dl	25	16.1	15.3
Copper	4.68	162.7	17.1	39.7	58.3	47.2	22.2	104.4	155	46.3	86.3	dl	32.5	14.8	25.6
Iron	3401	289926	31746	48473	77539	40034	21949	165065	199899	69725	137040	8325	49450	46344	65774
Lead	2.59	262	27.9	45.9	92.3	28.2	69	135	194.5	51.6	103.5	6.74	48.75	55.57	82.56
Lithium	3.55	384.6	23.2	11.2	83.6	44.5	17.3	279.6	327.5	105.9	236.5	5.76	18.25	dl	30.53
Magnesium	4435	34922	dl	dl	10822	12081	dl	39272	45938	18888	30945	dl	4968	dl	6507
Manganese	34.4	5372	3832	1589	2727	1583	691	4121	4425	1602	2318	157.8	13985	4223	18463
Molybdenum	1.94	11.5	dl	3.7	4.6	2.6	dl	8.4	10.2	3.3	6.9	dl	dl	dl	dl
Nickel	5.5	201.9	15.3	26.7	47	33.8	15.9	146.3	237.8	56.5	132.5	dl	20	6.6	21.1
Potassium	2981	131170	9214	5066	23493	15650	5852	94945	111959	31287	62934	dl	6450	dl	8511
Rubidium	6.77	616.0	45.8	19.7	118.7	76.2	38.1	446.6	420.1	159.7	332.3	9.93	35.8	dl	43.8
Silver	0.16	1.20	dl	dl	dl	dl	dl	0.40	0.70	0.70	0.30	dl	dl	dl	dl
Sodium	2713	36932	dl	dl	3761	8665	dl	16077	56307	7748	12453	dl	3825	dl	dl
Strontium	24.3	650	191	52	171	114	39	404	378	191	476	24.7	225	44.3	117.3
Thallium	0.1	4.3	dl	dl	0.8	0.4	dl	2.5	2.9	0.7	1.9	0.07	dl	dl	0.2
Thorium	0.98	---	---	---	---	---	---	---	---	---	---	2.6	dl	dl	6
Tin	1.6	30.3	dl	8.4	5.5	6.0	dl	15.8	32.5	6.1	10.7	dl	17.5	3.3	4.5
Uranium	0.4	28.9	0.6	0.6	4.1	4.0	2.3	22.7	22.5	5.9	10.5	0.97	1.3	dl	2.7
Vanadium	8.57	627.3	48.6	60.7	164	104.1	33.4	397.9	512.6	166.5	331.6	12.4	45	34.4	91.7
Zinc	20.2	965.7	124.5	115.3	417.5	146	212.9	636	986.2	308.7	466.5	dl	300	82	241

Table 7-9

**Particulate Metals****Cape Breton 1996**

Metals (all conc. in µg/g)	Baddeck August	Middle August	Margaree August	Cheticamp August	North August	R.Denys August
Aluminum	29581	50511	35104	47237	24340	35241
Antimony	dl	0.66	0.56	2.19	dl	0.96
Arsenic	9.3	16.4	16.7	21.9	2.5	16.4
Barium	163	295	267	431	155	226
Beryllium	1.5	2.3	2.2	4.5	0.8	1.2
Cadmium	0.56	1.97	1.3	3.84	0.75	1.1
Calcium	18019	13738	11778	15123	13350	13096
Chromium	dl	98.4	dl	47.9	dl	27.4
Cobalt	12.7	26.2	16.1	35.7	22.5	16.6
Copper	22.4	36.1	24.1	52.7	22.5	28.8
Iron	36617	38557	43963	53158	36000	64178
Lead	38.32	104.92	42.78	176.71	30	56.03
Lithium	23.74	51.48	31.85	39.45	10	41.1
Magnesium	6312	13564	6402	13703	6943	8092
Manganese	1583	2925	3228	3982	2340	4538
Molybdenum	dl	1.97	dl	dl	dl	dl
Nickel	15	39.3	22.2	39.7	12.5	23.3
Potassium	6654	15869	10981	13589	3675	9027
Rubidium	41.7	87.5	55.7	61.8	23.3	42.9
Silver	dl	dl	dl	dl	dl	dl
Sodium	dl	dl	5870	5240	dl	dl
Strontium	121.5	114.8	120.4	78.1	77.5	113.7
Thallium	0.2	0.3	0.2	0.6	dl	0.3
Thorium	3.7	3.3	7.4	16.4	dl	6.8
Tin	1.9	19.7	7.4	7.5	20.0	5.5
Uranium	4.7	4.9	8.2	11.0	6.5	1.5
Vanadium	57.9	82	61.1	91.8	50	83.6
Zinc	112	230	148	904	150	205

Table 7-10

**Particulate Metals****New Brunswick 1993**

Metal (all conc. in µg/g)	Detection Limit	Petitcodiac October	Kennebecasis October	St. John October	Lepreau October	New River October	Magaguadavic October	Digdeguash October	St. Croix October
Aluminum	1421	64218	67278	50464	15891	19043	42259	29687	23018
Antimony	0.14	0.622	1.435	1.199	0.375	0.406	0.791	0.522	0.459
Arsenic	0.4	32.1	30.4	25.3	12.5	23.2	47.5	38.3	15.5
Barium	8	418.7	561.7	362	85.9	104.3	246	165.2	178.1
Beryllium	0.46	2.155	2.452	2.319	3.797	5.565	2.576	0.835	0.664
Cadmium	0.17	0.715	0.783	0.56	1.094	0.841	0.691	0.748	2.544
Calcium	312	9326	7565	5060	2984	4638	6878	7130	6643
Chromium	1.92	80.1	79.4	80.9	27.1	50.3	66.7	16.2	41.9
Cobalt	0.87	12.5	15.6	17.3	4.8	6.4	11.7	13.4	6.5
Copper	2.21	27.7	34.6	30.6	13.7	10.9	19.8	18.7	19.6
Iron	1655	58342	62957	55542	27969	35652	49928	34609	32085
Lead	6.43	30.7	48.5	43.8	40	41.1	40.3	27.4	25.4
Magnesium	445	6933	7817	5596	1578	2029	5856	4278	2686
Manganese	32.9	1617	1548	4819	742	1139	1856	2487	2071
Molybdenum	0.4	2.49	1.83	1.27	8.75	6.09	4.46	2.43	1.06
Nickel	1.63	30.1	37.4	42.2	12.5	11.6	30.2	26.1	21.9
Silver	0.19	0.383	0.652	0.651	0.391	0.464	0.317	0.278	0.191
Strontium	4.24	278.8	116.5	91.6	25	37.7	64.7	62.6	51.6
Tin	0.42	5.2	5.2	5.4	12.5	5.8	4.3	3.5	4.2
Uranium	0.55	4.94	4.6	2.69	11.14	8.00	5.31	1.44	1.45
Vanadium	7.57	103.6	114.8	108.4	40.6	46.4	84.9	55.7	79.2
Zinc	10	157.5	162.6	181.9	64.1	87	158.3	161.7	182.3

