

North Bay-Mattawa Watershed Report Card 2023



North Bay-Mattawa Conservation Authority has prepared this report card as a summary of the state of our surface water, groundwater, forest and wetland resources.



WHERE ARE WE?



What is a Watershed?

A watershed is an area of land that drains into a body of water such as a creek, stream, river, or a lake. A watershed contains multiple smaller subwatersheds, such as a lake or river with multiple in-flowing streams. Everything in a watershed is connected. Our upstream actions can affect downstream conditions.

Why Measure?

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

We Measure:



GRADING

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

What is a Watershed Report Card?

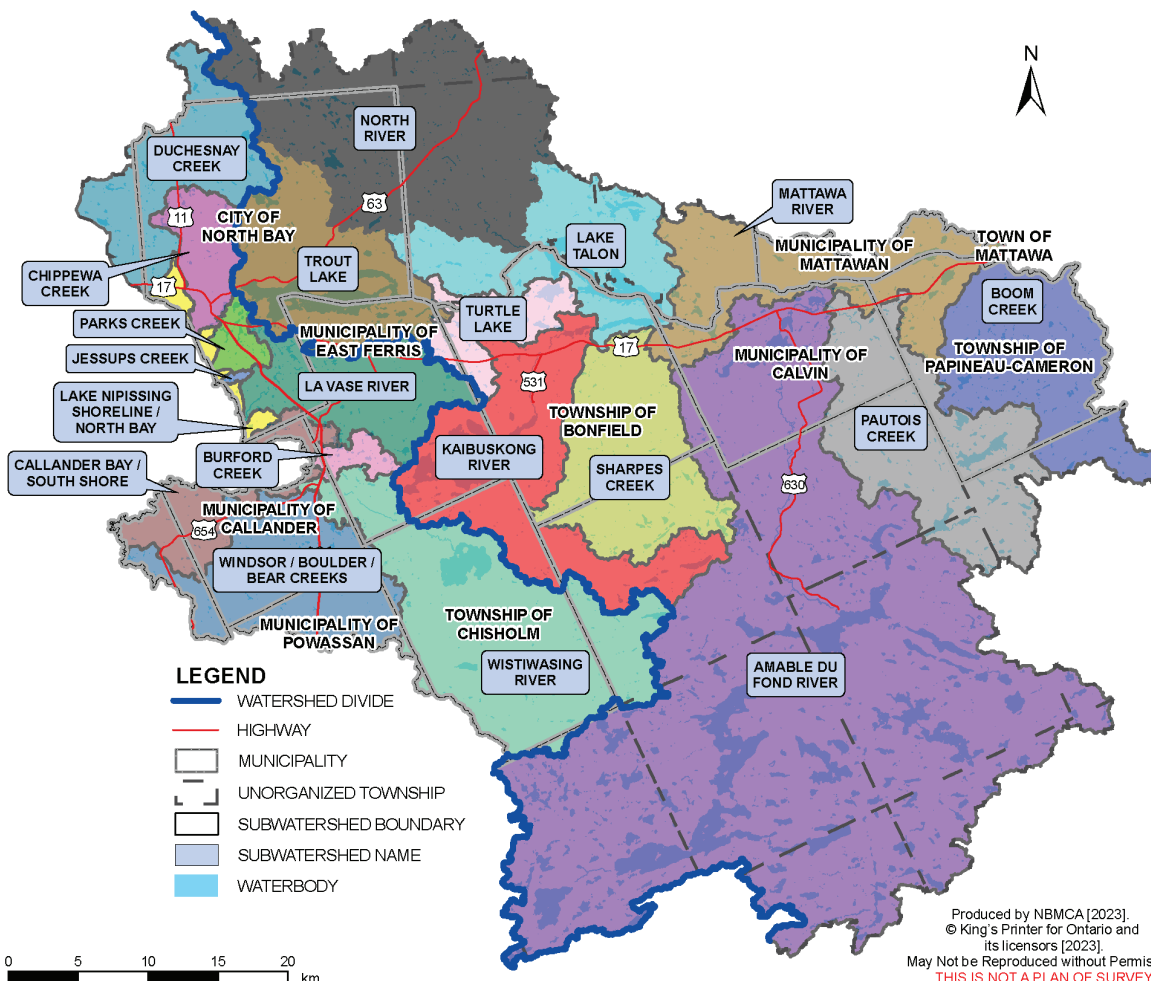
Ontario's Conservation Authorities report a snapshot of watershed conditions every five years. The watershed report cards use Conservation Ontario guidelines and standards developed by Conservation Authorities and their partners.

