

## WHAT ARE OUR WATERSHED'S KEY ISSUES?



### Climate Change

- Increased frequency of flooding, winds, snowfall, crop damage, habitat loss.

### Habitat Loss

- Increased urbanization and agriculture leading to loss of forests and wetlands in the Carolinian life zone (an area supporting rare, endangered and threatened species in Canada).

### Invasive Species

- Native species are suppressed such as the Common Cattail by the invasive Common Reed (*Phragmites australis*) and White Trillium by Garlic Mustard (*Alliaria petiolata*).

### Blue-Green Algae

- Cyanobacteria (blue-green algae) has increased growth to form large masses in our waters called blooms, indicative of excessive nutrients such as phosphorus and nitrogen. Toxic blooms are harmful to fish, animals and drinking water sources.

### What local actions have been taken?

- **The Thames River Clear Water Revival** is a long-term partnership committed to a healthy and vital Thames River.
- **The Thames River Phosphorus Reduction Collaborative** raises awareness and provides extension services to reduce surface and subsurface transportation of phosphorus off agricultural land.
- **The Elgin Clean Water Program** provides technical assistance and financial incentives to help landowners implement stewardship projects on their properties.
- **The Greening Partnership** is an agreement to green the Municipality of Chatham-Kent through tree plantings, tallgrass prairie and wetland restoration.

## HOW CAN WE ENHANCE THE WATERSHED?

### What Can You Do?

- Conserve and connect existing woodlands, plant native species.
- Create natural landscapes to filter stormwater such as rain gardens, wetlands and tallgrass prairies.
- Control soil erosion through the use of grassed waterways, berms, cover crops, and maintaining crop residue.
- Control urban runoff with use of green technologies and low impact development (LID) practices.
- Apply nutrients at rates and at times that optimize crop uptake.
- Dispose of chemicals properly through household hazardous waste days or drop-off locations.
- Inspect and pump out your septic system every three to five years.
- Ensure manure storage facilities are adequate.
- Support our Memorial Forest Program.



### What Can Your Community Do?

- Where possible implement Low Impact Development (LID) and other Green Infrastructure.
- Partner with other groups and LTVCA at tree planting events.
- Plan and implement a land stewardship project within your community. For example: rain garden, buffer strip, windbreak, use of rain barrels.
- Support your Municipality in undertaking environmental initiatives.

### What Can Agencies Do?

- Protect wetlands, forests and other natural areas.
- Build capacity within organizations to better serve residents.
- Evaluate the effectiveness of environmental programs.
- Improve communication with other groups and agencies.
- Direct development away from areas of environmental significance.



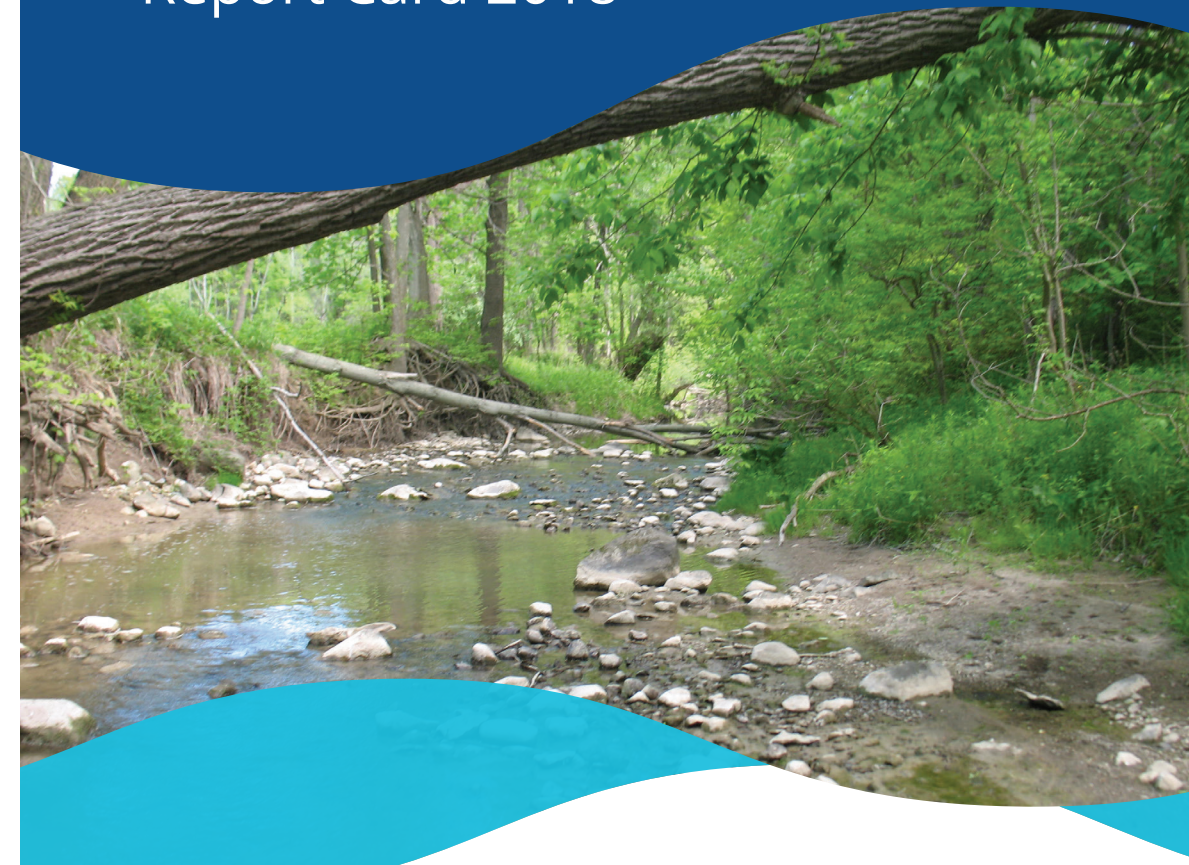
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The Watershed Report Card is available online and in other formats upon request.

