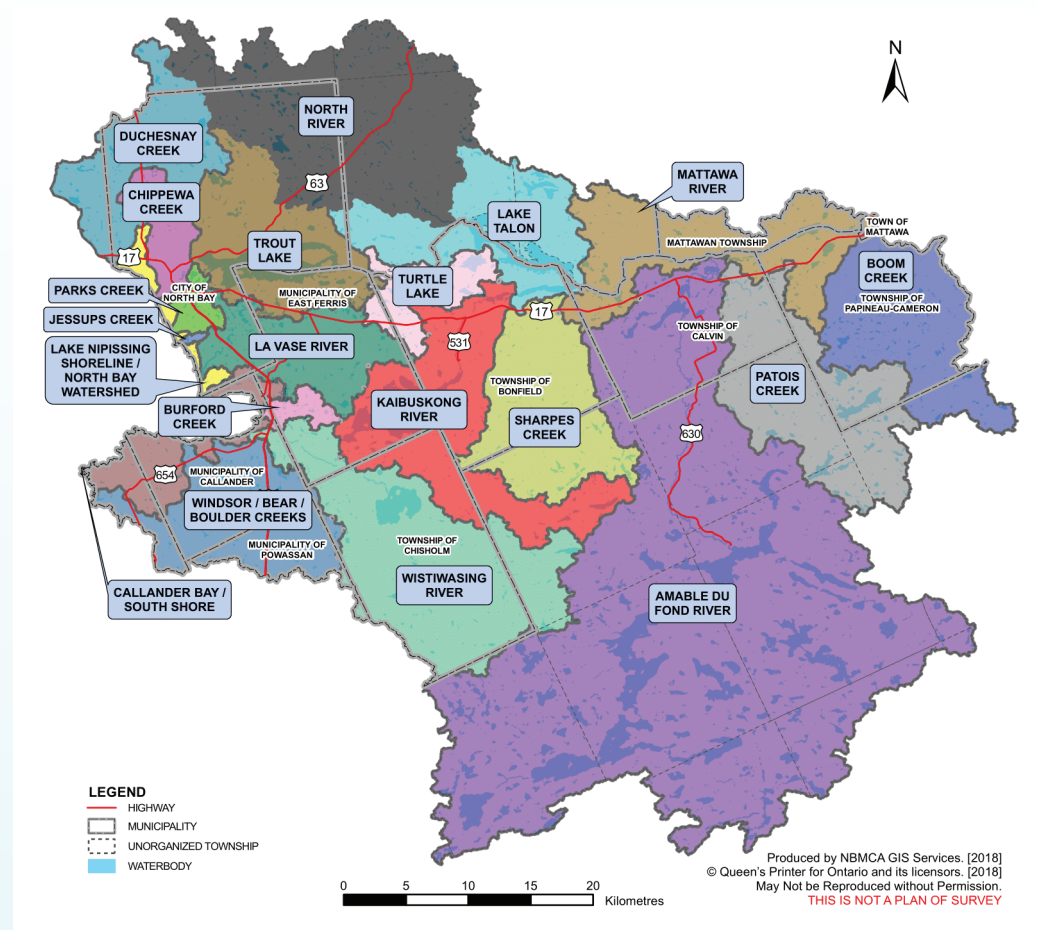## Managing the Watershed

NBMCA's 20 Subwatersheds

NBMCA's watershed jurisdiction includes 2,900 km^2, based on the Lake Nipissing and Mattawa River watersheds. This watershed report card provides a summary grade for four watershed health criteria, plus a measuring of water quality in a number of area lakes. The grades are based on data for 20 subwatersheds whose boundaries and names are labelled on the map below, and referenced on the maps inside.

LEGEND
- HIGHWAY
- MUNICIPALITY
- UNORGANIZED TOWNSHIP
- WATERBODY

Produced by NBMCA GIS Services. [2018]
© Queen's Printer for Ontario and its licensors. [2018]
May Not be Reproduced without Permission.
THIS IS NOT A PLAN OF SURVEY

0   5   10   15   20
Kilometres

HOW CAN WE ENHANCE THE WATERSHED?