WHAT DO WE DO?



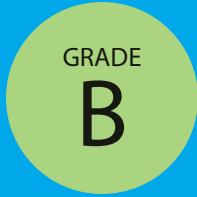
Our 20 Subwatersheds

North Bay-Mattawa Conservation Authority (NBMCA) is a community-based, environmental organization dedicated to conserving, restoring, developing, and managing renewable natural resources on a watershed basis. NBMCA's watershed jurisdiction covers 2,900 km², including 20 subwatersheds draining into Lake Nipissing (French River watershed) and the Mattawa River (Kipawa River-Upper Ottawa River watershed).





North Bay-Mattawa STREAM & RIVER WATER QUALITY

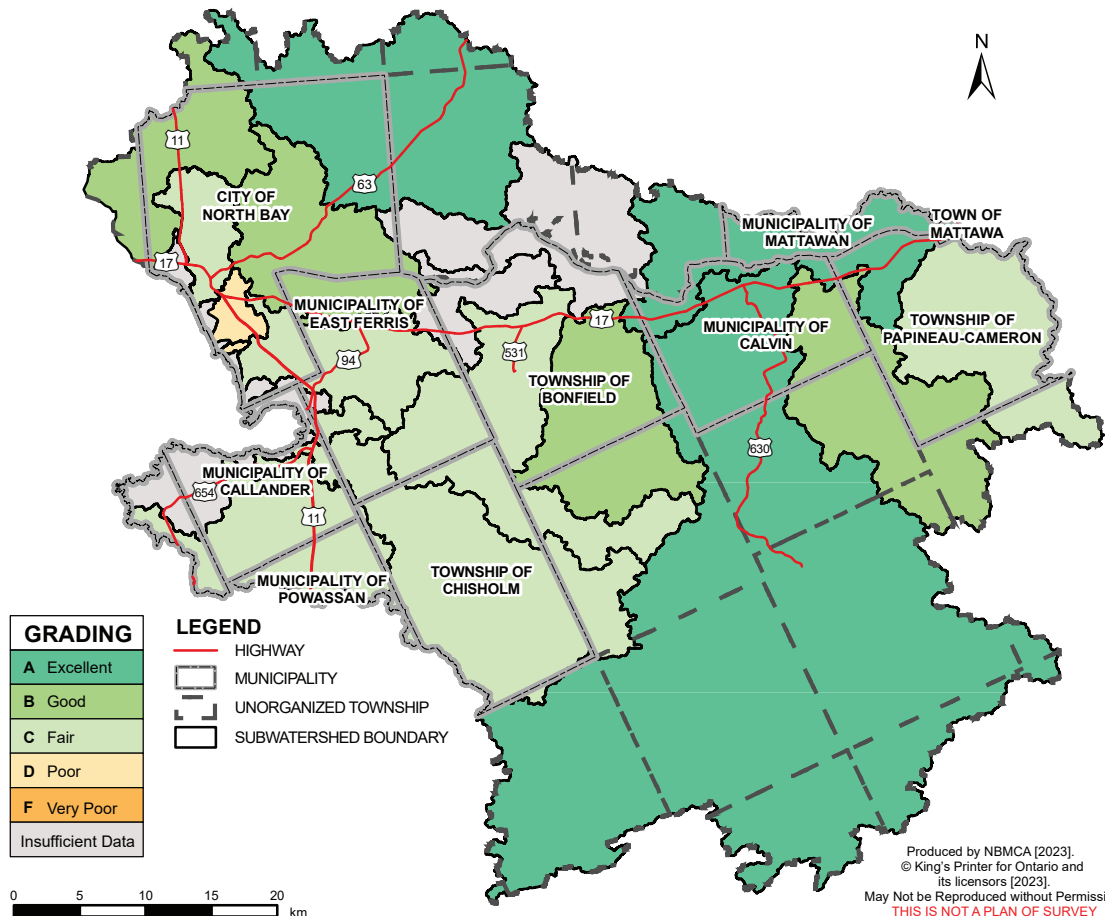


Total phosphorus (TP) and benthic macroinvertebrates (BMI) are indicators of stream and river health. TP was measured at 19 stations. BMI (small, aquatic creatures with no spine) were sampled at 10 stations.

Chloride, an emerging water quality concern, is compared to Canadian Water Quality Guidelines for the Protection of Aquatic Life. It may be included in future grading.

What Did We Find?

- Using 2017-2021 data, the overall grade for stream and river water quality is B (Good). This is a change from the 2018 Watershed Report Card (WRC) grade of A (Excellent), to reflect additional data from 10 new stations.
- Chloride was sampled at 7 stations and was below the guidelines. Some individual samples on Chippewa Creek were above the long-term guideline.
- The Trout Lake subwatershed stream water quality grade decreased from the 2018 WRC due to the additional BMI data collected. Phosphorus is unchanged from the 2018 WRC.





