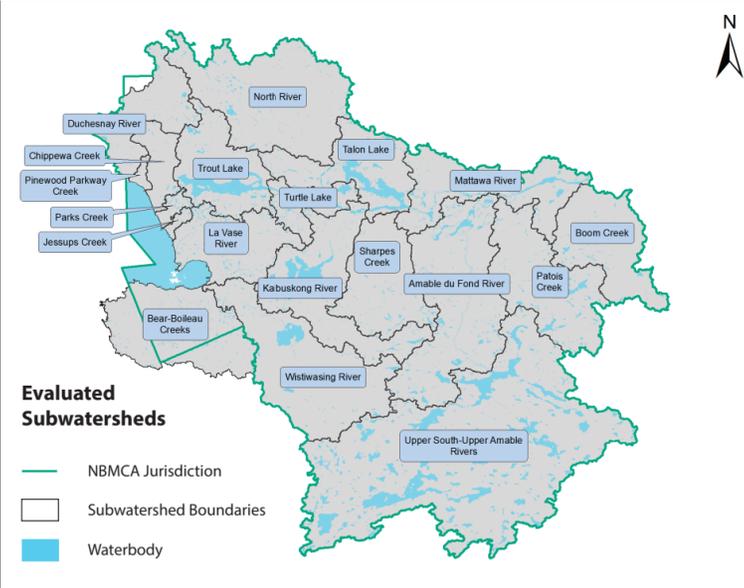


# What We Are Doing



NBMCA's watershed area includes 2,800 sq km, based on the Lake Nipissing (eastern portion as marked on the map above) and Mattawa River watersheds. This Watershed Report Card provides a summary grade for four watershed health criteria. The grades are based on the available data for 16+ subwatersheds whose boundaries and names are labelled above and referenced in the Report Card.

It is NBMCA's mission to balance human needs with the needs of the natural environment. We do that through a variety of watershed management programs and services related to planning, development around waterways, flooding, drinking water source protection, sewage systems, conservation areas, outreach and stewardship.



# What You Can Do

## Be a Watershed Steward!

- Plant native grasses and trees along open and exposed shorelines to improve shade, slow soil erosion and filter pollutants.
- Repair or replace faulty septic systems and ensure they are properly maintained.
- Make sure wells are properly capped and that abandoned wells are sealed.
- Use phosphate-free soaps and detergents. Don't fertilize your lawn, but if you must, use phosphorous-free fertilizers.
- Avoid using substances near or around wells and shorelines that could affect water quality including paint, chemicals, or manure.
- Properly use, store and dispose of toxic products such as fuel, pesticides, cleaners and manure.
- Install docks and boathouses in a way that minimally disturbs river or lake bottoms and allows water movement. Remember, it is illegal to destroy fish habitat.
- Apply for work permits from the appropriate government agency before you begin work in or around water or wetlands. Start with the North Bay-Mattawa Conservation Authority. We can help you.

North Bay-Mattawa Conservation Authority

# WATERSHED Report Card 2013

**NORTH BAY-MATTAWA CONSERVATION AUTHORITY**  
 15 Janey Avenue, North Bay, ON P1C 1N1  
 P: (705)474-5420 F: (705)474-9793  
 E: nbmca@nbmca.on.ca  
 W: www.nbmca.on.ca  
 www.actforcleanwater.ca  
 www.chippewaecopath.ca

Our 10 member municipalities include:

Bonfield	Callander	Calvin	Chisholm	East Ferris
Mattawa	Mattawan	North Bay	Powassan	Papineau-Cameron



# Where Are We?



We are one of 36 Conservation Authorities across Ontario under the umbrella organization of Conservation Ontario.

## What Does This Report Card Measure?

Surface Water Quality	Forest Conditions	Groundwater Quality	Wetlands

## Why Measure?

Measuring helps us better understand our watershed. It helps us to focus our efforts where they are needed most and track progress. It also helps us to identify healthy and ecologically important areas that require protection or enhancement.

## What is a Watershed?

A watershed is an area of land drained by a river or stream. Similar to the branch of a tree, creeks empty into streams, which then empty into larger streams, eventually forming one main trunk. Within this system, everything is connected to everything else. In other words, actions which take place at the top of the system can and do affect those downstream.



## Grading

<b>A</b>	Excellent
<b>B</b>	Good
<b>C</b>	Fair
<b>D</b>	Poor
<b>F</b>	Very Poor

The standards used in this report card were developed by Conservation Authorities to ensure consistent reportings across the Province of Ontario and are intended to provide watershed residents with information to protect, enhance and improve the precious resources that surround us. Information on the measurements and grading system used can be found at [www.watershedcheckup.ca](http://www.watershedcheckup.ca)

NBMCA has prepared this report card as a summary on the state of our forests, wetlands, surface water, and ground water resources.