What Can You Do?

- Plant native trees and shrubs along stream banks and shorelines to help prevent erosion.
- Inspect and pump out your septic system every three to five years.
- Maintain wetlands to help prevent flooding, filter water and protect water quality.
- Reduce the amount of household chemicals you use and store – such as antifreeze, paint, lawn chemicals, detergents, and cleaners.
- Ensure manure storage facilities are adequate and away from water.

Integrated Watershed Management (IWM)

IWM Strategy 2015-2034

- Integrated Watershed Management is the process of managing human activities and natural resources on a watershed basis, taking into account social, economic and environmental issues, as well as community interests, in order to manage water resources sustainably.
- NBMCA's IWM Strategy evaluates the needs of the 20 subwatersheds that fall within 11 municipalities and 15 unorganized townships.
- NBMCA's monitoring program and this watershed report card are part of our IWM Strategy. Learn more about IWM at www.nbmca.ca

Do you have questions not answered by this summary document? Contact us to learn more:

North Bay-Mattawa Conservation Authority
15 Janey Ave., North Bay, ON P1C 1N1
E-mail: nbmca@nbmca.ca | **Website:** nbmca.ca
Phone: 705-474-5420 | **Fax:** 705-474-9793

🐦 @theNBMCA   f facebook.com/NBMCA

The Watershed Report Card is available online and in other formats upon request.

North Bay-Mattawa

WATERSHED
Report Card 2018

Watershed Checkup

North Bay-Mattawa Conservation Authority has prepared this report card as a summary of the state of your forests, wetlands, and water resources.

NORTH BAY-MATTAWA CONSERVATION AUTHORITY

Member of
Conservation ONTARIO

WHERE ARE WE?

What is a Watershed?

A watershed is an area of land drained by a creek or stream into a river which then drains into a body of water such as a lake or pond. Everything in a watershed is connected. Our actions upstream can affect conditions downstream.

Why Monitor?

Monitoring helps us better understand our watershed. We can target our work where it is needed and track progress. We measured:

Groundwater & Stream Water Quality	Lake Water Quality	Forest Conditions	Wetland Cover

GRADING

A	Excellent
B	Good
C	Fair
D	Poor
F	Very Poor
Insufficient Data	

What is a watershed report card?

Ontario's Conservation Authorities report on watershed conditions every five years. The watershed report cards use Conservation Ontario guidelines and standards developed by Conservation Authorities and their partners.

