

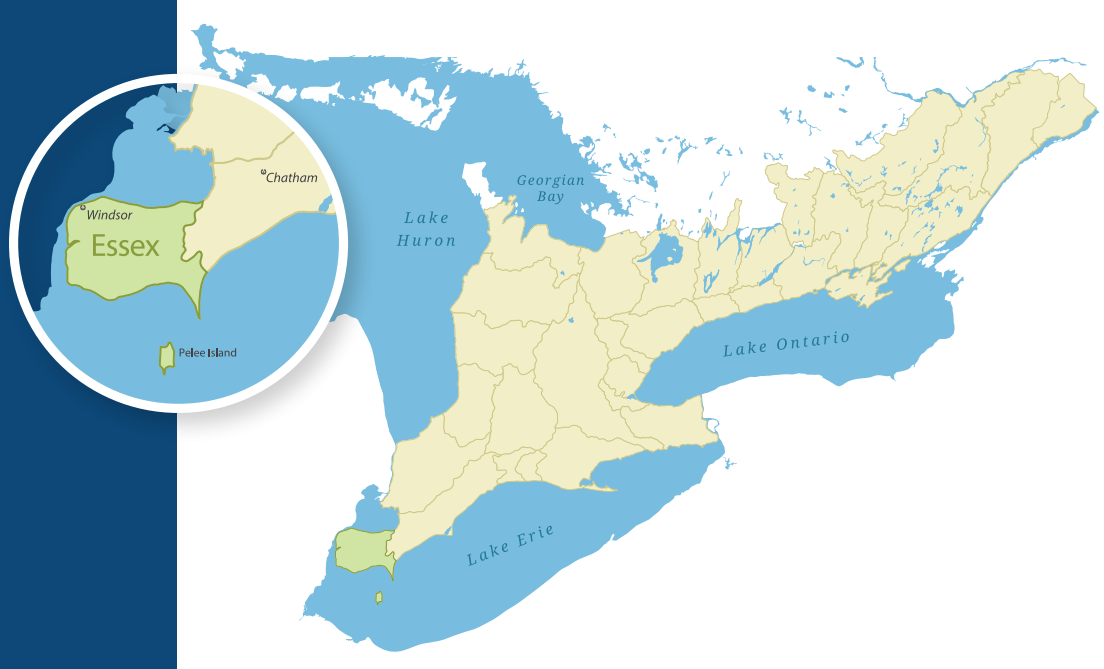
Essex Region Watershed Report Card 2023



The Essex Region Conservation Authority has prepared this report card as a summary of the state of your forests, wetlands, and water resources.



WHERE ARE WE?



What is a Watershed?

A watershed is an area of land drained by a lake, river, creek or stream. In the Essex Region, we have three main watershed areas - Lake St. Clair, Lake Erie and the Detroit River watersheds. Everything in a watershed is connected. Our actions upstream can affect conditions downstream.

Why Measure?

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



Groundwater Quality



Surface Water Quality



Forest Conditions



Restoration Efforts

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.

ESSEX REGION WATERSHEDS

The Essex Region is the southern-most region in Canada. Our landscape is rich in agriculture, vibrant urban areas and over 150 kilometres of shoreline along three coastlines. While all these elements contribute to the special nature of our region, in many cases, we face environmental pressures unlike others in the province.

The scores in this report card are calculated based on five years of data collected from 2017-2021. It is worth noting that the scoring is consistently applied across the Province of Ontario, and due to various land uses and geographic realities, our watersheds will never achieve the same results as many other, more natural watersheds elsewhere in Ontario. However, ERCA continues to work with many partners across the region to improve the environmental sustainability of the Windsor-Essex-Pelee Island region.

WHAT ARE THE KEY ISSUES IN OUR WATERSHEDS?



Non-point source pollution:

- Occurs when rain or snowmelt runs off fields, streets, or yards.
- Carries soil particles and pollutants to water bodies and groundwater.
- Because this type of pollution can occur over a large land area with no distinguishable source, it is very hard to manage.

Low Natural Area Cover:

- 95% forest cover loss.
- 95% wetland loss.
- 99% prairie loss.

What actions could you take to improve water quality?

- Inspect and pump out your septic system every three to five years.
- Apply nutrients to crops at rates and times that reduce the risk of runoff.
- Dispose of chemicals properly at household waste drop-off locations.
- Control soil erosion through the use of cover crops, crop residue, soil erosion control structures, vegetated buffers on stream and lake banks stormwater management and low impact development.
- Avoid applying fertilizer to mature lawns.
- Plant native trees, shrubs and pollinator plants on your property.