## Lower Thames Valley

# WATERSHED

## Report Card 2018



Lower Thames Valley 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 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 Measure?

A grant from the Ontario Ministry of the Environment and Climate Change (MOECC) has allowed for additional watershed monitoring and refined subwatershed boundaries from those used in the 2013 Report Card. 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



Wetland Conditions

### GRADING

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



## GROUNDWATER QUALITY



## SURFACE WATER QUALITY



## FOREST CONDITIONS

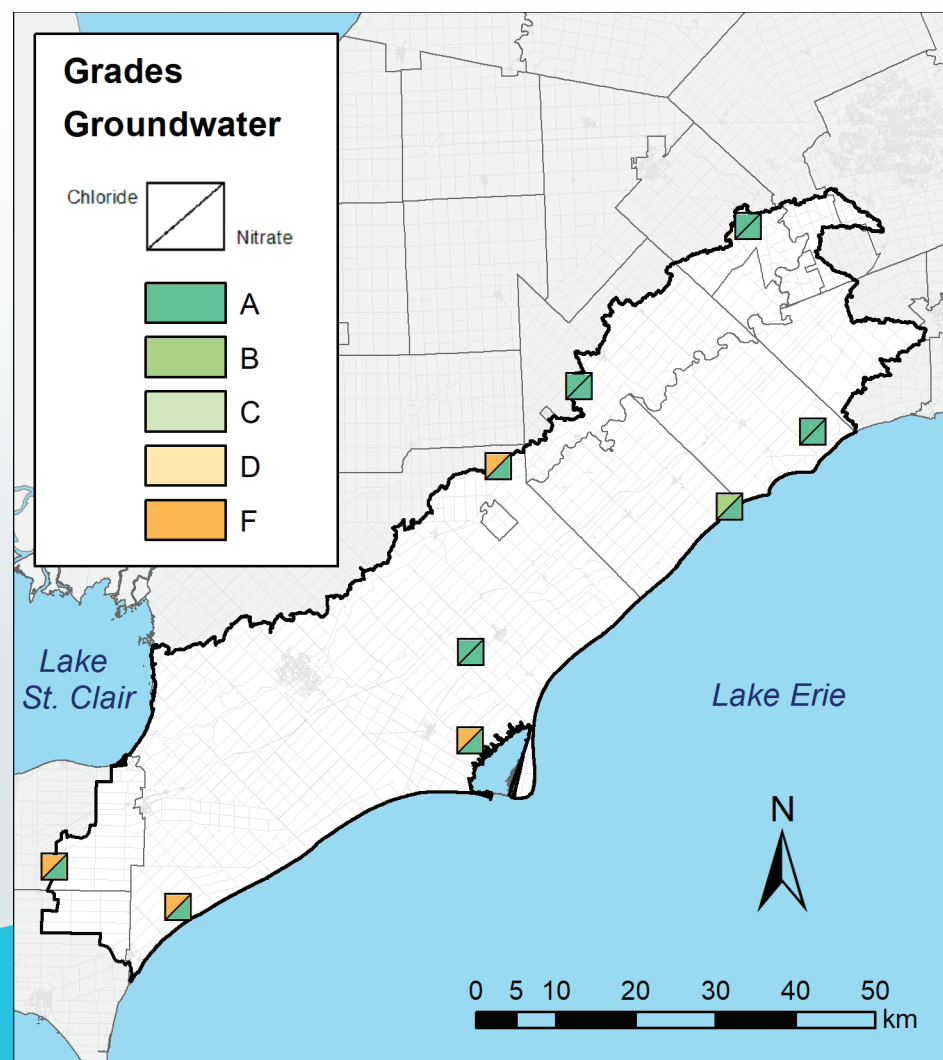


## WETLAND COVER

Concentrations of nitrate and chloride were measured at nine wells in partnership with the Ontario Ministry of the Environment and Climate Change.