Table 7-11

## Particulate Metals

## New Brunswick 1994

Metals (all conc. in µg/g)	Detection	Petitcodiac	Kennebecasis	St. John (a)	St. John (b)	Lepreau	New River	Magaguadavic	Digdeguash	St. Croix	St. John	Lepreau	New River
	Limit	May	May	May	May	May	May	May	May	May	August	August	August
Aluminum	1027	53914	47370	63160	63886	69633	30282	42904	41692	26145	29201	25439	21916
Antimony	0.05	0.672	0.975	1.195	0.797	0.955	1.059	0.588	1.162	0.752	0.915	0.408	0.531
Arsenic	1	32.8	41.2	24.9	20.3	18.8	32.9	48.6	53.0	17.0	17.6	19.1	44.8
Barium	10	448.3	488.2	443.8	416.5	378.4	216.5	253.1	270.1	227.9	195.2	146.5	110.5
Beryllium	0.2	2.224	2.034	2.402	1.975	7.341	8.353	3.751	1.903	0.921	1.580	6.650	6.406
Cadmium	0.05	1.000	0.924	0.911	0.899	0.560	0.988	0.938	0.450	5.648	0.909	0.611	1.217
Calcium	248	9483	8824	7101	6304	3529	5224	6215	3419	7030	2295	6752	8671
Chromium	6	92.0	39.8	76.1	59.9	85.3	dl	38.8	50.3	29.5	52.3	dl	36.8
Cobalt	0.5	14.1	13.3	22.8	21.9	18.4	9.2	14.5	18.6	12.0	13.2	8.0	8.3
Copper	1	22.0	28.4	36.4	32.6	30.0	20.6	22.3	31.2	38.5	40.8	11.2	16.4
Iron	2646	62586	84874	65089	54304	64000	47294	54463	44558	34909	37854	64204	75524
Lead	1	33.2	47.5	40.8	37.7	43.2	55.2	43.0	40.4	58.9	38.0	52.7	70.9
Lithium	2	79.0	54.3	47.3	39.9	62.6	18.8	36.9	40.2	14.8	31.0	12.6	9.8
Magnesium	172	7207	6714	10521	9608	9125	3506	6316	4097	6000	5571	2815	2545
Manganese	27	2741	2630	4107	3924	1096	1489	2102	1379	7030	9270	1175	1650
Molybdenum	0.2	2.07	1.68	1.78	1.65	3.72	4.94	3.95	3.08	2.06	0.98	5.73	3.78
Nickel	2	32.8	28.6	58.0	51.9	43.3	25.9	32.8	37.6	33.9	35.8	15.3	16.8
Phosphorus	88	3480	6066	4140	3669	1298	2256	3241	1692	6350	2629	1680	2306
Potassium	850	12810	12210	18734	16873	26132	7459	12011	15231	6218	11991	5185	3888
Rubidium	0.5	75.7	67.5	85.7	90.9	139.2	43.3	67.3	63.8	30.3	45.3	33.5	25.2
Silver	0.09	0.431	0.479	0.675	0.570	0.452	0.212	0.407	0.336	0.327	0.379	0.268	0.322
Sodium	350	2569	4286	6154	5342	8282	3294	4237	8889	2036	27571	1032	1035
Strontium	5	239.7	114.3	104.1	93.7	56.0	47.1	63.3	56.4	63.0	73.6	43.3	60.1
Tin	0.8	3.4	4.2	5.9	2.5	5.6	4.7	4.5	14.2	21.8	9.2	10.2	23.8
Titanium	60	1363	1572	2083	1672	2753	989	1447	1903	2546	1476	739	896
Uranium	0.06	4.02	5.10	2.67	1.89	11.29	8.14	5.20	2.66	1.98	2.35	11.35	5.47
Vanadium	5.5	96.6	104.2	111.2	97.5	124.2	68.2	88.1	94.0	83.6	69.7	59.9	68.5
Zinc	7.7	177.6	151.3	185.8	191.1	154.4	223.5	155.9	124.2	263.0	195.2	121.0	124.5

Table 7-11

## Particulate Metals

## New Brunswick 1994

Metals (all conc. in µg/g)	Magaguadavic	Digdeguash	St. Croix	Kennebecasis	Petitcodiac	Petitcodiac	Kennebecasis	Lepreau	New River	Magaguadavic	St. Croix (a)
	August	August	August	August	August	Nov.	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	31966	44731	10435	36125	17044	32288	49454	18292	19952	39621	30994
Antimony	0.766	1.048	0.155	0.731	0.200	0.699	1.341	0.431	0.556	0.863	0.468
Arsenic	65.1	103.1	17.6	57.7	28.9	38.4	36.9	11.1	23.8	33.5	12.7
Barium	213.7	326.9	185.5	485.6	448.9	363.0	546.2	83.3	98.4	246.7	305.7
Beryllium	2.663	2.132	0.352	1.587	0.756	1.370	2.104	4.597	7.270	2.264	0.918
Cadmium	1.691	1.700	7.378	0.808	0.933	1.575	0.851	0.458	0.921	0.555	6.899
Calcium	6857	5991	9016	7308	10267	10137	7550	3736	6714	5727	9557
Chromium	32.4	57.6	dl	24.4	dl	44.3	63.7	10.2	32.3	53.2	30.6
Cobalt	18.7	31.3	4.7	12.4	6.9	8.9	12.4	4.3	5.4	12.2	8.9
Copper	21.4	27.1	16.3	20.9	19.5	25.7	31.1	6.6	15.5	22.7	27.7
Iron	68686	66344	28497	80865	37111	53014	70201	29583	46032	45639	32089
Lead	68.1	51.3	24.5	47.4	33.1	28.5	43.4	39.8	51.4	44.8	32.1
Lithium	26.4	44.2	2.5	41.6	15.3	48.8	48.4	8.6	7.5	29.4	16.1
Magnesium	4789	5542	2580	5567	3422	5137	5936	1903	2111	5278	5753
Manganese	8800	9251	3772	5962	5867	2877	1863	613	917	1154	2367
Molybdenum	4.69	2.82	0.73	1.06	1.33	1.51	1.37	4.58	5.08	2.64	1.33
Nickel	28.6	45.8	15.5	24.0	17.8	28.8	32.9	9.7	14.3	32.6	36.1
Phosphorus	3484	3021	5874	4826	6086	3752	5509	1443	2284	2210	6335
Potassium	8149	12185	1762	10606	5689	9356	14643	3042	2889	12097	8057
Rubidium	50.6	73.7	7.6	48.8	24.9	52.6	79.7	21.4	19.0	59.4	39.1
Silver	0.400	0.344	0.124	0.404	0.156	0.260	0.490	0.167	0.444	0.203	0.222
Sodium	2046	4106	1326	4125	4911	6575	2916	dl	667	2881	2987
Strontium	59.4	73.1	53.9	124.0	268.9	330.1	133.3	26.4	46.0	52.9	67.7
Tin	9.1	11.5	11.4	2.9	11.1	6.8	6.4	2.8	3.2	3.5	1.9
Titanium	1281	1586	1016	1212	623	1220	1856	431	556	1304	1678
Uranium	7.22	3.50	1.48	3.83	2.16	2.29	3.45	10.38	11.68	4.53	1.78
Vanadium	90.3	109.3	51.8	104.8	40.0	69.9	105.2	40.3	47.6	80.2	84.8
Zinc	185.1	189.4	250.8	126.0	100.0	163.0	166.3	52.8	88.9	152.4	432.9

Table 7-11

**Particulate Metals****New Brunswick 1994**

Metals (all conc. in µg/g)	St. Croix (a)	Digdeguash	St. John
	Nov.	Nov.	Nov.
Aluminum	29278	49916	52262
Antimony	0.440	1.026	1.138
Arsenic	13.5	57.6	35.4
Barium	298.5	306.8	372.3
Beryllium	0.924	1.822	2.277
Cadmium	6.300	0.775	0.600
Calcium	10520	7435	4892
Chromium	40.0	84.1	91.3
Cobalt	8.6	16.1	18.3
Copper	32.3	33.3	31.9
Iron	30275	60419	62154
Lead	30.4	43.5	50.6
Lithium	13.6	35.6	38.5
Magnesium	4214	6691	10292
Manganese	2080	1288	8615
Molybdenum	1.71	3.25	1.23
Nickel	37.3	45.0	52.3
Phosphorus	6550	2763	4336
Potassium	7480	13958	16662
Rubidium	39.1	77.4	70.2
Silver	0.826	0.670	0.677
Sodium	2624	3665	14154
Strontium	64.8	72.3	153.8
Tin	2.4	3.1	15.4
Titanium	1719	1529	1585
Uranium	1.74	3.38	2.22
Vanadium	88.7	99.5	109.2
Zinc	427.5	150.8	146.2

