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Overview of Miawpukek (Conne River), NFLD & Lab Automated Probe Pilot Project under FNWMS

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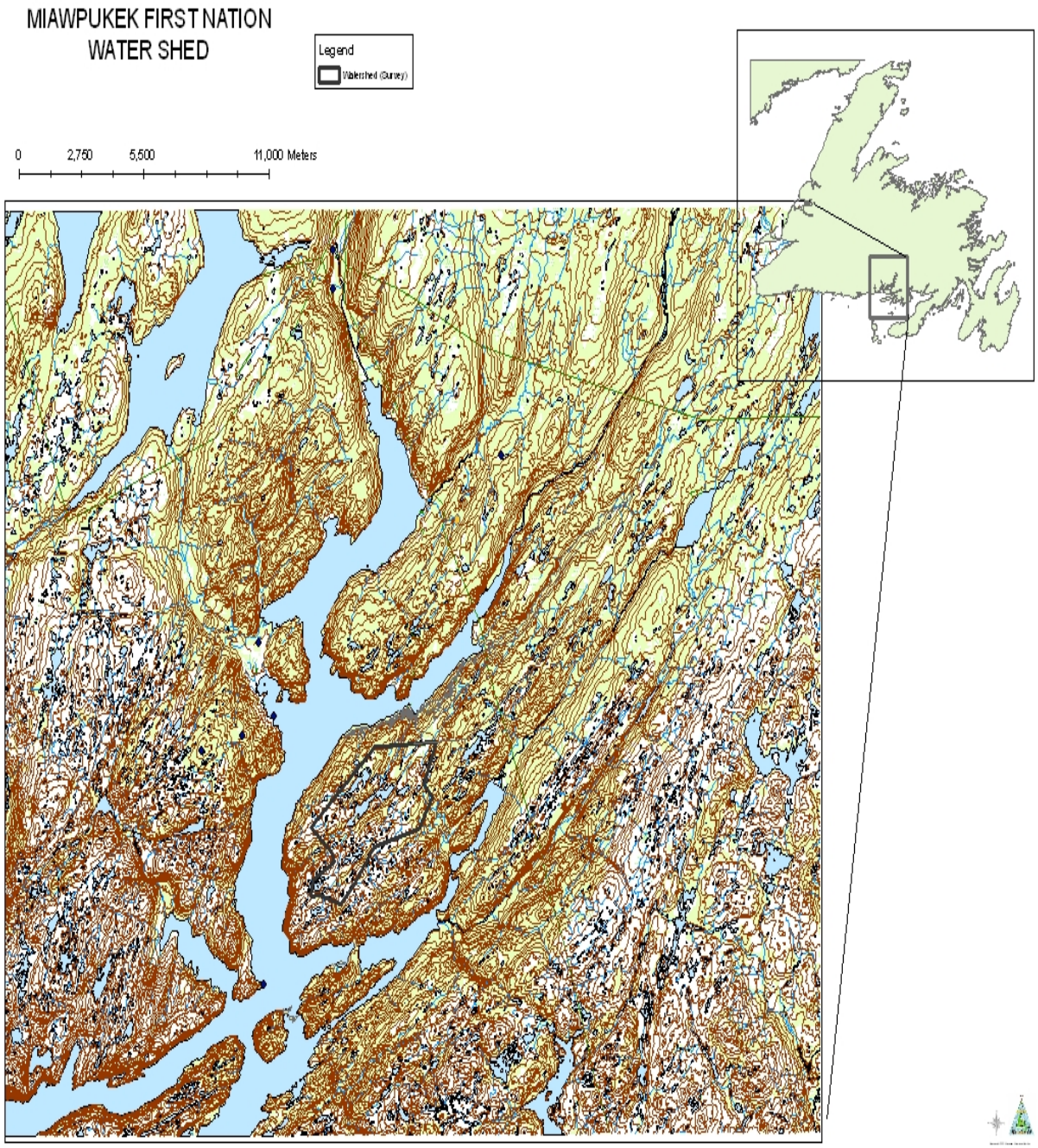

Location

- Southern Coast of Newfoundland in the Bay D'Espoir area
- 2.5 hours from Gander and Grand Falls Windsor
- Clean to Pristine !