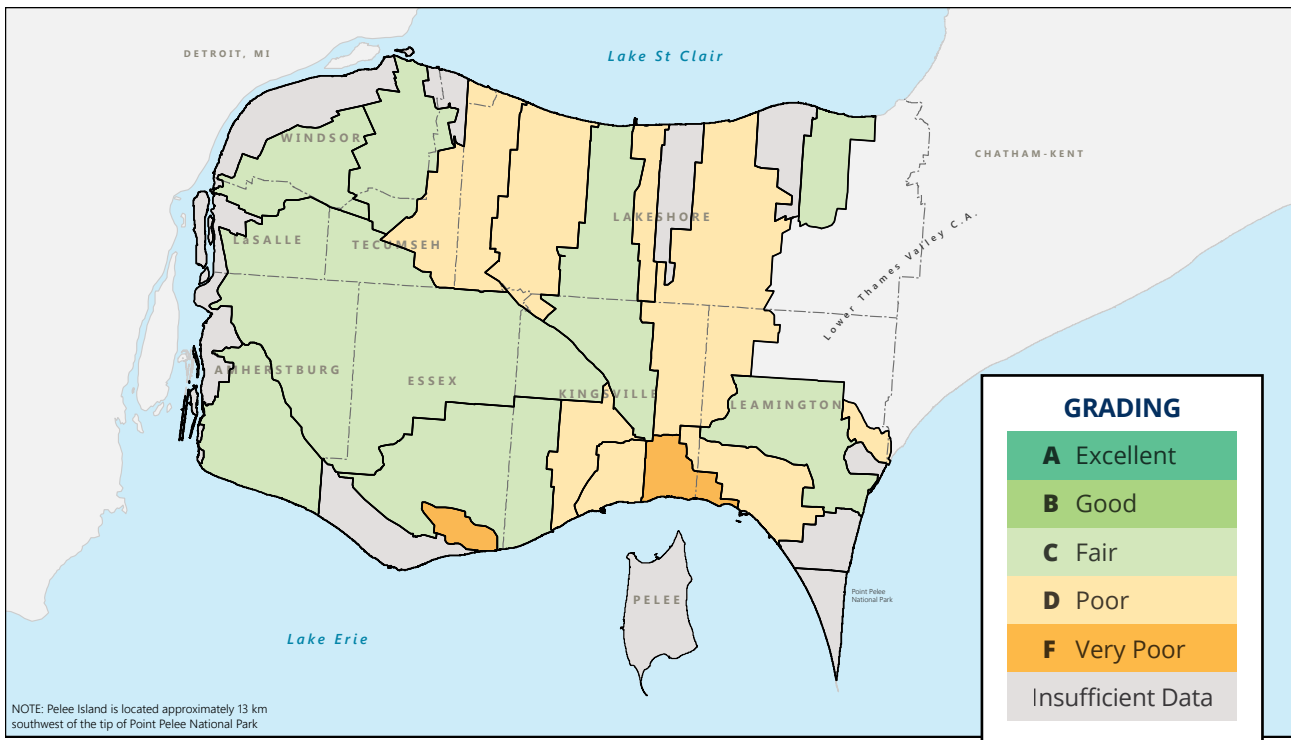
Concentrations of total phosphorus and *Escherichia coli* (*E.coli* bacteria) were measured at multiple locations in nearly every watershed across the region. These parameters are selected because high concentrations indicate contamination resulting from human activities like fertilizer use, manure, sewage, or septic systems. Total phosphorus tends to be bound to sediment and enters our waterways at a higher rate during rain events when sediment is washed off the land.

What Did We Find?

- Overall watershed grades range from C to F, with an average score of D. This is an improvement in many watersheds since our last report card in 2018.
- The improved score is due to lower concentrations of *E.coli*, however there are not enough data to suggest a consistent trend. *E.coli* scores range from A to D with an average score of C+.
- Total phosphorus concentrations, however, are continuing to increase in some watersheds, resulting in all but one watershed receiving a failing grade.
- Due to Covid-19 restrictions, we were unable to sample benthic invertebrates, the insects that live in streams, during the time period used for this report card.

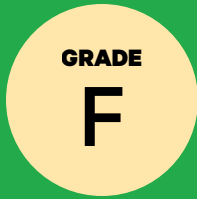
Going Forward

- ERCA will continue to monitor most watersheds in the region, although enhanced monitoring for some watersheds is at risk due to grant funding uncertainties.
- ERCA will continue to encourage the use of agricultural best management practices, both for traditional cash cropping and greenhouse agriculture.
- Landowners are encouraged to maintain and/or upgrade their septic systems regularly.





