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NOTES - Miramichi Watershed.pdf

MISSION

The Miramichi River Environmental Assessment Committee is a community based multi-stakeholder organization dedicated to the continual improvement of environmental quality of the Miramichi River ecosystem with emphasis on the Miramichi watershed.

MREAC will accomplish this mission by:

- Constructive consultation, cooperation and partnering with government, industry, municipalities and other stakeholders wherever possible.
- Supporting the advancement and application of scientific knowledge.
- Promoting and supporting an appropriate level of enforcement of environmental regulation.
- Active involvement in independent environmental monitoring.
- Promoting the responsible use of technology in environmental improvement.
- Celebrating and promoting the Miramichi River's environmental qualities and values as appropriate to sustain a healthy sense of pride and stewardship.
- Venturing beyond our ecosystem boundary when needed to understand external factors impacting our watershed, to gain useful knowledge and promote sharing of information and technological exchange.

QUICK FACTS

Location: Northeast New Brunswick, Canada

Eco Regions: Maritime Lowlands, Chaleur Uplands and Northern New Brunswick Highlands

Length of River: Southwest Miramichi River is 250 km, stretching from Miramichi Bay to Boiestown, NB and Northwest Miramichi River is 122 km, when combined with the estuarine portion totals a length of 440 km.

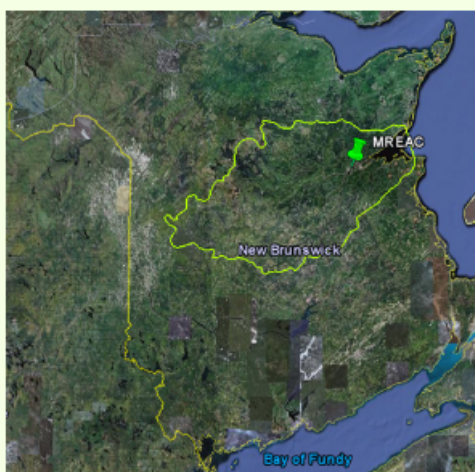
Size of Watershed: 13,465 sq km, 23% of New Brunswick's land mass, where 300 sq km is estuary and the remainder is freshwater

Depth of River: The inner channel averages 4 m in depth, where the navigation channel averages 6-10 m in depth

Tides: Estuary tides range from 0.2 - 1.2 m

Population: Approximately 57,000 people in the watershed, including 2,000 Aboriginals from 3 major First Nations Communities (2006 Census data)

Geology: Silurian and Ordovician rocks of the Miramichi Highlands, Carboniferous near the estuary shoreline and Sandstone found throughout the watershed



Protected Natural Areas (PNA):

- Bay Du Vin Island (PNA Class 2)
- Big Rocky Brook (PNA Class 2)
- Black River (PNA Class 2)
- Cains River (PNA Class 2)
- Dungarvon Whooper Spring Woodlot (PNA Class 2)
- Goodfellow Brook (PNA Class 2)
- Gover Mountain (PNA Class 2)
- Kennedy Lakes (PNA Class 2)
- Shinnickburn (PNA Class 2)
- Portage Island National Wildlife Sanctuary



American Eel

Species At Risk (SAR):

- Piping Plover (Endangered)
- Striped Bass (Threatened)
- American Eel (Special Concern)
- Wood Turtle (Threatened)
- Brook Floater (Special Concern)
- Prototype Quillwort (Special Concern)



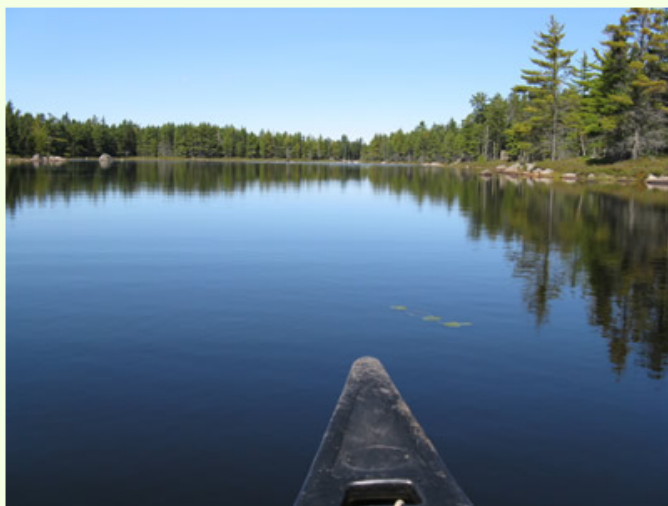
Wood Turtle

Common Fish: Atlantic Salmon, Brook Trout, Sea Lamprey, American Eel, Alewife, Buleback Herring, American Shad, Rainbow Smelt, Atlantic Tomcod, Striped Bass, Dace, Chubs Sticklebacks, Flounder (Sand, Smooth and Yellowtail), and Capelin

Crustacean/Shellfish: Lobster, Oysters, Mussels, Quahogs and Soft-shelled Clams

Wildlife: Black Bear, Moose, White-tailed Deer, Bobcat, Coyote, Fisher, Beaver, Muskrat, Weasel, Rabbit, Raccoon, Skunk, Squirrel, Mink and River Otter

Resource Utilization: Mining, Forestry, Agriculture, Fisheries, Peat Extraction, Ecotourism, Recreation and Tourism