# Surface Water Quality

Phosphorus levels are one indicator used to determine surface water quality. Generally, levels in our watershed are good, but there's room for improvement.

B



# Forest Conditions

Forest cover is a good indicator of ecosystem health, supporting biodiversity and contributing to water quality. In our watershed, 80% of the land is forested.

A



# Groundwater Quality

Groundwater is found beneath the surface in saturated soils and aquifers. Nitrates and chloride, indicators of water quality, are at healthy levels in monitoring wells.

A



# Wetlands

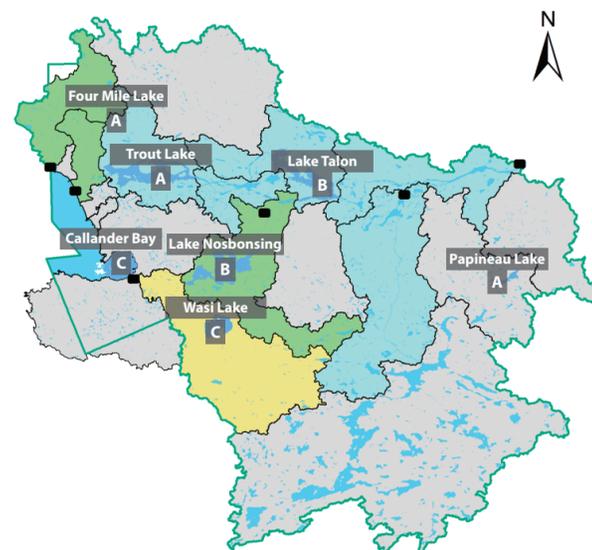
Wetlands cover 8.7% of our watershed area. This report card gives us a starting point to monitor decreasing or increasing amounts of wetland cover.

B

## Surface Water Quality

### Phosphorus Grades

- Evaluated Lakes
- A < 0.02 mg/l
- B 0.021 - 0.03 mg/l
- C 0.031-0.06 mg/l
- Insufficient Data
- Provincial Water Quality Monitoring
- NBMCA Jurisdiction
- Subwatershed Boundaries
- Waterbody



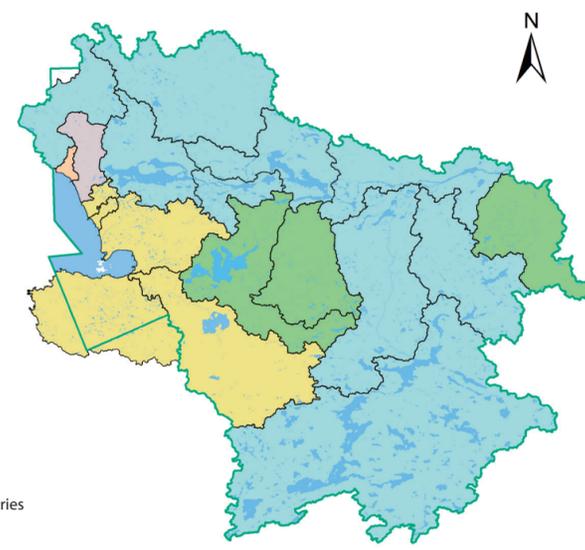
As water moves across our watershed, its quality is altered. Geology and soils affect the mineral content; organic matter changes the nutrient composition. Its quality can also be changed by fertilizers, pesticides, organic matter, oils and fuels, chemicals, and metals. Reporting on Total Phosphorus is one of the simplest and most common methods of tracking water quality. Phosphorus occurs naturally, but is increased from natural levels by the addition of soaps, detergents, fertilizers and pesticides. Phosphorus contributes to excess algae growth and low oxygen in streams and lakes, degrading their appearance and decreasing their ability to support aquatic species. NBMCA partners with the Ministry of the Environment (MOE) through the Provincial Water Quality Monitoring Network (PWQMN) to sample six sites throughout the watershed. In addition, seven lakes are sampled through MOE's Lake Partner Program.

Phosphorus levels in the watershed are generally good, but there is room for improvement. Since surface water quality is influenced by human activities, it is important that we ensure we don't do anything to contribute phosphorus or degrade the quality of water within our local creeks, rivers and lakes.