Table 7-12

## Particulate Metals

## New Brunswick 1995

Metal (all conc. in µg/g)	Detection	Petitcodiac	Kennebecasis	St. John	St. Croix (a)	St. Croix(b)	Digdeguash	Magaguadavic	New River	Lepreau	Petitcodiac
	Limit	May	May	May	May	May	May	May	May	May	August
Aluminum	5807	45161	44447	49170	36436	31555	45751	37191	35134	27893	25839
Antimony	0.04	0.41	1.57	1.32	0.88	0.89	3.09	7.51	0.83	8.17	0.38
Arsenic	3.4	36.5	40.3	14.4	13.3	11.0	78.6	42.1	16.9	dl	33.8
Barium	11	385	509	402	269	244	259	258	156	231	459
Beryllium	0.1	1.4	1.5	1.2	0.7	0.6	1.3	2.2	8.4	7.7	0.7
Cadmium	0.06	1.33	2.30	1.89	2.42	2.04	1.07	11.79	0.96	7.79	4.69
Calcium	2866	12120	11837	8691	10850	9849	8837	11189	8430	6687	16062
Chromium	9.0	60.4	71.1	92.5	51.5	589.8	89.4	114.5	82.2	99.9	22.5
Cobalt	0.20	12.77	19.76	19.57	10.92	12.11	20.51	21.64	7.87	17.47	7.56
Copper	0.57	197	219	71	46	52	62	780	68	869	36
Iron	3807	60708	86329	46153	42201	45396	47818	54135	44710	43965	52671
Lead	0.18	187	166	122	108	70	164	2426	325	3591	92
Lithium	1.5	52.8	41.5	31.1	18.9	16.9	33.0	39.6	16.1	15.6	25.5
Magnesium	2124	6334	6395	8076	6091	5099	6656	6115	4104	3468	5139
Manganese	10.8	2981	7164	4346	5120	4818	2425	2452	1464	1119	8489
Molybdenum	0.24	3.93	2.66	3.99	2.85	104.31	5.17	14.88	7.46	22.34	0.70
Nickel	0.09	24.55	25.99	46.23	30.96	50.20	35.19	52.96	20.12	62.84	20.63
Potassium	1833	9928	10829	14523	8407	7628	12477	9335	7437	5978	7232
Rubidium	6.57	54.5	52.1	59.5	43.2	34.2	59.5	49.3	41.2	29.8	34.9
Silver	0.20	0.96	0.81	0.68	0.43	0.43	0.66	1.36	0.50	1.62	0.25
Sodium	3137	1849	2738	4186	2535	2110	6448	6866	3166	3256	6173
Strontium	10	235	113	82	68	62	70	64	56	44	404
Thallium	0.02	0.10	0.15	0.04	0.09	0.07	0.23	0.09	dl	dl	dl
Tin	1.37	8.61	14.68	12.58	11.90	3.89	3.99	29.14	10.40	40.84	4.43
Uranium	0.38	5.12	5.03	1.97	2.18	1.79	2.47	5.54	8.57	12.85	1.80
Vanadium	13.0	82	94	77	91	159	74	75	59	50	58
Zinc	4.39	265	221	295	203	182	317	907	148	647	376

Table 7-12

## Particulate Metals

## New Brunswick 1995

Metal (all conc. in µg/g)	Kennebecasis	Lepreau	New River	Magaguadavic	Digdeguash	St. Croix	Petitcodiac	Kennebecasis	St. John	St. Croix	Digdeguash
	August	August	August	August	August	August	Nov.	Nov.	Nov.	Nov.	Nov.
Aluminum	27968	28936	22440	31923	35446	16795	60609	77442	56958	39376	49656
Antimony	1.01	0.39	dl	0.83	0.81	0.37	0.47	1.11	0.91	0.49	0.74
Arsenic	78.2	15.7	43.0	50.4	124.3	19.1	39.1	40.6	34.8	27.6	61.2
Barium	631	105	71	217	233	310	401	590	345	272	298
Beryllium	0.7	10.1	12.1	2.6	1.3	0.3	1.4	2.2	1.6	0.9	1.1
Cadmium	4.35	0.92	1.20	2.87	3.00	7.69	0.58	0.67	0.86	3.08	1.01
Calcium	20723	9464	12146	7758	9730	14026	12353	8978	6436	10001	10186
Chromium	12.7	22.6	23.3	19.0	29.9	17.8	58.9	77.8	65.2	41.2	61.2
Cobalt	15.15	10.91	9.99	18.69	25.28	5.26	11.31	15.45	16.28	9.05	15.28
Copper	87	25	18	34	57	92	27	37	33	30	112
Iron	85541	67026	82347	61482	75291	41269	48148	61139	49107	35363	40704
Lead	86	77	55	72	89	42	37	51	44	38	52
Lithium	25.8	10.9	5.3	24.1	25.7	3.4	70.2	74.9	41.1	22.7	35.3
Magnesium	6259	3571	2605	4879	5486	4544	8080	9638	7943	5705	8025
Manganese	19756	2425	2795	12708	14593	7004	930	1194	2727	1310	1747
Molybdenum	0.97	8.10	4.95	3.63	3.04	1.51	2.81	1.81	1.12	1.74	3.02
Nickel	24.53	15.03	10.32	24.19	38.27	22.22	30.95	41.93	52.55	31.30	41.71
Potassium	7156	5355	2441	9217	9616	2292	12554	19569	17912	9899	13462
Rubidium	32.6	27.6	14.1	43.8	45.4	8.8	80.1	100.6	69.8	44.3	67.1
Silver	0.51	0.22	0.23	0.22	0.31	0.27	0.46	0.77	0.47	0.31	0.44
Sodium	3338	1859	922	2780	2505	2164	1395	2225	4567	2113	4208
Strontium	188	42	59	55	72	91	248	101	80	67	80
Thallium	dl	dl	dl	0.06	0.09	dl	0.30	0.62	0.31	0.15	0.22
Tin	4.23	3.04	2.08	4.36	7.82	11.79	2.32	9.48	5.63	4.21	6.48
Uranium	3.65	19.67	8.17	7.00	3.73	2.29	4.52	5.33	2.11	2.31	3.04
Vanadium	108	54	53	75	75	71	80	118	92	80	75
Zinc	297	115	155	257	662	318	145	177	172	212	176

Table 7-12

**Particulate Metals****New Brunswick 1995**

Metal (all conc. in µg/g)	Magaguadavic	New River	Lepreau
	Nov.	Nov.	Nov.
Aluminum	44532	36146	30606
Antimony	1.01	0.50	1.02
Arsenic	74.8	35.0	19.8
Barium	269	190	136
Beryllium	2.0	4.4	3.4
Cadmium	0.88	1.05	0.75
Calcium	7828	6577	3671
Chromium	39.2	60.9	32.8
Cobalt	11.05	8.69	5.93
Copper	27	29	29
Iron	42162	39710	30116
Lead	52	88	75
Lithium	33.3	18.0	14.8
Magnesium	5453	4992	4569
Manganese	1706	1236	942
Molybdenum	3.84	5.57	9.01
Nickel	31.26	20.61	18.63
Potassium	12662	9035	8006
Rubidium	66.1	50.0	42.1
Silver	0.39	0.54	0.52
Sodium	2366	2256	7279
Strontium	61	56	37
Thallium	0.14	dl	dl
Tin	4.26	11.57	8.07
Uranium	5.88	11.36	12.96
Vanadium	80	53	48
Zinc	153	112	105