North Bay-Mattawa LAKE WATER QUALITY

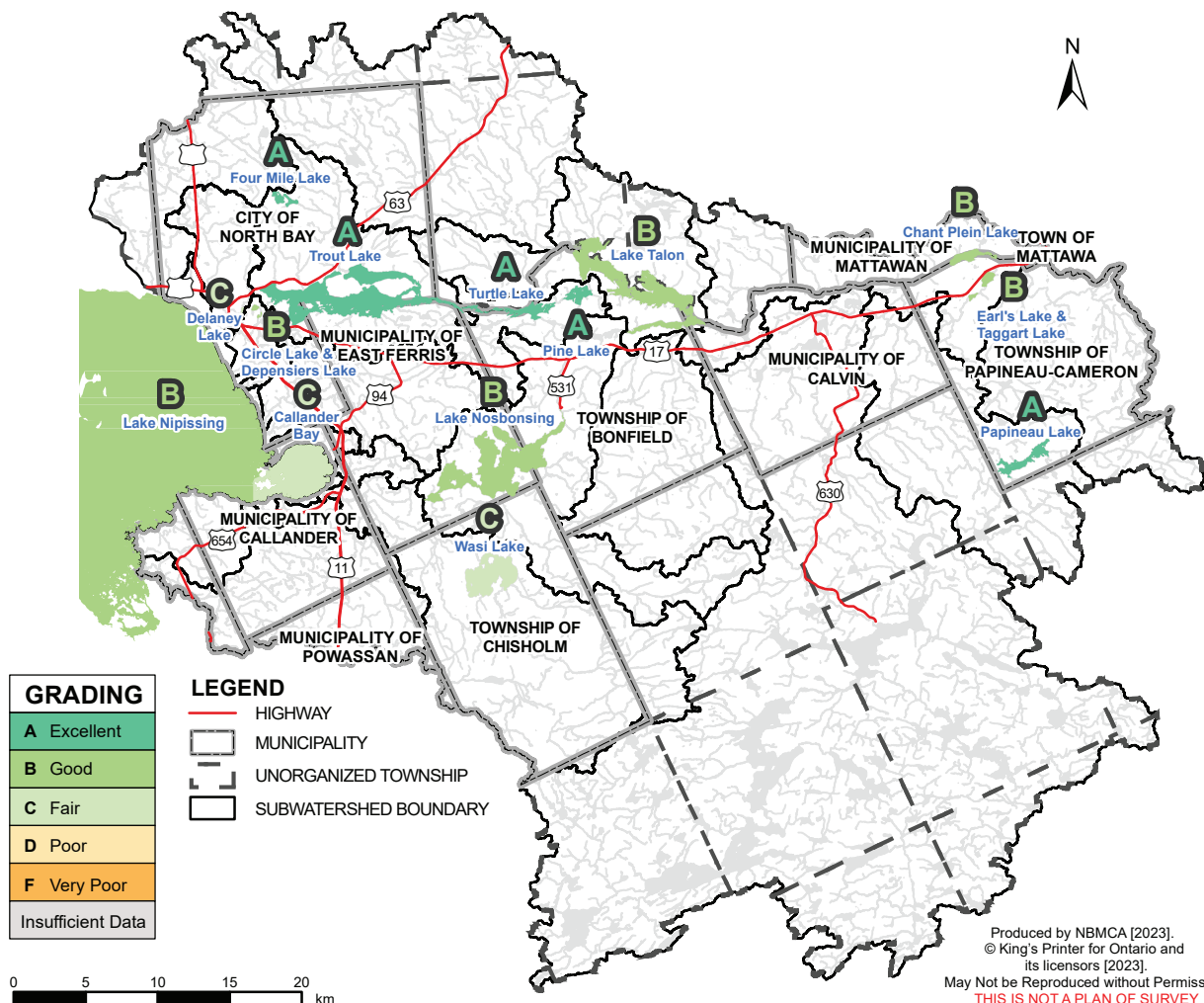
GRADE

B

Total phosphorus (TP) contributes to excess plant and algae growth and is an indicator of lake health. It is measured through the MECP Lakes Partner Program during the spring at one or more stations on 16 lakes in the NBMCA watershed. In some lakes, TP can be much higher in late summer than in the spring.

What Did We Find?

- Using 2017-2019 data, the overall grade for lake water quality is B (Good). No data was available for 2020-2021, mainly due to the pandemic.
- Wasi Lake, Callander Bay, and Delaney Lake have a grade of C (Fair).
- The grade for Callander Bay changed from B (Good; 17.4 mg/L) to C (Fair; 20.3 mg/L).
- The grade for Papineau Lake changed from B (Good) to A (Excellent).