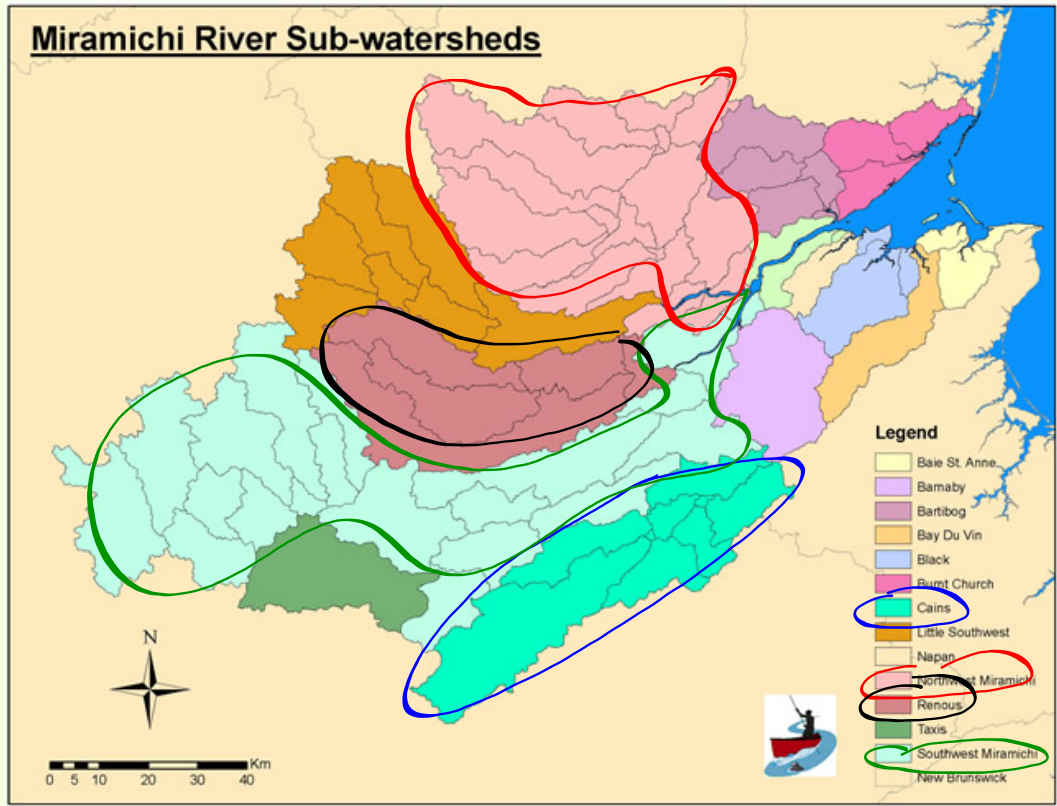


Kennedy Lakes

Data compiled from New Brunswick Department of Natural Resources, New Brunswick Department of Environment, Statistics Canada, Environment Canada, COSEWIC and MREAC.

Header photos contributed by Nelson Cloud, Melissa Price and Kara Baisley

<http://www.mreac.org/subwatersheds.html>





CRI S

Water Science of the First Order

Canadian Rivers Institute (CRI) is internationally recognized as the go-to source for advancing river, estuary, and watershed sciences and ecological sustainability.

Find out how the CRI can contribute to the success of your river, estuary, or watershed project.



SCIENCE FOR WILD ATLANTIC SALMON SURVIVAL

December 15, 2016

Years of world-recognized science has positioned the Canadian Rivers Institute as the lead scientific research organization for two multi-million dollar research initiatives focused on the survival of wild Atlantic salmon populations. This research is critical to



READING A RIVER

READING A RIVER,

READING A SCALE,

KNOW THE FLY ROD THAT MATCHES YOU

NOTES - Reading A River.pdf

Magic on the River - MODULE 3

Introducing the 21st Century Angler!

What makes a 21st century angler? First, there needs to be an awareness of the resource, that is, how plentiful, how fragile, and how vulnerable it is to others who may not be so aware. For instance, for the Atlantic salmon, it is a struggle for survival today more than ever.

Wouldn't it be wonderful to stand at the edge of a river and "know", with a quick glance, that it is indeed, the right (or wrong) place to angle? It is possible to learn this skill that is so often thought as being reserved for "old wise men of the river". The key is patience, perseverance, and common sense.

Why is "Reading the Water" an Integral Part of the Experience?

It is a truly rewarding experience to approach a stream, survey it, and then to cast your line to immediately catch a fish.

For an experienced angler, this isn't just a chance occurrence. It comes from effectively surveying an area to determine if fish inhabit this space. Like solving a puzzle, reading the water requires common sense and an analytical approach.

Some key characteristics of streams:

- *Water runs downhill.* Everything else follows from this basic fact.
- Depending on the *shape* of the streambed and its drop in elevation, this will determine the stream's changes in depth and speed.
- The *character* of the streambed will create areas that vary the speed and direction of the flow.
- Streambeds can consist of *bedrock, mud, clay, gravel, boulders and various other debris.*



Salmon Sense Currents

Atlantic salmon and trout are able to sense currents through sensing organs within their lateral line. Through most of its life in streams, Atlantic salmon are 'programmed' to face up-current, and hold their position.

However, changes in the hormone balance while Atlantic salmon are becoming smolt change that behaviour to swimming down-current, especially during night-time.

Atlantic salmon also use their ability to sense current in order to find upwellings below rapids and waterfalls. These upwellings allow them to boost their speed as they power up over the obstacle on their migration back upstream as adults.

Attachments

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Magic on the River.pdf

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