Table 7-13

## Particulate Metals

## New Brunswick 1996

Metal (all conc. in µg/g)	Detection	Petitcodiac	Kennebecasis	St. John	Lepreau	New River	Magaguadavic	Digdeguash	St. Croix	St. Croix	Lepreau	New	Magaguadavic
	Limit	May	May	May	May	May	May	May	May	May	August	August	August
Aluminum	2673	52702	51810	57325	22747	20835	35322	33943	41897	37814	20645	21941	35981
Antimony	0.34	0.65	1.53	0.96	4.49	2.63	1.94	1.34	1.49	1.17	0.76	0.49	0.93
Arsenic	1.3	16.5	19.3	18.5	8.2	14.0	56.7	30.3	12.4	11.7	21.2	42.0	54.3
Barium	95	368	415	434	110	98	322	203	311	295	dl	dl	205
Beryllium	0.44	1.73	1.93	2.24	5.51	6.49	1.79	1.18	1.33	1.10	14.70	13.09	3.84
Cadmium	0.26	0.79	2.07	0.57	0.82	1.58	1.19	0.84	5.06	3.08	1.21	1.23	1.46
Calcium	1764	8259	8622	3285	4265	6456	8433	10689	6025	6733	9379	10123	9709
Chromium	26.8	43.2	59.3	114.4	dl	dl	59.7	33.6	49.8	36.6	dl	dl	dl
Cobalt	7.9	15.2	15.4	23.5	8.4	dl	12.4	15.8	13.0	12.5	11.4	16.3	22.9
Copper	4.68	23.7	34.1	38.2	20.4	10.5	17.9	200.0	28.2	27.8	15.2	9.9	22.5
Iron	3401	41165	44509	55904	30878	31807	35343	32605	35494	35062	62561	76543	63179
Lead	2.59	27.99	69.38	37.09	50.61	45.44	39.10	42.69	36.60	33.11	73.94	70.37	55.76
Lithium	3.55	64.68	49.38	52.33	13.67	10.00	30.60	25.38	27.05	26.52	6.97	5.43	25.56
Magnesium	4435	6717	7450	9255	2729	2679	6443	6079	4504	6415	2677	2511	6354
Manganese	34.4	1116	1304	2022	514	525	1422	1647	1636	1790	1658	3002	8722
Molybdenum	1.94	dl	dl	dl	9.80	4.56	3.88	3.36	dl	dl	12.27	3.95	3.31
Nickel	5.5	30.2	33.1	76.2	18.4	12.3	28.4	30.3	37.3	34.4	15.2	19.8	27.8
Potassium	2981	13230	15141	25163	4429	3193	9373	8807	12315	11407	1485	1284	8993
Rubidium	6.77	74.1	58.4	94.6	31.6	25.3	61.0	50.8	62.0	60.0	17.7	13.3	52.2
Silver	0.16	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl	dl
Sodium	2713	dl	3007	5678	dl	dl	dl	dl	dl	dl	dl	dl	dl
Strontium	24.3	148.2	68.6	50.2	28.6	35.1	56.7	68.9	52.3	56.4	40.9	51.9	58.3
Thallium	0.1	0.36	0.49	0.65	1.22	0.70	0.45	0.34	0.33	0.37	dl	dl	0.26
Thorium	0.98	7.2	5.9	7.5	71.4	24.6	11.9	5.0	6.6	2.9	13.6	9.9	10.6
Tin	1.6	3.6	5.4	3.4	8.2	5.3	4.5	3.4	4.1	3.7	13.6	12.3	4.0
Uranium	0.4	3.60	3.65	2.60	15.71	10.00	4.63	1.85	1.91	1.83	30.45	13.33	7.95
Vanadium	8.57	89.2	98.3	132.9	44.9	40.4	65.7	58.8	94.6	87.2	62.1	59.3	87.4
Zinc	20.2	129	212	164	102	88	239	151	224	212	152	173	199

Table 7-13

**Particulate Metals****New Brunswick 1996**

Metal (all conc. in µg/g)	Digdeguash	St.Croix	Kennebecassis	Petitcodiac
	August	August	August	August
Aluminum	35284	19521	37699	13665
Antimony	0.84	0.69	1.06	0.65
Arsenic	120.5	15.8	57.1	22.6
Barium	210	253	617	348
Beryllium	1.69	0.79	1.48	dl
Cadmium	2.41	5.84	2.75	0.32
Calcium	13193	13337	23037	22194
Chromium	36.1	dl	31.7	dl
Cobalt	28.2	8.8	195.3	13.2
Copper	25.3	34.7	36.0	16.1
Iron	83723	41059	99090	40355
Lead	62.17	43.76	213.02	32.26
Lithium	25.18	6.44	31.01	11.61
Magnesium	6743	6898	7267	4894
Manganese	9054	5712	8704	6526
Molybdenum	2.17	dl	dl	dl
Nickel	36.1	24.8	25.4	16.1
Potassium	8699	1980	9672	2968
Rubidium	50.6	12.0	48.6	19.0
Silver	dl	dl	0.42	dl
Sodium	dl	dl	3439	6774
Strontium	80.7	87.1	211.6	406.5
Thallium	0.12	dl	0.11	dl
Thorium	8.4	3.0	6.3	dl
Tin	4.8	17.8	22.2	19.4
Uranium	2.41	2.97	2.33	0.97
Vanadium	85.5	59.4	117.5	38.7
Zinc	241	356	444	290

Table 7-14

**Particulate Metal Data for Nova Scotia Rivers 1992 - 1996**  
(concentration in µg/g)

Metal	1992 (19) *		1993 (31)		1994 (32)		1995 (34)		1996 (23)	
	Avg.	Std	Avg.	Std	Avg.	Std	Avg.	Std	Avg.	Std
Aluminum	32575	23385	17909	9664	18029	13281	24249	21111	19770	15524
Antimony	1.149	1.092	0.460	0.238	0.647	0.854	0.617	0.725	1.033	1.320
Arsenic	41.3	40.4	40.5	59.8	26.3	28.5	46.6	117.7	21.0	16.6
Barium	244.2	212.7	133.7	94.2	126.3	112.1	146.4	127.4	103.0	134.6
Beryllium	1.050	0.680	1.010	0.440	1.065	0.727	0.861	1.149	0.891	0.792
Cadmium	0.731	0.499	1.068	1.161	0.697	0.954	0.729	0.673	0.731	1.203
Calcium	8553	6548	4454	3347	3452	2199	5394	5824	4917	3888
Chromium	7.3	19.3	52.1	42.9	28.9	28.3	24.5	31.6	42.5	73.8
Cobalt	16.2	13.3	10.3	7.2	7.9	6.2	9.9	8.2	8.5	9.5
Copper	67.4	76.3	23.1	12.5	20.5	10.8	109.5	227.8	16.2	9.5
Iron	53658	27408	59218	38299	39139	26067	67007	89325	44078	34807
Lead	70.7	34.8	55.5	26.0	53.8	64.7	97.8	97.7	44.9	16.7
Lithium					13.7	17.7	13.4	16.8	13.6	18.0
Magnesium	4130	2970	2121	1084	2200	1469	2930	1899	2793	1658
Manganese	3283	5773	2026	2009	1338	2034	2266	3604	1764	2829
Molybdenum	9.39	12.82	2.46	1.16	2.36	0.90	2.79	2.46	0.79	1.26
Nickel	72.9	73.8	19.8	13.4	14.9	8.72	16.0	12.7	15.7	9.2
Phosphorus					3145	807				
Potassium					4494	4535	4420	5077	2812	5211
Rubidium					21.6	21.4	19.6	22.1	22.6	24.7
Selenium	3.16	1.69								
Silver	1.240	1.200	0.424	0.646	0.355	0.233	0.632	0.857	0.033	0.114
Sodium					1427	1385	223	908		
Strontium	109	103	48.8	30.0	42.0	23.9	54.8	46.4	38.1	34.1
Thallium	0.341	0.292					0.031	0.103	0.193	0.388
Thorium									6.19	13.0
Tin	26.7	30.1	35.3	96.4	13.7	10.9	9.8	14.0	8.1	7.9
Titanium					644	350				
Uranium	3.84	3.27	2.38	2.15	2.71	3.08	2.58	2.65	2.43	2.45
Vanadium	80.7	39.6	51.3	21.6	45.7	24.6	49.9	48.1	44.8	24.1
Zinc	111	82	100	64	86	61	154	232	97	82

\* number of samples used in the calculation

Table 7-15

**Particulate Metal Data for Cape Breton Rivers 1993 - 1996**

(concentration in µg/g)

Metal	1993 (10)*		1994 (29)		1995 (27)		1996 (20)	
	Avg.	Std	Avg.	Std	Avg.	Std	Avg.	Std
Aluminum	45703	21138	41987	18210	43384	18733	89483	111897
Antimony	0.554	0.384	0.627	0.270	3.216	4.932	1.236	1.199
Arsenic	12.31	11.63	10.89	9.41	13.68	12.75	20.12	18.68
Barium	326	154	300	120	361	234	552	621
Beryllium	1.885	0.778	1.821	0.981	0.974	0.914	4.083	4.823
Cadmium	1.136	0.893	0.971	0.538	5.658	9.993	2.262	2.262
Calcium	9942	3285	7835	1912	12249	3889	13904	7936
Chromium	90.5	48.5	55.6	34.6	76.4	75.9	101	122
Cobalt	16.5	5.7	14.5	4.4	17.0	9.9	28.0	23.3
Copper	33.4	10.8	29.7	10.6	334	443	50.2	44.2
Iron	62251	21714	47172	16356	48094	18186	76188	69682
Lead	57.8	48.0	50.8	27.8	1608	3591	82.6	65.1
Lithium			39.5	22.8	36.1	23.8	88.5	117.6
Magnesium	7548	3168	6697	2702	7795	2877	14077	13014
Manganese	5516	5352	4046	8570	3161	4010	4184	4404
Molybdenum	2.65	1.37	2.06	0.76	9.19	13.0	3.73	3.03
Nickel	24.5	11.8	29.9	13.2	39.1	35.8	55.9	67.6
Phosphorus			3054	1174				
Potassium			12283	6172	12399	6385	28614	39128
Rubidium			60.0	31.4	53.2	32.4	134	174
Silver	0.428	0.295	0.582	0.480	0.674	0.659	0.285	0.274
Sodium			3262	2104	5822	5472	9200	13678
Strontium	136	62.2	115	48.1	118	52.3	185	166
Thallium					0.11	0.19	0.79	1.2
Thorium							4.91	4.70
Tin	32.9	41.9	30.2	36.2	21.6	19.5	10.4	9.3
Titanium			1425	656				
Uranium	3.49	2.19	3.56	1.93	3.71	2.20	7.21	8.24
Vanadium	84.3	30.6	77.1	26.5	64.7	31.0	153	174
Zinc	218	156	175	93	665	1305	339	301