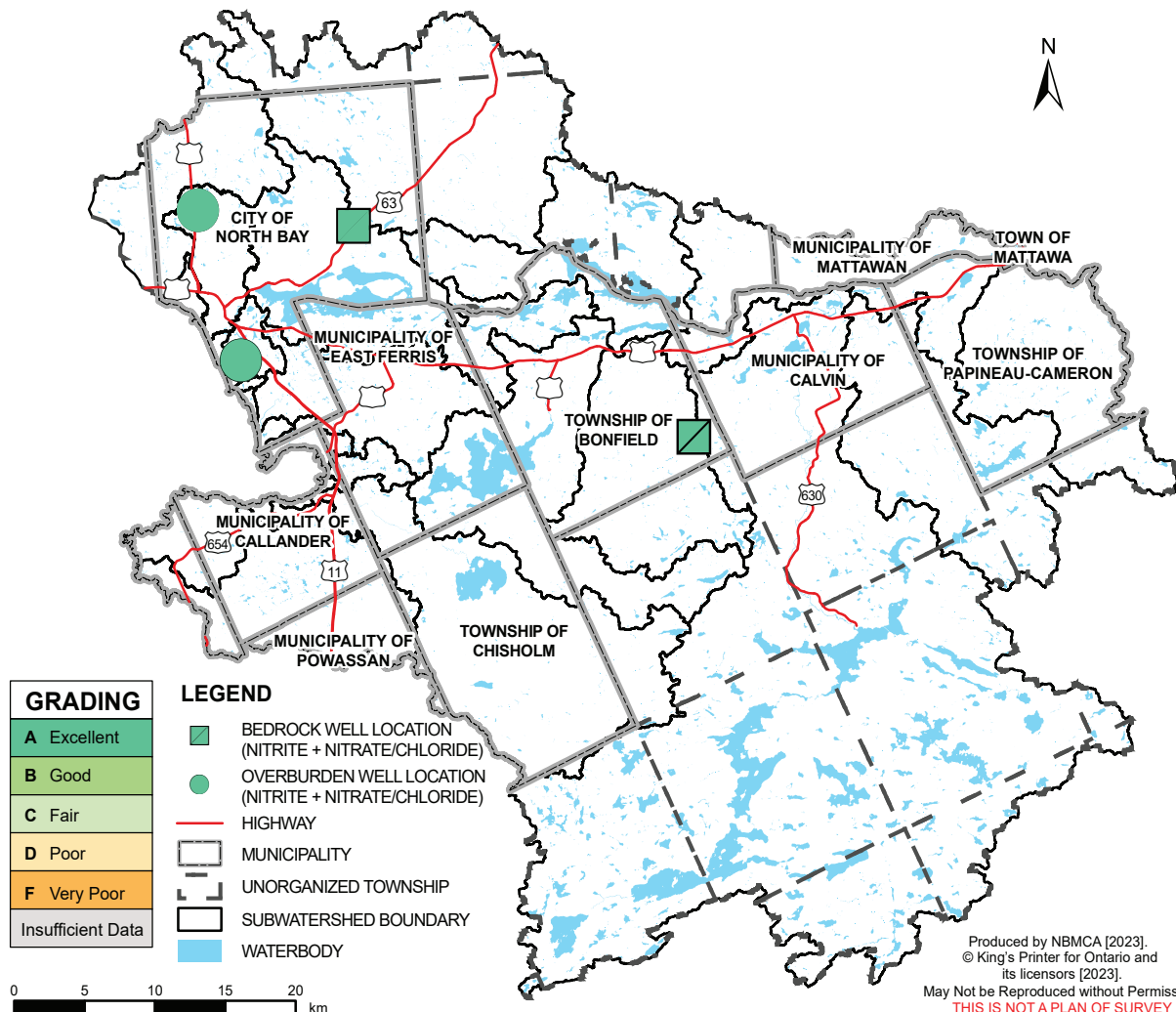
North Bay-Mattawa GROUNDWATER QUALITY



Groundwater is an important resource used by many local residents as a water supply. Nitrate and chloride are indicators of drinking water quality. High levels of nitrate are a health concern while chloride can damage plumbing. NBMCA samples groundwater at 4 Provincial Groundwater Monitoring Network wells for general chemistry. Groundwater quality changes with location and depth and these results are not a substitute for sampling private wells.

What Did We Find?

- Using 2012-2021 data, the overall grade for groundwater quality is A (Excellent) for both nitrite+nitrate and chloride at all wells.
- There are no changes in grades since the 2018 WRC.