### What Did we Find?

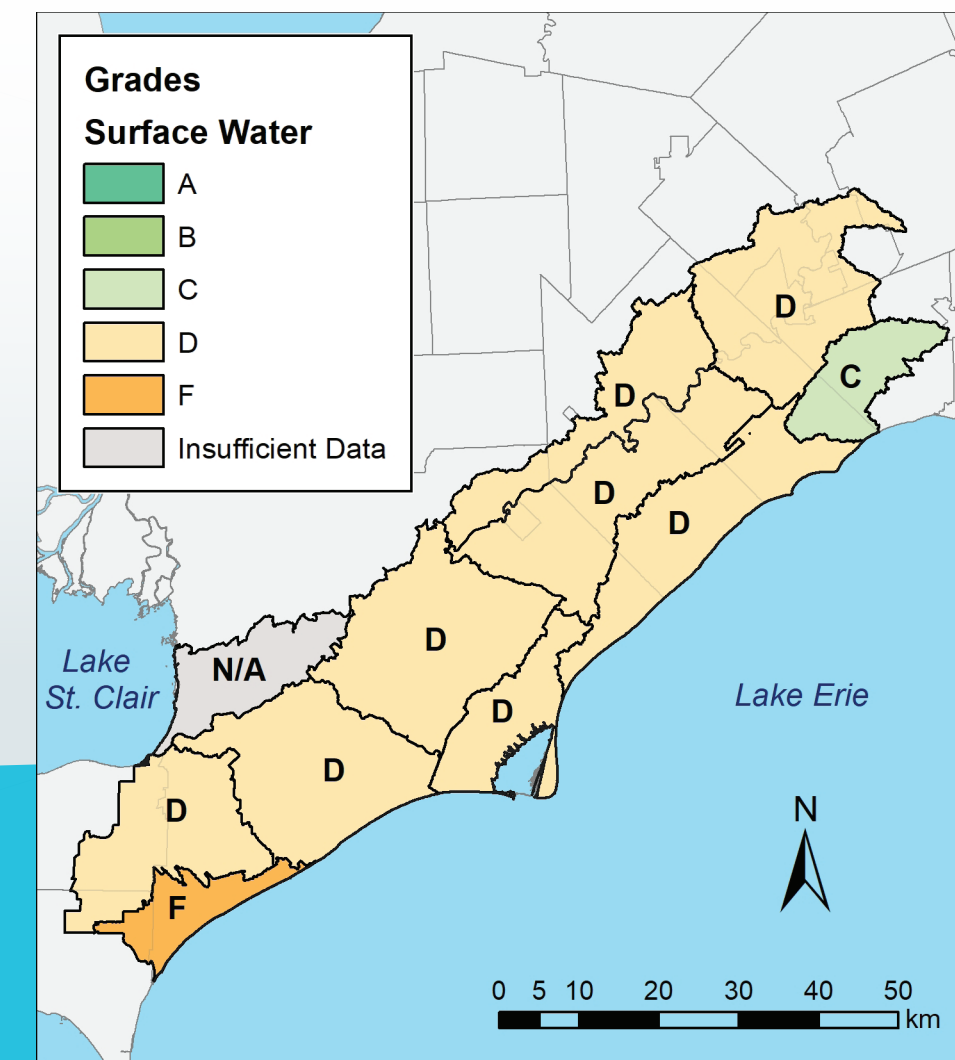
- Groundwater scoring has not changed since 2013.
- Those wells which scored an F for Chloride reflect that the water quality is not meeting the Canadian Drinking Water Quality Guideline's Aesthetic Objective. Other than the F's for chloride, groundwater scores are considered good or excellent.
- Well locations were chosen to reflect ambient regional conditions and may not reflect local issues or the quality of water used in Municipal drinking water supplies.



Concentrations of phosphorus and *Escherichia coli* (bacteria) were measured in partnership with the Ontario Ministry of the Environment and Climate Change. Benthic invertebrates (small aquatic animals living in the sediment) were also considered indicators of water quality and were sampled in partnership with the University of Windsor.