STREAM WATER QUALITY · A
GROUNDWATER QUALITY · A

Groundwater: Nitrate, nitrite and chloride concentrations were measured at least twice in wells located in 4 subwatersheds.
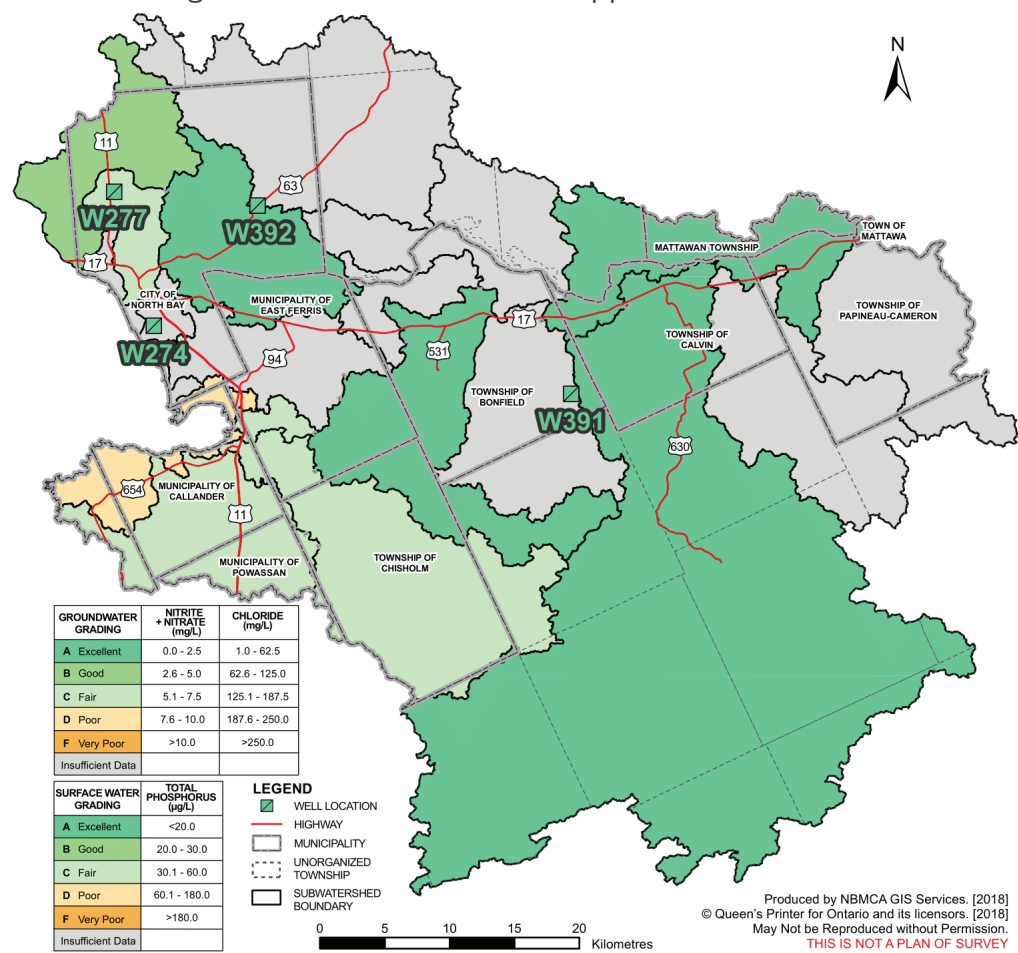
Stream water: Total phosphorus (TP) concentration in streams were measured regularly at one or more sites in 10 subwatersheds. The overall grade represents a weighted average, calculated based on the TP concentrations and the size of each watershed.

What Did we Find with Groundwater Wells?

- Groundwater quality rated Excellent overall (A)
- Nitrate, nitrite and chloride concentrations very low at all wells
- No grade changes since 2013 Watershed Report Card

What Did we Find with Stream Water?

- Stream water quality rated Excellent overall (A)
- Room for improvement: 5 subwatersheds scored C or lower
- Two grade changes since 2013 Watershed Report Card:
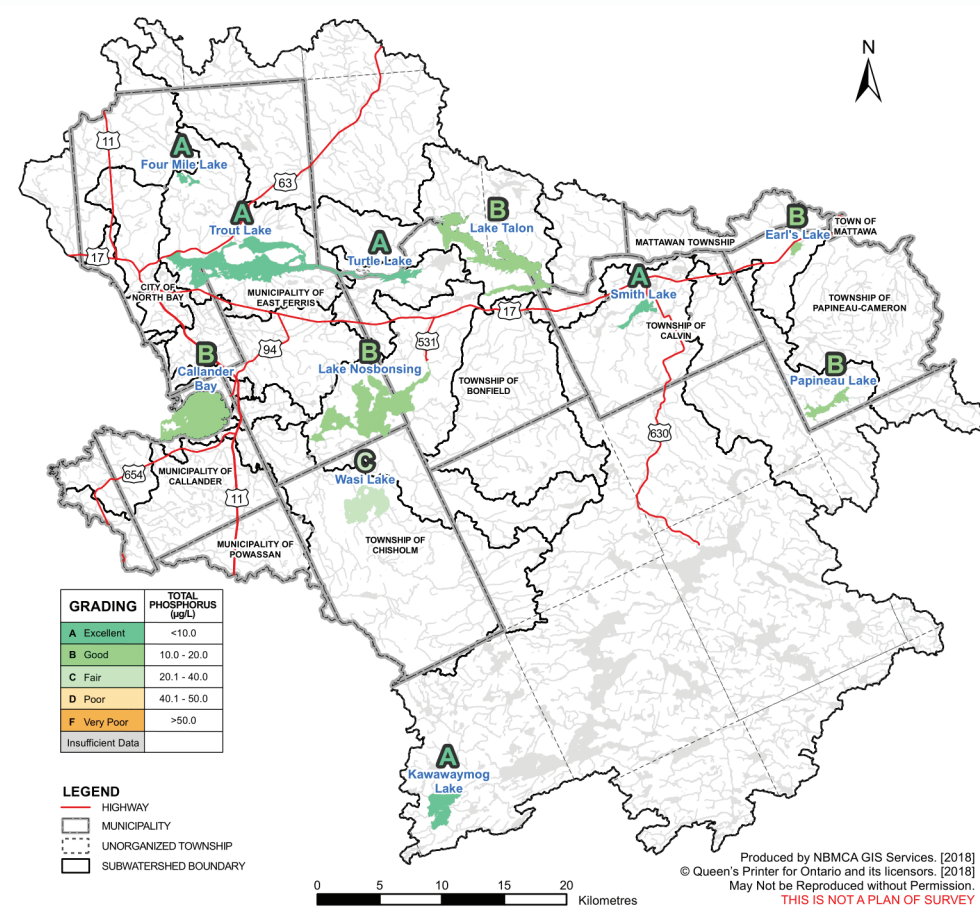 Kaibuskong River increased B to A   Chippewa Creek decreased B to C

