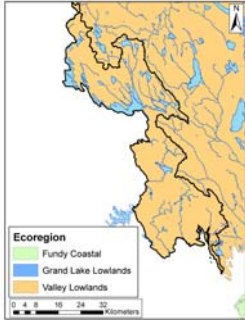


Location

The St. Croix watershed is located in the southwestern portion of New Brunswick. Covering 1655 km², the St. Croix River originates in the Chiputneticook Lakes and extends down into the marine waters of Passamaquoddy Bay.



Physical Setting and Climate



The average summer temperature is between 15 and 17°C while average winter temperatures range from -6 to -9°C. The St. Croix watershed receives about 1300 mm of precipitation annually.

Fish Community

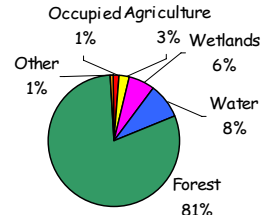
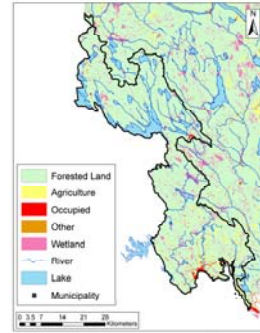
According to the International St. Croix River Board, there are 36 species of freshwater fish that inhabit the St. Croix River. These include the longnose sucker, rainbow trout, alewife (landlocked), smallmouth bass, fallfish, chain pickerel, yellow perch, common shiner, pumpkinseed, rainbow smelt, burbot, lake trout, brown bullhead, landlocked salmon and white sucker.

New Brunswick Watersheds

St. Croix River

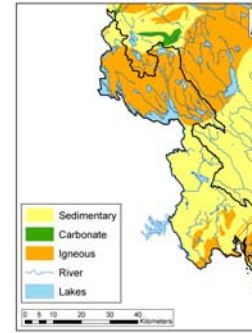
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Land Use



The St. Croix watershed contains high percentages of forested land, wetlands and water features.

Geology



Water Quality Survey (1996-2006)

The Water Quality Index (WQI) is a tool that allows water to be classified into different categories based on the CCME Guidelines for Freshwater Aquatic Life. The index is a number between 0 and 100, with zero representing poor water quality and 100 representing excellent water quality. The categories for the index are as follows:

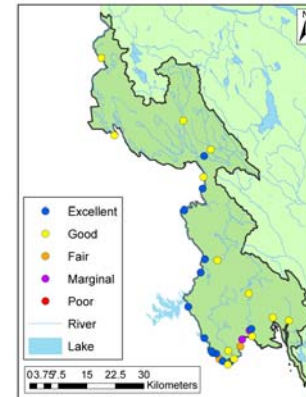
Excellent: 95-100 Marginal: 45-64

Good: 80-94 Poor: 0-44

Fair: 65-79

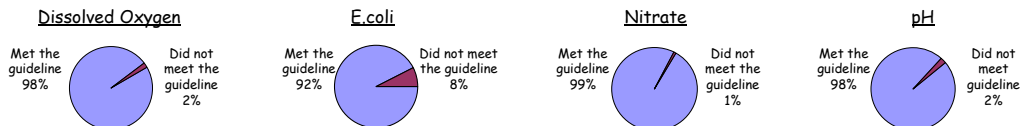
The following parameters are included in the Water Quality Index: aluminum, ammonia, arsenic, chloride, copper, dissolved oxygen, iron, lead, nickel, nitrate, pH, sulphate, total phosphorus, and zinc.

The map (right) depicts the location of the sample sites within the St. Croix watershed and indicates the calculated WQI rating for each site.



Key Indicators

In addition to using the CCME Water Quality Index, four key indicators of water quality were evaluated against available guidelines. E. coli is compared to recreational use guidelines, while the other indicators are compared with freshwater aquatic life guidelines.



Community Involvement

The St. Croix International Waterway Commission is an international association that was established by the Maine and New Brunswick governments. The Commission has led water quality and aquatic life studies and consultations related to the Water Classification Program which is a water management approach in New Brunswick.

Activities in the watershed include: swimming, fishing, canoeing, sailing, scuba diving, camping, hunting and hiking.



Summary

• Based on the WQI, 14 sites were found to have excellent water quality, 14 sites were good, 2 sites were fair and 2 were marginal.

• Sites with fair and marginal water quality may be impacted by industrial effluents, urban development, and municipal and non-municipal sewage discharges.

• Of the four key indicators, dissolved oxygen did not meet the guideline in 2% of the samples, E.coli did not meet the guideline in 8% of the samples, nitrate did not meet the guideline in 1% of the samples, and pH did not meet the guideline in 2% of the samples.

Additional Information

This watershed summary was based on data from the St. Croix International Waterway Commission's Water Classification report submitted to the Department of Environment in 2000 as well as water quality data collected by the Department of Environment.

For additional information concerning this watershed, please contact the Department of Environment, Sciences and Reporting Branch, at (506) 457-4844.

Photos and maps by: Department of Environment