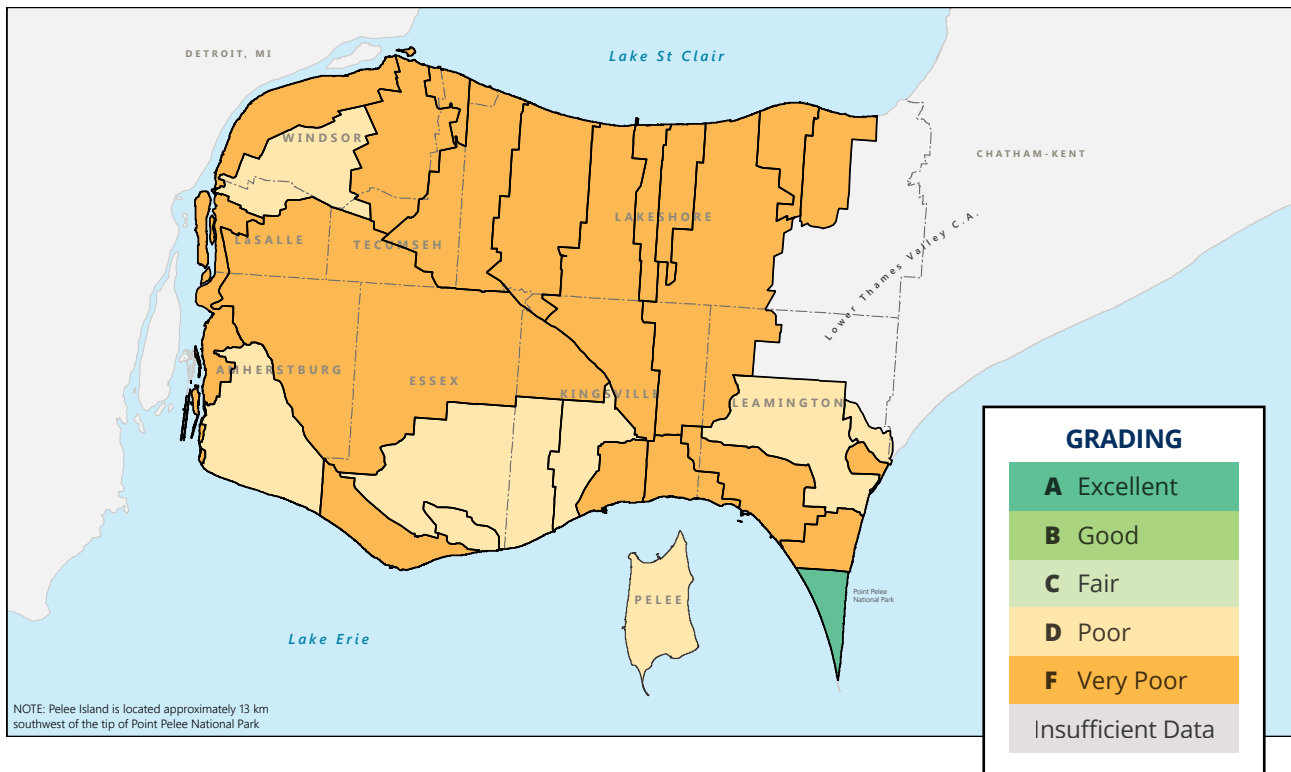
Essex Region FOREST CONDITIONS



The percentages of forest cover, forest interior, and streamside cover were measured with Geographic Information Systems (GIS) following guidelines provided by Conservation Ontario. Forest Cover, Soil Erosion and Water Quality are all linked. Increased tree cover reduces erosion and leads to improved water quality.

What Did We Find?

- Most watersheds scored either D or F for forest cover, with the exception being Point Pelee.
- Two watersheds fell from D to F, but this can be attributed to more stringent methodology rather than a loss of forest cover.
- Although ERCA has planted hundreds of acres of trees, the impact is minimal using the current scoring methods. For example, to achieve a grade of C requires at least 15% forest cover.
- ERCA’s forest cover has increased from less than 4%, the lowest in Canada to 5.7%, an increase of more than 7,000 acres. This is a substantial accomplishment, but is not enough to meet the threshold to move up a letter grade.
- It is important to note that the standards of measurement are set across the province, and high letter grades would be difficult to achieve in within our highly agriculturally-based watershed landscape. This scoring system also does not include the many other types of natural areas that have been restored or maintained, like wetlands and prairies.