\* number of samples used in the calculation

Table 7-16

**Particulate Metal Data for New Brunswick Rivers 1993 - 1996**

(concentration in µg/g)

Metal	1993 (8)*		1994 (24)		1995 (24)		1996 (15)	
	Avg.	Std	Avg.	Std	Avg.	Std	Avg.	Std
Aluminum	38982	20185	36894	15142	38566	13907	33421	13460
Antimony	0.73	0.39	0.76	0.31	1.44	2.06	1.36	1.04
Arsenic	28.1	11.6	36.2	21.0	39.8	27.6	34.0	29.2
Barium	265	168	297	132	296	147	272	151
Beryllium	2.55	1.57	3.05	2.37	2.90	3.27	3.88	4.41
Cadmium	1.00	0.64	1.64	1.98	2.68	2.81	1.88	1.60
Calcium	6278	1971	6789	2207	9929	3727	10467	5678
Chromium	55.3	25.4	43.0	27.1	52.3	30.2	41.0	23.5
Cobalt	11.03	4.62	13.00	6.21	13.60	5.41	27.2	46.9
Copper	22.0	8.27	24.7	8.33	126	222	35.5	46.4
Iron	44636	13560	54383	16227	52318	17403	51614	21187
Lead	37.2	8.29	45.0	11.4	339	842	60.0	44.7
Lithium			31.8	19.3	28.9	18.1	25.7	18.1
Magnesium	4677	2215	5354	2277	5887	1705	6023	1458
Manganese	2035	1246	3660	2953	5057	5289	3571	3213
Molybdenum	3.55	2.70	2.72	1.52	4.85	4.91	3.79	3.11
Nickel	26.5	10.90	30.8	11.90	31.2	13.08	28.7	15.2
Phosphorus			3608	1678				
Potassium			10379	5586	9640	4195	8728	6136
Rubidium			54.4	28.7	47.3	21.0	44.7	24.3
Silver	0.43	0.15	0.36	0.15	0.55	0.36	0.18	0.07
Sodium			4970	5713	4292	2243	3249	1242
Strontium	91	81	99	77	103	85	96	98
Thallium					0.12	0.14	0.36	0.31
Thorium							12.9	17.1
Tin	5.76	2.82	8.06	6.00	9.54	8.77	8.80	6.54
Titanium			1385	561				
Uranium	4.95	3.33	4.89	3.33	5.97	4.43	6.96	7.89
Vanadium	79	29	83	23	73	20	76	28
Zinc	144	44	170	74	275	198	211	96

\* number of samples used in the calculation

Table 7-17

**Particulate Metal Data from the 1994 Survey**  
(all conc. in µg/g)

Metal	Detection Limit	Nova Scotia (32)*				Cape Breton (29)				New Brunswick (24)			
		Min.	Max.	Avg.	Std	Min.	Max.	Avg.	Std	Min.	Max.	Avg.	Std
Aluminium	1027	5103	18029	18029	13281	13078	81027	41987	18210	10435	69633	36894	15142
Antimony	0.05	0.15	0.65	0.65	0.85	0.28	1.41	0.63	0.27	0.16	1.34	0.76	0.31
Arsenic	1	1	26	26	28	1	32	11	9	11	103	36	21
Barium	10	29	126	126	112	83	679	300	120	83	546	297	132
Beryllium	0.2	0.20	1.08	1.08	0.71	0.20	4.11	1.82	0.98	0.35	8.35	3.05	2.37
Cadmium	0.05	0.05	0.70	0.70	0.95	0.33	2.82	0.97	0.54	0.45	7.38	1.64	1.98
Calcium	248	1183	3452	3452	2199	3797	12632	7835	1912	2295	10267	6789	2207
Chromium	6	6	30	30	27	6	133	56	35	6	92	43	27
Cobalt	0.5	1.3	7.9	7.9	6.2	7.8	29.4	14.5	4.4	4.3	31.3	13.0	6.2
Copper	1	6	20	20	11	12	56	30	11	7	41	25	8
Iron	2646	3942	39139	39139	26067	21778	82500	47172	16356	28497	84874	54383	16227
Lead	1	14	54	54	65	20	144	51	28	25	71	45	11
Lithium	2	2	14	14	18	3	78	40	23	2	79	32	19
Magnesium	172	921	2200	2200	1469	2634	12658	6697	2702	1903	10292	5354	2277
Manganese	27	38	1338	1338	2034	902	47928	4046	8570	613	9270	3660	2953
Molybdenum	0.2	1.1	2.4	2.4	0.9	0.4	3.4	2.1	0.8	0.7	5.7	2.7	1.5
Nickel	2	3	15	15	9	8	60	30	13	10	52	31	12
Phosphorus	88	1882	3145	3145	807	1646	6155	3054	1174	1298	6350	3608	1678
Potassium	850	1000	4494	4494	4535	1406	23128	12283	6172	1762	26132	10379	5586
Rubidium	0.5	4.6	21.6	21.6	21.4	3.7	117.1	60.0	31.4	7.6	139.2	54.4	28.7
Silver	0.09	0.11	0.36	0.36	0.23	0.09	2.38	0.58	0.48	0.12	0.68	0.36	0.15
Sodium	350	350	1471	1471	1343	525	10450	3262	2104	350	27571	4970	5713
Strontium	5	15	42	42	24	43	245	115	48	26	330	99	77
Tin	0.8	2.2	13.7	13.7	10.9	2.4	176.5	30.2	36.2	1.9	23.8	8.1	6.0
Titanium	60	251	644	644	350	423	2992	1425	656	431	2753	1385	561
Uranium	0.06	0.60	2.71	2.71	3.08	0.70	7.65	3.56	1.93	1.48	11.68	4.89	3.33
Vanadium	5.5	7.9	45.7	45.7	24.6	34.8	147.7	77.1	26.5	40.0	124.2	82.8	23.4
Zinc	7.7	17	86	86	61	70	529	175	93	53	433	170	74

\* number of samples used in the calculation

Table 7-18

**Particulate Metal Data from the 1995 Survey**

(all conc. in µg/g)