GROUNDWATER GRADING	NITRITE + NITRATE (mg/L)	CHLORIDE (mg/L)
A Excellent	0.0 - 2.5	1.0 - 62.5
B Good	2.6 - 5.0	62.6 - 125.0
C Fair	5.1 - 7.5	125.1 - 187.5
D Poor	7.6 - 10.0	187.6 - 250.0
F Very Poor	>10.0	>250.0
Insufficient Data		

SURFACE WATER GRADING	TOTAL PHOSPHORUS (µg/L)
A Excellent	<20.0
B Good	20.0 - 30.0
C Fair	30.1 - 60.0
D Poor	60.1 - 180.0
F Very Poor	>180.0
Insufficient Data	

LEGEND
- ● WELL LOCATION
- — HIGHWAY
- MUNICIPALITY
- UNORGANIZED TOWNSHIP
- SUBWATERSHED BOUNDARY

LAKE WATER QUALITY · B+

Total phosphorus (TP) concentration was measured in the spring at one or more sites on 11 lakes located in 8 subwatersheds. In some waterbodies, such as Wasi Lake and Callander Bay, TP can be much higher in late summer/early fall than in the spring. The overall grade represents a weighted average, calculated based on spring TP concentrations and the surface areas of the lakes.

What Did we Find?

- Lake water quality rated Good overall (B+)
- Wasi Lake the only lake to score a C or lower
- Two grade changes since 2013 Watershed Report Card:
  Callander Bay increased C to B
  Papineau Lake decreased A to B