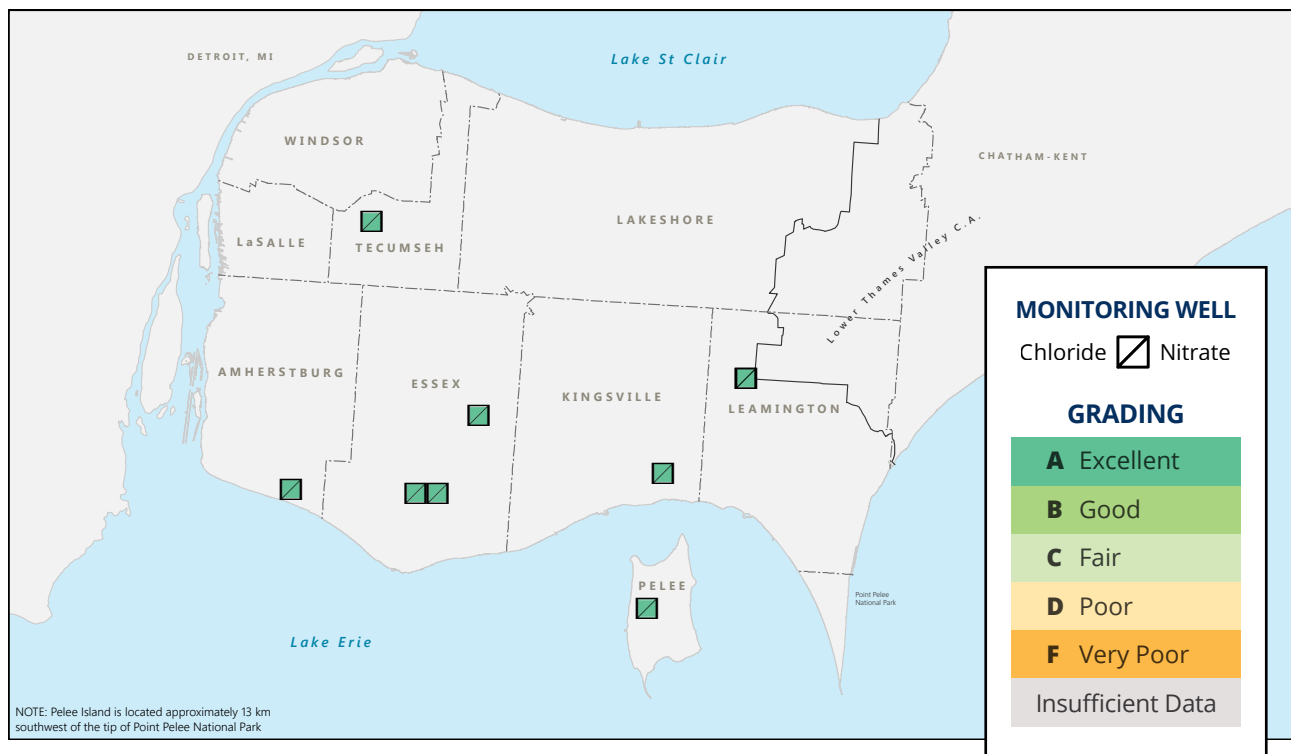
Concentrations of nitrate and chloride were measured at 8 wells in partnership with the Ontario Ministry of the Environment. Nitrate is an indicator of sewage or organic waste while chloride concentrations could increase due to issues such as road salt or leachate from landfills.

What Did We Find?

- Nitrate and chloride concentrations are low, which means that all of our groundwater wells received the highest rating (A Grade). Groundwater in the region has consistently received an A grade since the first published report card in 2002.
- Most of Essex County's groundwater is protected from pollutants by a thick layer of clay above the aquifers. However, groundwater is more vulnerable to infiltration of pollutants in areas with sandy soils like in the southeast portion of our region.
- Drinking water for municipal systems in the Essex Region comes from surface water intakes in Lake St. Clair, Lake Erie and the Detroit River. Some private residents rely on groundwater to supply their drinking water wells.

Going Forward

- ERCA will continue to monitor these wells through the Provincial Groundwater Monitoring program.
- With development occurring in areas with sandy soils that are identified as Significant Groundwater Recharge Areas and Highly Vulnerable Aquifers, ERCA will be carefully monitoring for trends that could indicate contamination or reduction of the volume of water in the aquifers.