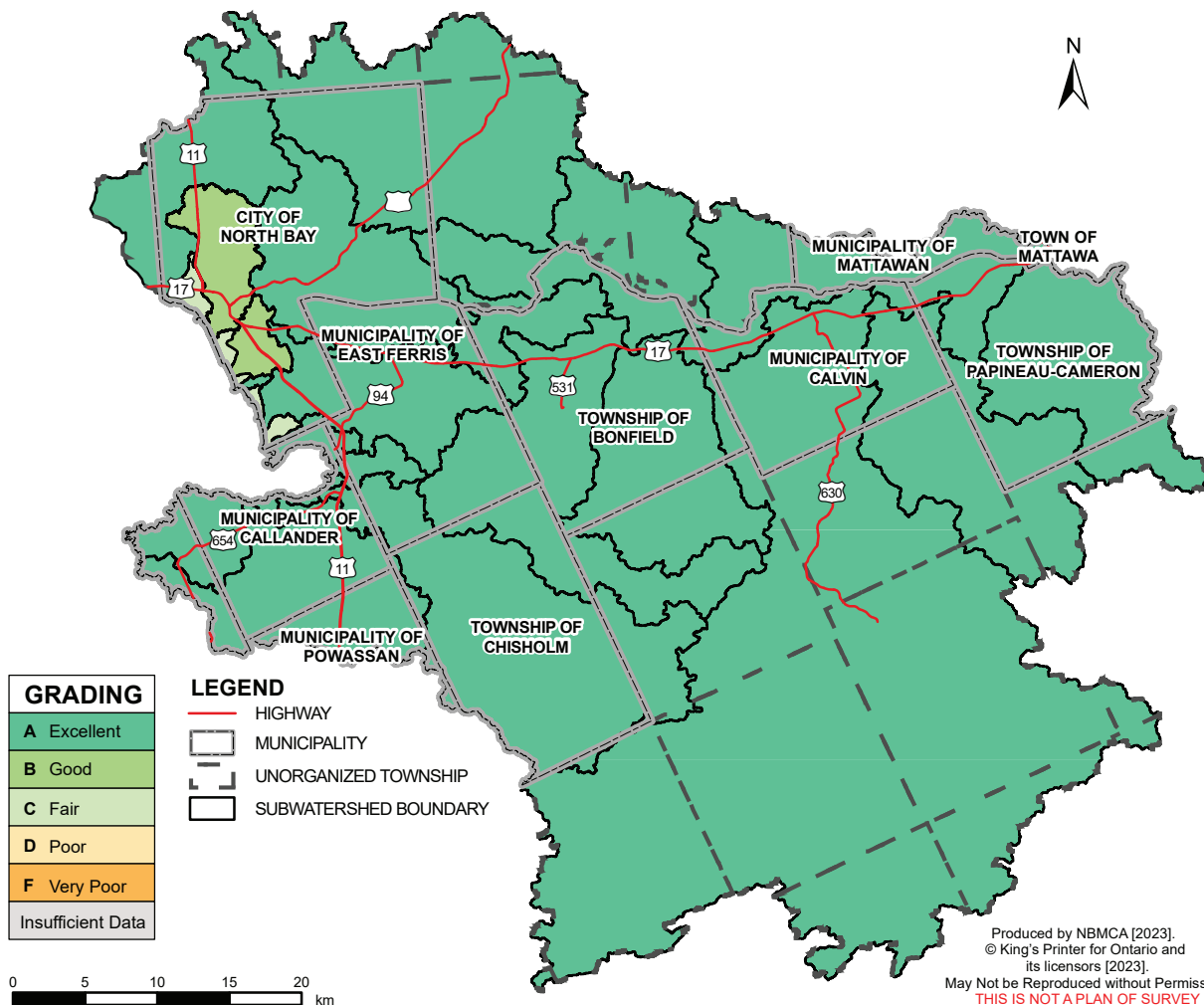
North Bay-Mattawa FOREST CONDITIONS

GRADE
A

Forests provide resiliency to climate change. They help clean the air, protect biodiversity, prevent soil erosion, mitigate flooding and regulate ecosystems. Forest conditions are evaluated by the amount of forest cover, forest interior (100 m from edges), and riparian (streamside) forest cover, measured using Geographic Information Systems (GIS). The NBMCA watershed has substantial forest cover, at 84% of the area.

What Did We Find?

- The overall grade is A (Excellent).
- Grades of C (Fair) in Lake Nipissing Shoreline/North Bay subwatershed and B (Good) in Chippewa Creek and Parks Creek subwatersheds reflect urban land use.
- Note that there is no updated Provincial Land Cover mapping available for the NBMCA watershed since 2000.