Metal	Detection Limit	1995 Nova Scotia (32)*				1995 Cape Breton (27)				1995 New Brunswick (24)			
		Min	Max	Avg.	Std	Min	Max	Avg.	Std	Min	Max	Avg.	Std
Aluminum	5807	4608	93650	23981	21722	18619	82090	43384	18733	16795	77442	38566	13907
Antimony	0.04	0.04	2.91	0.60	0.73	0.04	20.19	3.22	4.93	0.04	8.17	1.44	2.06
Arsenic	3.4	3.4	677	48	121	3.4	53	14	13	3.4	124	39.8	27.6
Barium	11	11	574	142	130	118	1385	361	234	71	631	296	147
Beryllium	0.1	0.1	5.2	0.8	1.1	0.1	2.8	1.0	0.9	0.3	12	2.9	3.3
Cadmium	0.06	0.06	2.32	0.66	0.60	0.28	49.31	5.66	9.99	0.58	11.79	2.68	2.81
Calcium	2866	2866	28643	5915	5118	6939	21256	12249	3889	3671	20723	9929	3727
Chromium	9.0	9.0	134.2	27.8	29.3	9.0	341.8	76.4	75.9	12.7	114	52.3	30.2
Cobalt	0.20	0.53	34.83	9.70	8.35	8.15	55.90	17.04	9.89	5.26	25.28	13.60	5.41
Copper	0.57	0.57	1267	114	234	22	1598	334	443	18	869	126	222
Iron	3807	5557	432166	64625	90818	17538	87184	48094	18186	30116	86329	52318	17403
Lead	0.18	22	522	96	101	40	17392	1608	3591	37	3591	339	842
Lithium	1.5	1.5	65	13	17	2.0	86	36	24	3.4	75	29	18
Magnesium	2124	2124	9116	3177	1681	3330	13602	7795	2877	2605	9638	5887	1705
Manganese	10.8	38.0	15384	1895	2865	885	21725	3161	4010	930	19756	5057	5289
Molybdenum	0.24	0.24	13.4	2.74	2.48	0.24	52.7	9.19	13.0	0.70	22.3	4.85	4.91
Nickel	0.09	0.09	57.8	15.8	13.1	0.09	140	39.1	35.8	10.3	62.8	31.2	13.1
Potassium	1833	1833	20529	4883	4808	2694	28683	12399	6385	2292	19569	9640	4195
Rubidium	6.57	6.57	89.8	21.3	21.1	9.50	128	53.2	32.4	8.77	101	47.3	21.0
Silver	0.20	0.20	2.65	0.64	0.69	0.20	2.40	0.67	0.66	0.22	1.62	0.55	0.36
Sodium	3137	3137	4026	3178	172	1052	30825	5500	5668	3137	7279	4292	2243
Strontium	10	15	251	53	47	33	245	118	52	37	404	103	85
Thallium	0.02	0.02	0.59	0.05	0.10	0.02	0.87	0.11	0.19	0.02	0.62	0.12	0.14
Tin	1.37	1.37	55.9	8.56	11.73	1.37	73.7	21.6	19.5	2.08	40.8	9.5	8.8
Uranium	0.38	0.38	8.67	2.52	2.63	0.54	9.97	3.71	2.20	1.80	19.7	5.97	4.43
Vanadium	13.0	13.0	254	52	47	13.0	131	65	31	48	118	73	20
Zinc	4.39	14.00	1351	152	239	98	5750	665	1305	105	907	275	198

\* number of samples used in the calculation

Figure 8

## Total Mercury Data from 1994 to 1996

(all conc. in ng/L)

River	1994	1995			1996	
	Nov.	May	August	Nov.	May	August
St. Mary,s	7.11	3.27	1.87	4.21	13.69	1.78/3.09
Sheet Harbour (E)	5.44	4.05	4.37	2.64	4.05	3.23
Musquodoboit	8.09/9.45	3.66/3.76	2.56	2.18	4.88	2.84
Gold	8.09	4.10	3.47	7.75	5.30	4.14
LaHave	7.06	3.76	2.07	4.51	4.35	1.26
Medway	7.35	4.24	2.70	5.51	4.19	1.76
Mersey	4.02	4.05	2.65	3.10	4.21	2.98
Clyde	11.8		6.57	4.68	5.13	8.02
Roseway	14.75	4.67	5.64	9.24	5.28	6.72
Tusket	7.09	4.11	3.44	5.85	8.19	2.19
Annapolis	9.01	4.29	1.83	4.04	4.95	5.41
Inhabitants		2.83		2.44	4.95	4.82
Grand				1.49	2.66	0.94
Framboise		3.90		1.12	4.63	4.86
Sydney		1.81/1.71	1.21	0.13	4.46	1.03
North		2.64	1.55	1.41	3.97	2.70
Cheticamp		3.78	2.04	1.35	3.98	1.85
Margaree		0.84	1.49	3.77/3.63	2.63	1.14
Middle			0.62	1.23	3.95	0.82
Baddeck		1.45	0.89	15.12/14.22	3.32	2.73
River Denys			0.55	3.61	5.73	1.53
Petitcodiac	2.68	2.71	2.20	1.02	4.57	1.45
Kennebecassis	3.47	2.73	1.72	1.28	6.32	1.88
St. John	0.83	2.79		2.61	5.38	1.63
New River	6.56	2.52	1.89	4.16	4.60	1.55
Lepreau	4.58	2.77	1.78	1.58	2.50	1.87
Magaguadavic	6.97	3.54	1.20	2.44	5.08	2.30
Digdeguash	5.67	6.66	1.15	6.96	5.81	1.99
St. Croix	9.26	4.11/3.88	2.82	1.70	4.33/4.21	1.43

\* sampled after major rain event

Appendix 1-1

1992 and 1993 Analysis of Sediment CRM - MESS-1

(conc. in µg/g of CRM)

Metal	Detection Limit	MESS-1			Certified Values
		← 5.87mg	9.49mg	→ 4.75mg	
Aluminum	1421	42361	42038	43398	58400±2000
Antimony	0.14	0.79	0.76	0.66	
Arsenic	0.4	9.1	9	8.7	10.9±1.7
Barium	8	224	220	228	
Beryllium	0.46	2.36	2.06	2.51	1.9±0.2
Cadmium	0.17	0.84	0.67	0.75	0.59±0.1
Chromium	1.92	45.7	46.4	47.6	71±11
Cobalt	0.87	11.4	11.3	12.1	10.8±1.9
Copper	2.21	19.5	17.3	18.6	25.1±3.8
Iron	1655	21762	20900	22555	30520±1800
Lead	6.43	29.7	28.4	34.5	34.0±6.1
Manganese	32.9	347	376	348	513±25
Molybdenum	0.4	2.52	2.15	2.21	(2.2)
Nickel	1.63	27.2	27.4	28.7	29.5±2.7
Selenium	0.36	0.57	0.21	0.44	(0.4)
Silver	0.19	0.66	0.56	0.47	
Strontium	4.24	66.1	62.7	66.6	(89)
Thallium	0.05	0.58	0.54	0.53	
Tin	0.42	8.5	8.1	8.2	3.98±0.44
Uranium	0.55	3.32	3.05	2.77	
Vanadium	7.57	69	70	76	72.4±5.3
Zinc	10	194	149	142	191±17
Calcium	312	3375	3082	3321	4818±460
Magnesium	445	5969	5529	5806	8680±540

note: the certified values for Al, Fe, Ca, and Mg are in %

( ) values within brackets are less reliable

Detection Limit = twice the Standard Deviation of replicate sample analysis

Appendix 1-2

1994 Analysis of Sediment CRM - BCSS-1

(conc. in µg/g of CRM)

Metal	Detection Limit	BCSS-1				Certified Values
		6.43mg	2.49mg	1.11mg	0.89mg	
Aluminum	1027	40738	49697	51843	49378	62600±2200
Antimony	0.05	0.507	0.534	0.57	0.462	0.59±0.06
Arsenic	1	10	11	dl	dl	11.1±1.4
Barium	10	323	352	331	307	
Beryllium	0.2	1.513	1.718	1.409	1.427	1.3±0.3
Cadmium	0.05	0.24	0.269	0.378	0.181	0.25±0.04
Calcium	248	3173	3622	3408	3624	5430±530
Chromium	6	74.8	70.9	54.7	36.8	(123±14*)
Cobalt	0.5	11.5	12	11.9	11.4	11.4±2.1
Copper	1	17.2	17.8	17.1	17.1	18.5±2.7
Iron	2646	32970	35422	33333	31236	32900±1000
Lead	1	20.7	20.9	21.4	18.9	22.7±3.4
Lithium	2	38.7	42.7	41.4	40.3	(46.5±0.5*)
Magnesium	172	9515	11398	12414	11438	14700±1400
Manganese	27	238	252.7	225.9	216.3	229±15
Molybdenum	0.2	2.11	2.09	1.87	1.99	(1.9*)
Nickel	2	52.7	53.4	49.7	47.7	55.3±3.6
Phosphorus	88	659	696	595	620	
Potassium	850	16837	18739	19153	17820	18000±300
Rubidium	0.5	65.4	75.2	79.1	72.8	
Silver	0.09	0.383	0.36	0.26	0.305	
Sodium	350	19471	21767	21081	19326	20200±1600
Strontium	5	85.5	94.6	96.1	91.1	(96*)
Tin	0.8	1.9	1.3	contaminated	dl	1.85±0.20
Titanium	60	1923	2803	2067	2108	4400±140
Uranium	0.06	2.06	2.57	2.04	2.13	
Vanadium	5.5	82.7	90.7	87.2	81.2	93.4±4.9
Zinc	7.7	108.8	96.3	86.9	105	119±12