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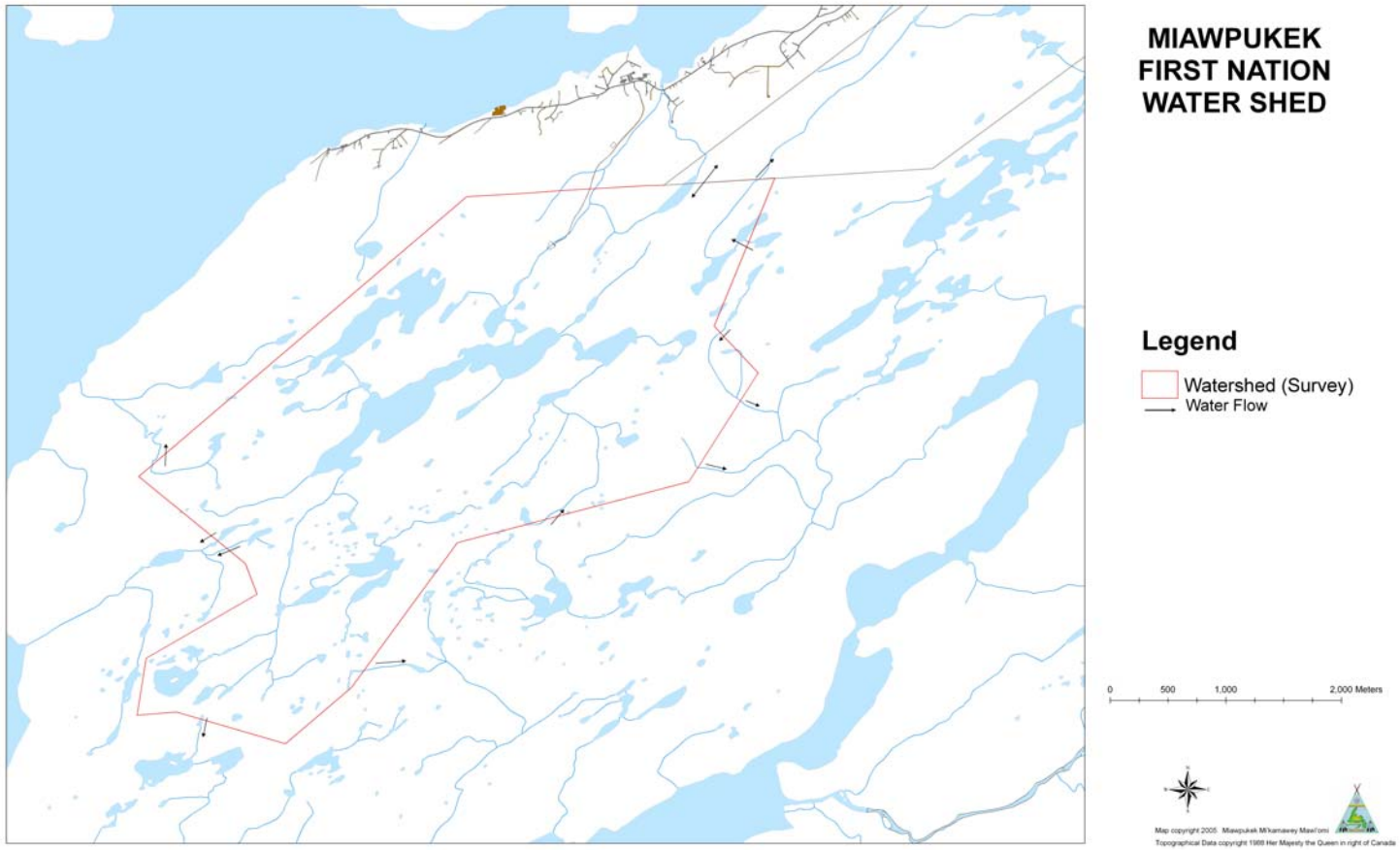
Southwest pond watershed



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Background

- 550 hectares of land
- Miawpukek is one of two of the fastest growing communities in the province of Newfoundland and Labrador.
- Historically there has been no development in the watershed. Land use in the area has been limited to infrequent snowmobile traffic and hunting.
- Miawpukek is one of the few First Nation Communities with its own watershed.

The Watershed

- The primary source of water for the Reserve is surface water which runs out of Southwest pond watershed in a northeasterly direction.
- The water catchment area is comprised of 12 small to medium sized ponds, the largest of which is Southwest Pond, which is 2.5 kms in length.
- The Miawpukek watershed supplies water to 840 community members and
- The watershed is currently under provincial protection and considered to be “pristine”

The Planning Process

- Watershed Committee Partners include: EC, INAC, Health Canada, Nfld. & Labrador Department of Environment and Conservation and, Miawpukek community Public Resources staff.

- Provincial Buy-In is very important.

- Also includes a “First” Source Water Monitoring Pilot Project in an Atlantic First Nation community

A Real time Source Water monitoring Pilot Project

- Hydro lab installed to monitor the source water before it enters the plant for treatment.
- The continuous collection of water quality data allows plant operators to determine the extent and frequency of treatment options as well as provide information on the possible activities and conditions within the watershed. This should represent savings in the area of chlorine and filter costs, thus prolonging the life of the plant.
- Further information on real time water monitoring can be found on the Newfoundland Department of Environment's web site

  http://www.env.gov.nl.ca/wrmd/RTWQ/RTWQ.asp

Some recommended Strategies

- **Regulatory*;***
  - *Miawpukek watershed by-Law*
- **Non-Regulatory*;***
  - *Monitoring and Reporting – monthly watershed patrols*
  - *Continuation of treatment plant monitoring*
  - *Continued Hydro Lab monitoring*
- **Educational and Stewardship;**
  - *Community Newsletter & other awareness products*
  - *Youth project*

Obtaining Water Quality Data in Newfoundland-Hydrolab

Conne River

Location: approximately 300 meters upstream from the dam

Start date: November 23, 2006

Purpose:

1. to monitor the source water before it enters the plant for treatment
2. Source water monitoring will allow the plant operator to determine the extent and frequency of treatment options
3. It will provide information on the possible activities and conditions within the watershed

Obtaining Water Quality Data in Newfoundland

Benefits of continuous water quality data collection

1. Monitoring the health of the watershed ecosystem
2. Establish trends
3. Determination when specific events occurred
4. Above 1,2,3 will lead to savings in the area of chlorine and filter costs, thus prolonging the life of the plant

Hydrolab sonde

Hydrolab station

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25.05.2007 http://www.hydrotechzs.com/ds5x.html

Challenges/Suggestions re: Real time Source Water Monitoring Pilot Project

- Bureaucratic/administrative restrictions.
- 1.5 hour delay in data
- pH readings we get at the plant are normally between 6 and 7 but the station is consistantly between 5.1 and 5.7
- The turbity at the station constantly reads 0 but plant reading are between 2 and 2.5 during high points. There are times when turbity peaks at station but not consistant with plant readings.
- The probe is in shallow water therefore the temperature recorded at plant is normally 5-6 degrees lower than at station. Maybe better to have probe in dam?
- Weather data at the plant would be a very useful tool
- Can pilot be replicated at other FN sites?