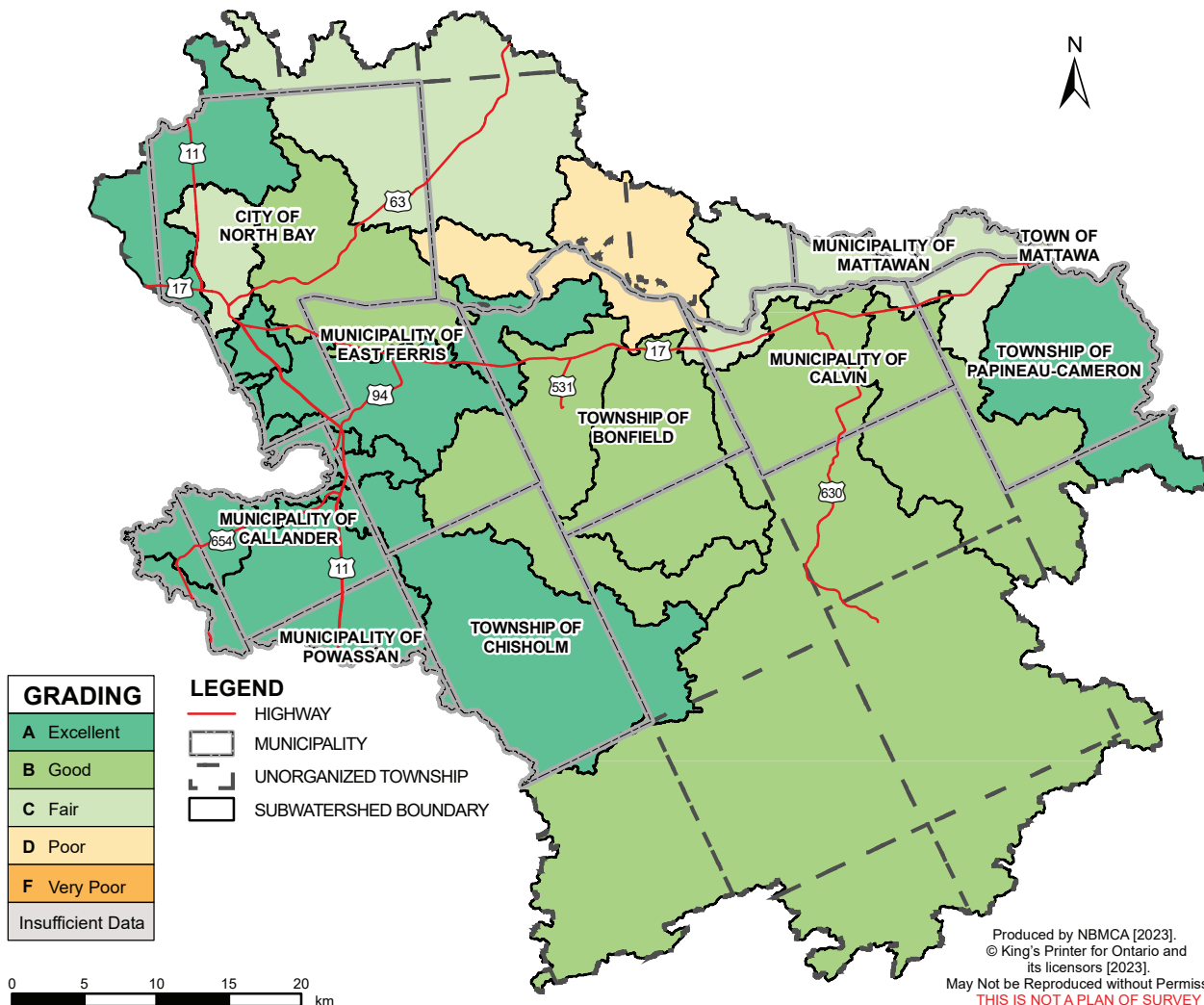
North Bay-Mattawa WETLAND COVER

GRADE
A

Wetlands provide nature-based solutions for climate change. They are diverse habitats including marshes, swamps, bogs, and fens that help protect land from flooding and also improve water quality. There are 33,627 hectares of wetlands within the NBMCA watershed; approximately 12% of the land. Subwatershed wetland cover ranges from 5 to 31%.