Data used in this report card for stream water, groundwater and lake water quality are from samples collected from 2012 to 2017.
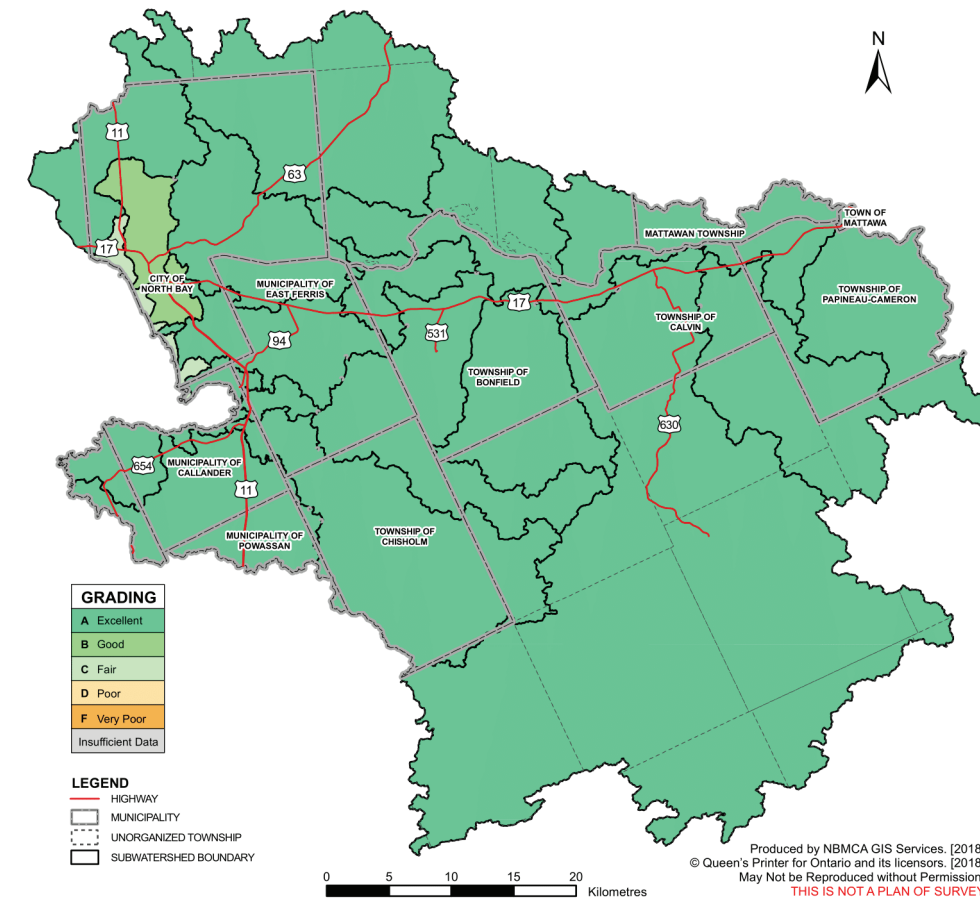

GRADING	TOTAL PHOSPHORUS (µg/L)
A Excellent	<10.0
B Good	10.0 - 20.0
C Fair	20.1 - 40.0
D Poor	40.1 - 50.0
F Very Poor	>50.0
Insufficient Data	

LEGEND
- — HIGHWAY
- MUNICIPALITY
- UNORGANIZED TOWNSHIP
- SUBWATERSHED BOUNDARY

FOREST CONDITIONS · A

Forest habitat is evaluated by the amount of cover, interior habitat and riparian areas that are forested. The NBMCA watershed supports substantial forest cover, with 84% of the land in our 20 subwatersheds being forested.

What Did we Find?

- Forest conditions rated Excellent overall (A)
- Lower grades given to Chippewa Creek, Parks Creek adn Lake Nipissing Shoreline subwaersheds largely due to large urban areas
- Improved mapping, changes in watershed boundaries, and the application of current guidelines for measuring forest cover, interior and riparian cover, resulted in a number of subwatershed grade improvements since the 2013 Watershed Report Card. The overall rating of A is unchanged.

GRADING	
A Excellent	
B Good	
C Fair	
D Poor	
F Very Poor	
Insufficient Data	

LEGEND
- — HIGHWAY
- MUNICIPALITY
- UNORGANIZED TOWNSHIP
- SUBWATERSHED BOUNDARY

WETLAND COVER · B

There are 27,000 hectares of wetland within our watershed area, covering approximately 10% of the land in the watershed. Wetland area within NBMCA's 20 subwatersheds range from a high of 36% in the Jessups Creek subwatershed to a low of 5% in the Mattawa River subwatershed.

What Did we Find?

- Wetland coverage rated Good overall (B)
- Subwatersheds with lower wetland grades generally high in forest cover
- Improved accuracy in data and mapping provided a more accurate measurement of wetlands, resulting in a number of subwatershed grade improvements since the 2013 Watershed Report Card. The overall rating of B is unchanged. NBMCA is undertaking a wetland delineation project in 2018 which will provide further improvements in wetland mapping.

GRADING	
A Excellent	
B Good	
C Fair	
D Poor	
F Very Poor	
Insufficient Data	

LEGEND
- — HIGHWAY
- MUNICIPALITY
- UNORGANIZED TOWNSHIP
- SUBWATERSHED BOUNDARY