\* Mo, Sr - uncertified values

\* Li - BIO value from R. Rantala personal communication

\* Cr - certified value suspected to be high, R. Rantala personal communication

Detection Limit = twice the Standard Deviation of replicate sample analysis

Appendix 1-3

1995 Analysis of Sediment CRM - BCSS-1

(conc. in µg/g of CRM)

Metal	Detection Limit	BCSS-1				Certified Values
		← 1.58mg	2.44mg	6.13mg →	6.28mg	
Aluminum	5807	-----	43566	62127	59390	62600±2200
Antimony	0.04	0.67	0.49	0.58	0.56	0.59±0.06
Arsenic	3.42	6.33	8.1	9.8	11.4	11.1±1.4
Barium	10.5	209	255	287	282	
Beryllium	0.14	0.82	1.10	1.39	1.32	1.3±0.3
Cadmium	0.06	-----	0.09	0.19	0.22	0.25±0.04
Calcium	2866	dl	4669	5095	6446	5430±530
Chromium	9.00	50.9	60.7	75.7	79.9	(123±14*)
Cobalt	0.20	11.30	11.07	11.61	11.52	11.4±2.1
Copper	0.57	17.06	22.24	17.04	17.31	18.5±2.7
Iron	3807	33291	33525	35139	33344	32900±1000
Lead	0.18	20.5	21.3	22.3	22.2	22.7±3.4
Lithium	1.48	33.1	40.9	42.9	42.2	(46.5±0.5*)
Magnesium	2124	2955	9112	14470	13469	14700±1400
Manganese	10.8	230	222	239	244	229±15
Molybdenum	0.24	1.32	1.57	1.72	1.83	(1.9*)
Nickel	0.09	50.4	53.7	55.1	55.1	55.3±3.6
Potassium	1833	16829	18139	19352	18488	18000±300
Rubidium	6.57	43.5	65.4	76.3	73.2	
Silver	0.20	0.57	0.57	0.61	0.71	
Sodium	3137	18570	19566	20577	19099	20200±1600
Strontium	10.2	62	81	95	90	(96*)
Thallium	0.02	0.38	0.44	0.46	0.48	
Tin	1.37	-----	dl	1.79	dl	1.85±0.20
Uranium	0.38	2.09	2.25	2.25	2.43	
Vanadium	13.0	83	89	91	97	93.4±4.9
Zinc	4.39	102	108	106	108	119±12

\* Mo, Sr - uncertified values

\* Li - BIO value from R. Rantala personal communication

\* Cr - certified value suspected to be high, R. Rantala personal communication

Detection Limit = twice the Standard Deviation of replicate sample analysis

Appendix 1-4

1996 Analysis of Sediment CRM - BCSS-1

(conc. in µg/g of CRM)

Metal	Detection Limits	BSS-1				Certified Values
		1.95mg	2.89mg	6.56mg	7.46mg	
Aluminum	2673	53986	55630	54666	56010	62600±2200
Antimony	0.34	—	0.69	0.49	0.51	0.59±0.06
Arsenic	1.3	8.2	11.1	11.3	10.5	11.1±1.4
Barium	95	254	329	271	291	
Beryllium	0.44	0.92	1.18	1.31	1.23	1.3±0.3
Cadmium	0.26	dl	dl	dl	dl	0.25±0.04
Calcium	1764	4410	5301	5003	5105	5430±530
Chromium	26.8	51.3	62.3	73.2	72.4	(123±14*)
Cobalt	7.9	12.4	12.8	11.5	11.4	11.4±2.1
Copper	4.68	12.3	15.2	15.2	14.2	18.5±2.7
Iron	3401	28318	30858	30909	30466	32900±1000
Lead	2.59	18.56	20.55	20.37	18.95	22.7±3.4
Lithium	3.55	36.21	38.20	38.75	39.28	(46.5±0.5*)
Magnesium	4435	15771	13015	13667	13533	14700±1400
Manganese	34.4	191	217	207	212	229±15
Molybdenum	1.94	dl	dl	dl	dl	(1.9*)
Nickel	5.5	46.2	50.5	48.8	48.5	55.3±3.6
Phosphorus	76	533	574	555	579	
Potassium	2981	15631	17467	18000	17759	18000±300
Rubidium	6.77	71.0	77.2	74.6	75.1	
Silver	0.16	—	—	dl	dl	
Sodium	2713	14985	16367	16436	16925	20200±1600
Strontium	24.3	82.1	102.4	86.0	89.0	(96*)
Thallium	0.10	0.41	0.42	0.49	0.43	
Thorium	0.98	7.2	7.6	7.9	7.8	
Tin	1.6	2.1	2.8	1.8	1.6	1.85±0.20
Uranium	0.40	1.95	1.94	2.07	2.04	
Vanadium	8.57	80.0	87.9	85.1	83.4	93.4±4.9
Zinc	20.2	103	97	91	107	119±12

\* Mo, Sr - uncertified values

\* Li - BIO value from R. Rantala personal communication

\* Cr - certified value suspected to be high, R. Rantala personal communication

Detection Limit = twice the Standard Deviation of replicate sample analysis

Appendix 2-1

1992 Analysis of River Water CRM - SLRS-2

(all values in µg/L)

METAL	SLRS-2			SLRS-2 Certified Value
	1	2	3	
Aluminum	85	86	85	84.4±3.4
Antimony	0.315	0.338	0.296	0.26±0.05
Arsenic	0.82	0.78	0.85	0.77±0.09
Barium	13.43	13.8	13.23	13.8±0.03
Beryllium	dl	dl	dl	
Cadmium	0.032	0.043	0.023	0.028±0.004
Chromium	0.50	0.51	0.51	0.45±0.07
Cobalt	0.09	0.08	0.08	0.063±0.0012
Copper	3.20	3.15	2.86	2.76±0.17
Iron	130	130	124	129±7
Lead	0.158	0.153	0.137	0.129±0.011
Manganese	10.09	10.38	10.12	10.1±0.3
Molybdenum	0.15	0.15	0.12	0.16±0.002
Nickel	1.19	1.18	1.13	1.03±0.10
Selenium	dl	dl	dl	
Silver	dl	dl	dl	
Strontium	29.54	29.83	28.46	27.3±0.4
Thallium	dl	dl	dl	
Tin	dl	dl	dl	
Uranium	0.053	0.048	0.038	0.049±0.002
Vanadium	0.25	0.24	0.23	0.25±0.06
Zinc	4.94	5.53	3.82	3.33±0.15
Calcium	6303	6441	5774	5700±130
Magnesium	1567	1529	1556	1510±130

Appendix 2-2

1993 Analysis of River Water CRMs (SLRS-2 and NIST-1643c)

(all values in µg/L)