What Did We Find?

- The overall grade for wetland cover is A (Excellent). This is a change from B (Good) in the 2018 WRC. The change in grade is due to improved mapping based on refined wetland boundaries.
- The North River, Lake Talon, and Mattawa River subwatersheds' grades range from C (Fair) to D (Poor) due to natural conditions including lakes and large hilly regions.



WHAT IS OUR WATERSHED'S KEY ISSUE?



Climate Change

Climate change refers to shifts in long-term temperature and weather patterns. Shifts may be natural; some are the result of human activities.

What does science tell us about climate change in Ontario? Weather events are less predictable. Weather extremes occur more often and storms are more powerful. Droughts and low water levels are more frequent. Snow is melting faster. Together these changes in climate impact water quality and alter the natural hazards on the landscape.

To help better understand those climate shifts, NBMCA monitors and analyzes water quality, stream flow, lake levels, snow depth and water content, and other indicators, such as those reported in this Watershed Report Card.

By knowing what's happening on the natural landscape, we can - together with municipal decision makers - educate, inform, and manage the human activities that can help prevent and mitigate the impacts of climate change on our communities.

So... what can you do in your own backyard?

When we manage what happens on our own property, we help manage the impacts of climate change on our community and the environment. You can...

- Direct downspouts to lawns and gardens or build a rain garden to slow runoff from your property.
- Leave, enhance, or create a natural buffer between your property and adjacent lakes or streams to slow and filter runoff, reducing soil erosion and phosphorus movement into our waterways.
- Use native plants in your lawn and garden. They are adapted to our climate and don't have the same need for watering or fertilizer.
- If you have a septic system, be septic smart: inspect it, maintain it, and pump it out regularly to prevent malfunctions.

HOW CAN WE ENHANCE THE WATERSHED?



At Home You Can...

- Plant native trees and shrubs. Leave a natural buffer area between your yard and water bodies. At the very least, have a “no mow zone” along the water’s edge.
- Use environmentally friendly products to clean and maintain your home, car, cottage, or boat.
- Store agricultural manure away from creeks and ditches, preventing nutrients from being carried away from your property during rain events.
- Take your family on a hike in one of NBMCA’s 15 Conservation Areas to appreciate what our natural environment has to offer!

At Work You Can...

- Start the conversation about the Watershed Report Card.
- Initiate and/or support eco-friendly best practises.
- Coordinate a volunteer initiative to support a local environmental group or initiative.
- Fundraise to support an environmental not-for-profit organization.

In the Community You Can...

- Stay on trails when hiking, keep your dogs on a leash, and scoop the poop!
- Support your community’s clean-up initiatives.
- Inspect and clean boats and trailers before and after visiting lakes or rivers to prevent invasive species from escaping into our waterways.
- Report and remove invasive plant species to prevent spread.
<https://www.ontario.ca/page/managing-invasive-species-ontario>



NORTH BAY - MATTAWA
**CONSERVATION
AUTHORITY**

*Do you have questions not answered by this summary document?
Visit nbmca.ca for the "Explanatory Document" or
contact NBMCA for more information:*

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*The 2023 Watershed Report Card is available online and in other formats upon request.
Learn more about the health of Ontario's watersheds. Visit watershedcheckup.ca*

Ten member municipalities - City of North Bay, Municipality of Callander, Municipality of Calvin,
Municipality of East Ferris, Municipality of Mattawan, Municipality of Powassan, Town of Mattawa,
Township of Bonfield, Township of Chisholm, Township of Papineau-Cameron