Essex Region

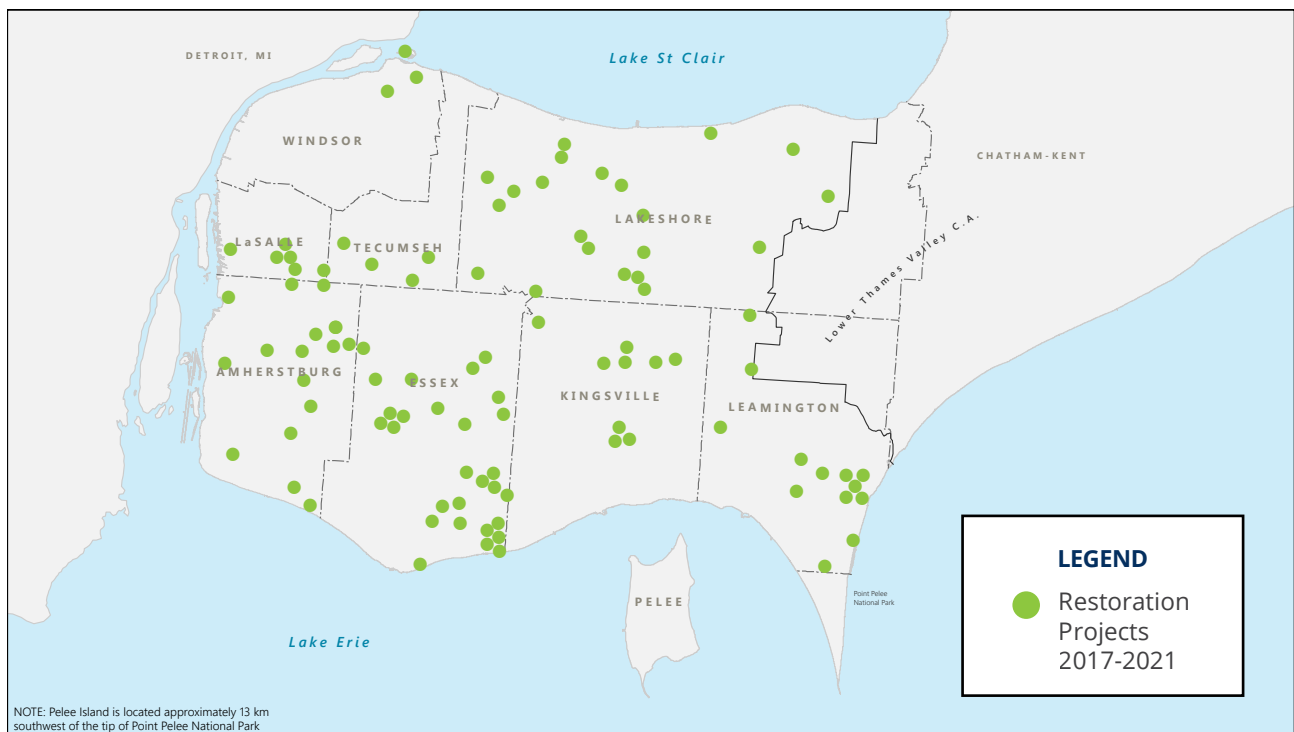
RESTORATION EFFORTS

Together with the Windsor-Essex-Peel Island community, ERCA has made great strides to protect and restore our natural environment. Each year, we work with many partners to plant trees, build wetlands, create prairie habitat and improve water quality. Over the five year reporting period:

What Did We Do?

- 408,000 trees have been planted and distributed.
- 14 wetlands, totaling 37 acres, have been created.
- 119 community tree plantings, stream cleanups, schoolyard naturalizations and outreach events have been held.
- 239 water quality improvement projects have been implemented.

The challenge ahead is significant, yet critically important for the environmental sustainability of our region in the face of our rapidly changing climate. Change takes time, and measurable progress can be slow. While the scale and intensity of projects to be implemented should be significantly increased, some of these efforts will become increasingly at risk with the changes to the Conservation Authorities Act and resulting funding model. Significant investment and dedication is required to truly create an environmentally sustainable region where people want to live, work and invest.



HOW CAN WE ENHANCE THE WATERSHED?



What Can You Do?

- Reduce your carbon footprint and energy use.
- Disconnect your downspout.
- Properly dispose of pet waste.
- Don't fertilize your lawn.
- Create a natural pollinator garden in your yard.
- Voice your support for planning policies that support sustainability.

What Can Your Community Do?

- Support ongoing improvements to municipal infrastructure.
- Direct development away from areas of environmental significance.
- Support local initiatives to monitor water quality and quantity.
- Apply a lens of sustainability to planning and development.

What Can Companies Do?

- Develop environmental policies.
- Become more energy efficient.
- Reduce waste.
- Support environmental efforts by volunteering or donating.



Do you have questions not answered by this summary document? Please contact us for more information:

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