## Forest Conditions

### Forest Condition Grade

- A
- B
- C
- D
- F
- NBMCA Jurisdiction
- Subwatershed Boundaries
- Waterbody

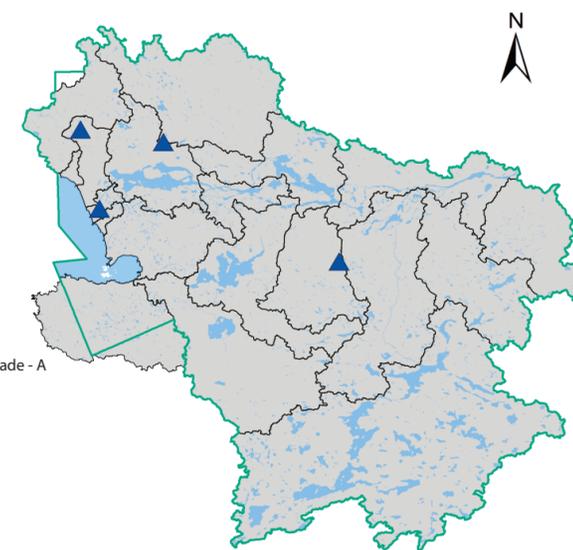


Forest habitat is evaluated by the amount of cover, interior habitat and riparian areas that are forested. Considerable forest cover is required to sustain the full complement of native species (biodiversity) within a watershed. Forest interior is important, as it provides significant habitat for sensitive wildlife species which require undisturbed, deep forest habitat 100 m or more from the forest edge to thrive. Streamside forest cover helps improve water quality by slowing water, filtering and absorbing contaminants, providing habitat for wildlife and shade for aquatic species, as well as preventing streambank erosion.

The NBMCA watershed supports substantial forest cover, with 80% of the land being forested. Lower grades were given to subwatersheds in urban and agricultural areas. In those areas with a lower grade, forest health and habitat can be improved by planting trees and shrubs on marginal agricultural lands and/or forest gaps to increase habitat. Plantations can be effectively managed to provide an income while restoring native forest cover over time.

## Groundwater

- Groundwater Well Quality Grade - A
- Insufficient Data
- NBMCA Jurisdiction
- Subwatershed Boundaries
- Waterbody

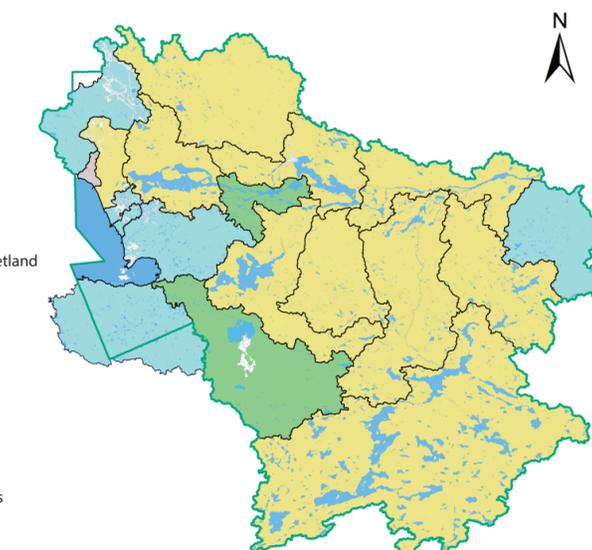


Healthy groundwater supports aquatic ecosystems within creeks, rivers, lakes and wetlands. It also supports social, economic and recreational human use, including for drinking water. Groundwater quality is affected by local geology (i.e. mineral content) and human actions (i.e. septic system leachate, livestock operations, leaking fuel, chemical or salt storage, un-maintained or abandoned water wells). Measurements of nitrates and chloride (salt) were used to score groundwater quality in our watershed. High concentrations of nitrates and chloride can be indications of human impact on the aquifer.

Currently, limited watershed-wide groundwater quality data exists. However, NBMCA tests groundwater from four monitoring wells as part of the Provincial Groundwater Monitoring Network (PGMN). General statements can be made about the groundwater quality based on those results: all four monitoring wells scored an A. It is important to note that the grades refer to the water within the wells and do not assess groundwater beyond the wells.

## Wetlands

- Provincially Significant Wetland
- A
- B
- C
- F
- NBMCA Jurisdiction
- Subwatershed Boundaries
- Waterbody



Wetlands are a very important part of the natural ecosystem and water cycle. They provide habitat for plants and animals and act as filters by removing sediment, nutrients and bacteria from the water that travels through them. Wetlands also provide natural flood control, acting like a sponge to absorb water, which is then released over a longer period.

The NBMCA watershed has 24,000 hectares of wetlands, which cover approximately 8.7% of the watershed. Wetland area within each subwatershed ranges from a high of 27% in the Jessups Creek subwatershed to a low of 1% in the Pinewood Parkway subwatershed. Within the NBMCA watershed there are eight provincially significant wetlands, shown on the map in white.