### What Did we Find?

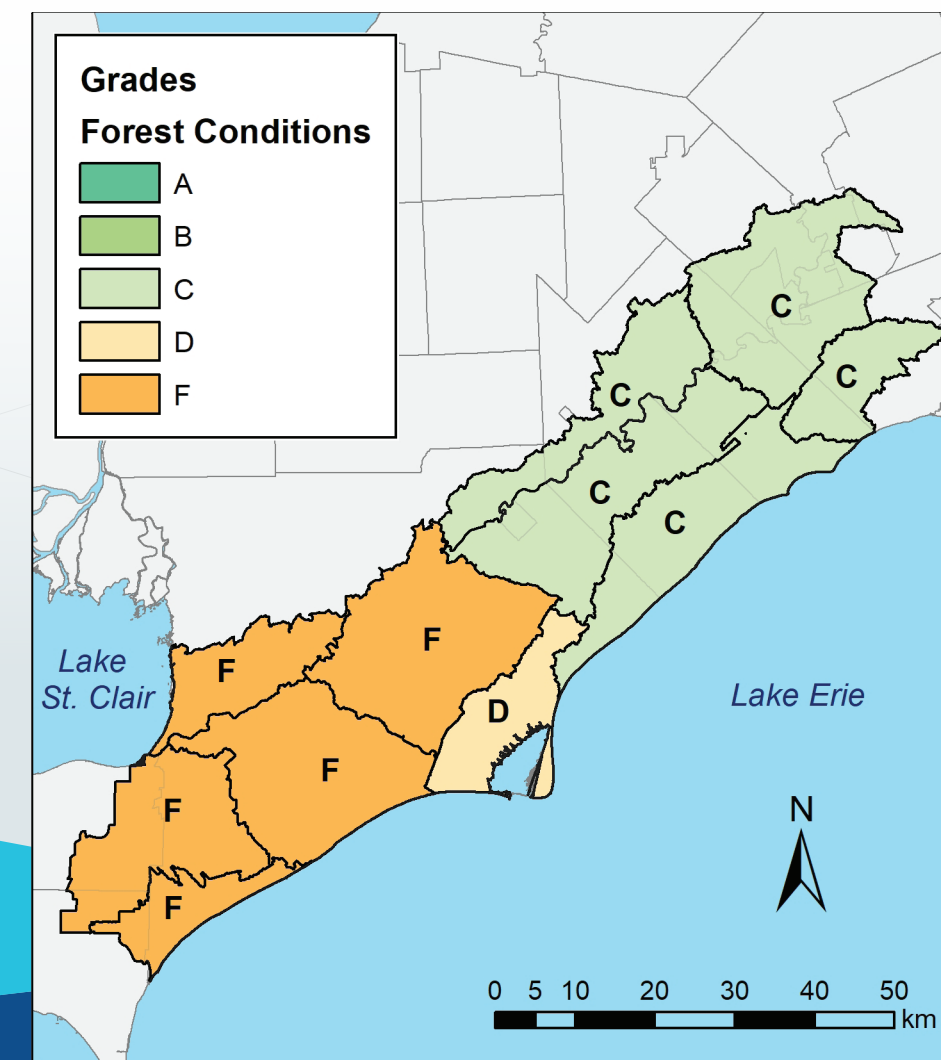
- Scores of C and below reflect that the water quality in our watercourses is not meeting the Provincial water quality objectives for either total phosphorus or E. Coli.
- Improved surface water scores in Talbot Creek and reduced scores in Two Creeks reflects additional sampling. Otherwise, scores have not changed since 2013.



The percentages of forest cover, forest interior, and stream-side (riparian) cover were based on 2015 aerial photography and measured with geographic information systems (GIS).

### What Did we Find?

- The improvement in forest cover scoring for the Talbot Creek area is due to a change in the watershed boundary, not actual gains in forest cover since 2013.
- Tree planting continues to balance forest losses and is important, but one should note that new plantings cannot replace the ecology that mature forests contain.
- Forests are isolated, islands of green with little or no connectivity. This puts pressure on species moving from one area to another for food and habitat. Invasive species such as garlic mustard and emerald ash borer are a constant threat to our forests.



The percentage of wetland cover was based on 2015 aerial photography and measured with geographic information systems (GIS).

### What Did we Find?

- Although not previously reported on, wetland cover scoring would not have changed since 2013.
- Species found in wetlands are some of the most unique in the world because they've evolved specifically to survive in these hydrologically changing ecosystems. More than half of the 800 species of protected migratory birds in Canada and the U.S. rely on wetlands. The vegetation found in wetlands is also unique as it has evolved to survive in seasonally flooded and saline conditions.

