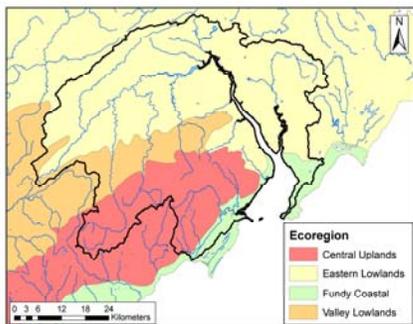


Location

The Petitcodiac River is located within Westmorland, Albert and Kings counties. The river covers an area of 2831 km² and flows southeasterly into Shepody Bay, which in turns flows into the Eastern Portion of the Bay of Fundy.



Physical Setting and Climate

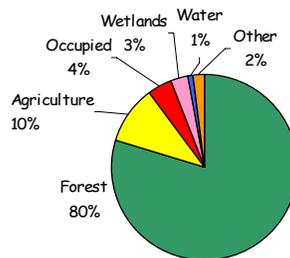
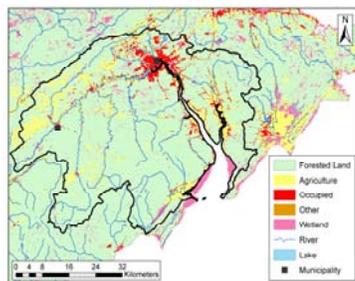


The average summer temperatures range from 17 to 18°C while average winter temperatures range from -6 to -7° C. The Petitcodiac watershed receives about 1100mm of precipitation annually.

Fish Community

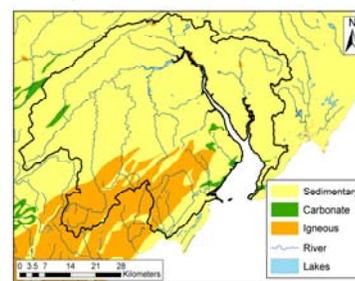
There are at least 14 fish species in the Petitcodiac watershed. These include: gaspereau, American eel, American shad, Atlantic salmon, Atlantic tomcod, blue back herring, brook trout, brown bullhead, chain pickerel, rainbow smelt, smallmouth bass, striped bass, white perch and white sucker (Petitcodiac Riverkeeper).

Land Use



Forested land and agriculture are the predominant land uses in the Petitcodiac watershed.

Geology



Water Quality Survey (1975-2006)

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:

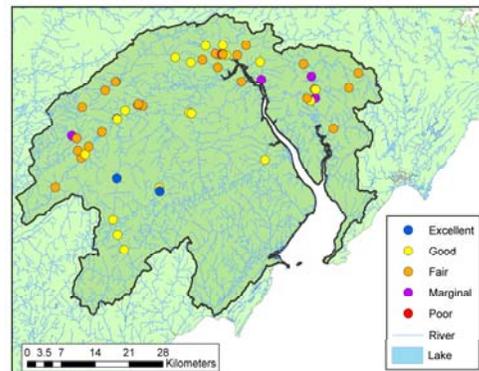
Excellent: 95-100 Marginal: 45-64

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.

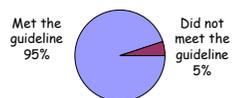
The map (right) depicts the location of the sample sites within the Petitcodiac watershed and indicates the calculated WQI rating for each site.



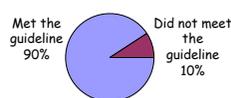
Key Indicators

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.

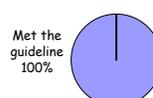
Dissolved Oxygen



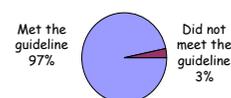
E.coli



Nitrate



pH



Community Involvement

The Petitcodiac Watershed Monitoring Group (PWMG) has created an alliance with many organizations to help maintain the integrity of the Petitcodiac River. Projects funded by the New Brunswick Environmental Trust Fund include creating a long term water quality program, stabilizing eroded banks and establishing an Agro-Conservation Club.



Summary

- Based on the WQI, 2 sites were excellent, 20 were good, 27 were fair, and 5 were marginal.
- Sites which were found to have fair or marginal water quality may have been due to land use practices such as the removal of riparian vegetation (which results in increased erosion), as well as nutrient loads from municipal and non-municipal sewage discharges.
- Of the four key indicators, dissolved oxygen did not meet the guideline in 5% of samples, E.coli did not meet the guideline in 10% of samples and pH did not meet the guidelines in 3% of samples.

Additional Information

This watershed summary was based on data from the Petitcodiac Watershed Monitoring Group'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.