

Location

The Magaguadavic River is located in the southwest corner of New Brunswick. The watershed covers 1806 km² and has 103 tributaries and 57 lakes within its boundaries.



Physical Setting and Climate



The average summer temperatures range from 13 to 16°C, while average winter temperatures range from -4 to -7°C. The Magaguadavic watershed receives about 1400 mm of precipitation annually.

Fish Community

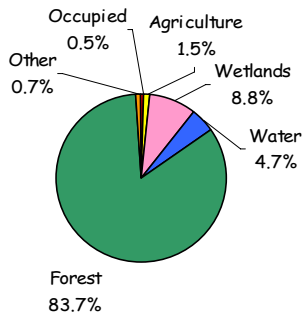
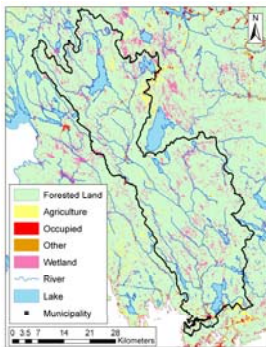
Sixteen fish species were found within the Magaguadavic. These include the Atlantic salmon, brook trout, smallmouth bass, American eel, burbot, sculpin, smelt, spiny stickleback, dace, creek chub, common shiner, sunfish, yellow perch, fallfish & white sucker (Magaguadavic Watershed Management Association).

New Brunswick Watersheds

Magaguadavic River

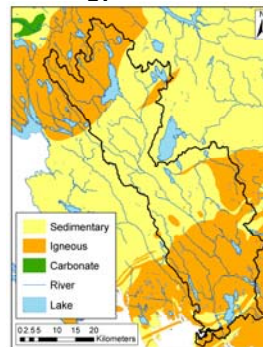
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Land Use



Forested land and wetlands are the predominant land uses in the Magaguadavic watershed.

Geology



Water Quality Survey (1980-2006)

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:

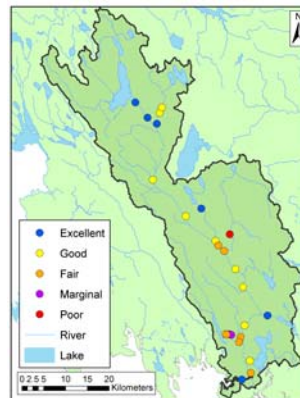
Excellent: 95-100 Marginal: 45-64

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.

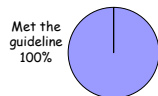
The map (right) depicts the location of the sample sites within the Magaguadavic watershed and indicates the calculated WQI rating for each site.



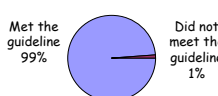
Key Indicators

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.

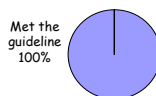
Dissolved Oxygen



E.coli



Nitrate



pH



Community Involvement

The Eastern Charlotte Waterways community group (ECW) began working with the Department of Environment in 1997 as part of the Outreach and Partnering Program. This program provides the communities with the opportunity to contribute to the management of their own surface water resources.

The Magaguadavic watershed supports many activities such as hiking, camping, boating and fishing.



Summary

- Based on the WQI, 6 sites were excellent, 10 were good, 6 were fair, 2 were marginal and 1 was poor.

- Fair, marginal and poor water quality may be the result of industrial influences throughout the watershed. These include a number of fish hatcheries, a yarn factory, and an inactive mine.

- Of the four key indicators, E.coli did not meet the guideline in 1% of the samples, and pH did not meet the guideline in 26% of the samples. Most of the pH samples which did not meet the guideline were downstream of industrial discharges.

Additional Information

This watershed summary was based on data from the Eastern Charlotte Waterways' Water Classification report submitted to the Department of Environment in 1999 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