Metal	← NIST - 1643c →				NIST Certified Value	← SLRS-2 →					SLRS-2 Certified Value
	#1	#2	#3	#4		#1	#2	#3	#4	#5	
Aluminum	120.3	115.8	117	112	114.6±5.1	91.68	88.18	82.39	87.19	88.54	84.4±3.4
Antimony	0.04	0.23	0.10	0.04	—	0.30	0.32	0.30	0.32	—	0.26±0.05
Arsenic	81.75	80.65	81.5	79.4	82.1±1.2	0.79	0.78	0.85	0.78	0.75	0.77±0.09
Barium	51.07	51.43	52.47	50.84	49.6±3.1	13.6	13.63	13.56	13.75	13.72	13.8±0.03
Beryllium	23.67	22.96	22.83	22.95	23.2±2.2	0.01	0.01	0.03	0.06	0.05	
Cadmium	12.12	12.09	12.05	12.07	12.2±1.0	0.023	0.036	0.048	0.027	0.051	0.028±0.004
Chromium	20.19	20.15	20.41	20.06	19.0±0.6	0.48	0.49	0.47	0.36	0.47	0.45±0.07
Cobalt	24.24	24.55	23.74	23.68	23.5±0.8	0.09	0.11	0.11	0.08	0.11	0.063±0.0012
Copper	22.32	21.41	21.68	20.88	22.3±2.8	2.96	2.89	2.96	2.70	2.98	2.76±0.17
Iron	116.2	108.5	107.2	118.9	106.9±3.0	124.4	129.8	129.9	128.2	128.7	129±7
Lead	35.32	35.21	35.06	34.99	35.3±0.9	0.141	0.132	0.133	0.108	0.113	0.129±0.011
Manganese	35.94	35.18	35.26	34.8	35.1±2.2	10.94	11.39	9.83	10.03	10.72	10.1±0.3
Molybdenum	106.65	108.43	107.5	106.07	104.3±1.9	0.13	0.15	0.13	0.19	0.15	0.16±0.002
Nickel	59.31	60.59	60.98	59.48	60.6±7.3	1.00	1.07	1.04	0.97	1.04	1.03±0.10
Selenium	12.46	13.18	12.71	12.6	12.7±0.7	0.04	0.32	0.55	0.98	0.01	
Silver	1.21	0.99	1.03	1.01	2.21±0.3	0.019	0.013	0.02	0.013	0.004	
Strontium	263.7	257.9	259.4	262	263.6 ±2.6	28.26	28.19	28.21	27.30	29.25	27.3±0.4
Tin	—	0.39	2.98	0.89	—	0.01	0.01	0.06	0.02	0.02	
Uranium	0.03	0.46	0.17	0.05	—	0.047	0.048	0.053	0.048	0.045	0.049±0.002
Vanadium	31.29	31.52	32.46	31.84	31.4±2.8	0.28	0.29	0.25	0.22	0.25	0.25±0.06
Zinc	74.91	72.86	74.79	70.06	73.9±0.9	3.09	3.25	3.47	3.42	3.82	3.33±0.15
Calcium	36545	36565	35870	36673	36800±1400	5641	5343	5342	5290	5731	5700±130
Magnesium	9488	9388	9539	9499	9450±270	1581	1513	1572	1458	1619	1510±130

Appendix 2-3

1994 Analysis of River Water CRM - SLRS-2

(all values in µg/L)

Metal	SLRS-2				SLRS-2 Certified Value
	1	2	3	4	
Aluminum	88.4	80.9	80.4	85.6	84.4±3.4
Antimony	0.30	0.30	0.33	0.32	0.26±0.05
Arsenic	0.87	0.81	1.07	1.16	0.77±0.09
Barium	13.8	14.1	13.7	14.2	13.8±0.03
Beryllium	0.02	< 0.02	< 0.02	< 0.02	
Cadmium	0.037	0.031	0.038	0.036	0.028±0.004
Calcium	5654	5352	5678	5854	5700±130
Chromium	< 0.5	< 0.5	< 0.5	< 0.5	0.45±0.07
Cobalt	0.09	0.07	0.07	0.08	0.063±0.0012
Copper	2.8	2.7	2.9	3.2	2.76±0.17
Iron	133	107	118	121	129±7
Lead	0.128	0.130	0.116	0.110	0.129±0.011
Lithium	0.49	0.46	0.46	0.49	
Magnesium	1497	1415	1470	1542	1510±130
Manganese	10.6	10.0	10.4	11.2	10.1±0.3
Molybdenum	0.29	0.19	0.20	0.17	0.16±0.002
Nickel	1.19	1.13	1.24	1.29	1.03±0.10
Phosphorus	< 10	< 10	< 10	< 10	
Potassium	674	649	712	720	690±90
Rubidium	1.67	1.61	1.74	1.78	
Selenium	< 1	< 1	< 1	< 1	
Silver	< 0.005	< 0.005	< 0.005	< 0.005	
Sodium	1801	1717	1836	1912	1860±110
Strontium	28.3	27.3	28.9	30.3	27.3±0.4
Thallium	0.015	0.012	0.021	0.019	
Tin	< 0.02	< 0.02	0.10	< 0.02	
Titanium	1.8	1.6	1.7	1.8	
Uranium	0.049	0.047	0.042	0.044	0.049±0.002
Vanadium	0.3	0.3	0.3	0.3	0.25±0.06
Zinc	5.0	4.4	5.2	5.1	3.33±0.15

Appendix 2-4

1995 Analysis of River Water CRM - SLRS-2

(all values in µg/L)

Metal	SLRS-2				SLRS-2 Certified Value
	1	2	3	4	
Aluminum	91.4	85.9	86.8	89.5	84.4±3.4
Antimony	0.30	0.32	0.33	0.29	0.26±0.05
Arsenic	ND	1.1	1.3	1.5	0.77±0.09
Barium	14	14	14.1	14.1	13.8±0.3
Beryllium	ND	ND	ND	ND	
Cadmium	0.04	0.04	0.04	0.04	0.028±0.004
Calcium	5645	5164	5209	5336	5700±130
Chromium	0.8	ND	ND	ND	0.45±0.07
Cobalt	0.12	0.12	0.11	0.12	0.063±0.012
Copper	2.9	3	2.9	3	2.76±0.17
Iron	113	112	111	119	129±7
Lead	0.15	0.14	0.15	0.15	0.129±0.011
Lithium	0.44	0.47	0.47	0.47	
Magnesium	1600	1495	1524	1533	1510±130
Manganese	9.6	9.9	9.8	10	10.1±0.3
Molybdenum	0.15	0.12	0.1	0.11	0.16±0.02
Nickel	1.4	1.3	1.3	1.3	1.03±0.10
Potassium	769	685	696	718	690±90
Rubidium	1.61	1.53	1.55	1.56	
Selenium	ND	ND	ND	ND	
Silver	ND	ND	ND	ND	
Sodium	2143	1914	1886	1914	1860±110
Strontium	29.6	28.6	28.9	29	27.3±0.4
Thallium	ND	ND	ND	ND	
Tin	ND	ND	ND	ND	
Titanium	3	2.4	2.4	2.4	
Uranium	0.05	0.05	0.05	0.05	0.049±0.002
Vanadium	ND	ND	ND	ND	0.25±0.06
Zinc	5.5	5.5	5.5	5.6	3.33±0.15

Appendix 2-5

1996 Analysis of River Water CRM - SLRS-2

(all values in µg/L)

Metal	← SLRS-2 →				SLRS-2 Certified Value
	1	2	3	4	
Aluminum	81.0	81.7	82.4	83.0	84.4±3.4
Antimony	0.27	0.30	0.31	0.31	0.26±0.05
Arsenic	0.75	0.78	0.77	0.84	0.77±0.09
Barium	12.98	13.18	13.08	13.18	13.8±0.3
Beryllium	< 0.05	< 0.05	< 0.05	< 0.05	
Cadmium	< 0.05	< 0.05	0.063	0.056	0.028±0.004
Calcium	5690	5550	5560	5610	5700±130
Chromium	0.50	0.55	0.59	0.57	0.45±0.07
Cobalt	0.09	0.08	0.10	0.09	0.063±0.012
Copper	2.7	2.7	2.7	2.7	2.76±0.17
Iron	102	102	105	103	129±7
Lead	0.145	0.144	0.151	0.143	0.129±0.011
Lithium	0.44	0.47	0.48	0.48	
Magnesium	1290	1330	1340	1350	1510±130
Manganese	10.0	9.8	10.0	10.1	10.1±0.3
Molybdenum	0.11	0.13	0.13	0.13	0.16±0.02
Nickel	1.1	1.1	1.1	1.0	1.03±0.10
Potassium	630	650	670	680	690±90
Rubidium	1.55	1.52	1.56	1.56	
Selenium	< 1	< 1	< 1	< 1	
Silver	< 0.05	< 0.05	< 0.05	< 0.05	
Sodium	1660	1720	1810	1760	1860±110
Strontium	27.7	27.4	27.9	27.6	27.3±0.4
Thallium	< 0.05	< 0.05	< 0.05	< 0.05	
Thorium	< 0.05	< 0.05	< 0.05	< 0.05	
Tin	< 0.05	< 0.05	< 0.05	< 0.05	
Titanium	2	2	2	2	
Uranium	0.051	0.053	0.054	0.052	0.049±0.002
Vanadium	< 0.5	< 0.5	< 0.5	< 0.5	0.25±0.06
Zinc	4.28	3.87	3.96	4.14	3.33±0.15