

## Nottawasaga Valley

# WATERSHED Report Card 2013



The Nottawasaga Valley Conservation Authority has prepared this report card as a summary on the state of our forests, wetlands, surface water, and ground water resources.

Member of



Conservation  
**ONTARIO**  
*Natural Champions*



# Who Are We?

The Nottawasaga Valley Conservation Authority is one of 36 Conservation Authorities across Ontario under the umbrella organization of Conservation Ontario.

The NVCA is your public agency dedicated to the preservation of a healthy environment. As your partner, the NVCA provides the expertise to help protect our water, our land, our future.



Our watershed is approximately 3700 sq. km, with jurisdiction in 18 municipalities, and is the source of watercourses that flow into Georgian Bay at Wasaga Beach, Collingwood and Severn Sound. It includes 35 km of Georgian Bay shoreline along the Wasaga Beach and Collingwood waterfront.

## 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.



## What Does This Report Card Measure?



Surface Water Quality



Forest Conditions



Groundwater Quality



Wetland Conditions

### Grading

**A** Excellent

**B** Good

**C** Fair

**D** Poor

**F** Very Poor

### 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.

*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.*

# What Are We Doing?

## Conservation in Our Watershed

The Nottawasaga Valley Conservation Authority is a community-based environmental protection agency that works closely with municipal, provincial and federal government partners, landowners and community groups to protect, restore, and manage the natural resources of the Nottawasaga Valley watershed region.

This includes:

- **Environmental Planning & Regulations:** Land use planning input and administration of Ontario Regulation 172/06 (Development, Interference with Wetlands and Alterations to Shorelines and Watercourses) facilitates wise development that conserves the environment and protects life and property from flooding and erosion hazards.
- **Environmental Monitoring & Reporting:** Data collected through a number of monitoring activities are used to evaluate and report on existing conditions within the watershed and help establish targets for protection and rehabilitation activities.
- **Flood Forecasting & Protection:** Water level notifications and flood control structures (e.g. dams, flood walls, berms, and overflow channels) help to protect life and property from natural hazards such as flooding and erosion.
- **Education, Outreach & Stewardship:** Hands-on learning opportunities, advice and financial assistance educate the public about conservation and the environment. Through community partnerships, local stewardship projects help protect and restore our environment.
- **Conservation Lands:** 12 properties totaling almost 12,000 acres protect important natural ecosystems and provide outdoor recreation and tourism opportunities.





# Surface Water Quality



Stream Health is graded using insects and bugs that inhabit the stream bed (strong indicators of stream health), phosphorous levels, and bacteria (*E. coli* concentrations). The quality and quantity of surface water in our watersheds is very important and has implications for healthy communities and the environment.

Within the NVCA jurisdiction a network of streams and rivers arise from the elevated headwaters of the Niagara Escarpment, Simcoe Uplands, and the Oak Ridges and Oro Moraines. Most rivers flow to the Nottawasaga River, which discharges to Georgian Bay at Wasaga Beach. The creeks and rivers in the Blue Mountains subwatershed flow directly into the Bay in Collingwood. The Severn Sound headwaters flow northward out of our jurisdiction toward Severn Sound. Our jurisdiction also includes 35 km of Georgian Bay shoreline along the Collingwood and Wasaga Beach waterfronts.

Streams that flow through areas with healthy forest and wetland cover – such as those on the Escarpment – are generally healthy. Streams that drain highly urbanized or intensively farmed lowland areas are often unhealthy. Innisfil Creek is our most degraded watercourse system – impacts from this system extend downstream into the main Nottawasaga River.

Recent studies have confirmed that high nutrient (phosphorous) loading is the most significant water quality issue within the watershed. Runoff from agricultural and urban lands contributes to these high loads. Landowner and community stewardship actions aimed at reducing nutrient inputs are required to restore stream health.



**Did you know** that the Nottawasaga River system is one of the largest producers of Rainbow Trout and Chinook Salmon in the Georgian Bay/Lake Huron basin? The river also supports critical spawning and nursery habitat for Lake Sturgeon – a threatened species .





# Forest Conditions



A forest is a diverse ecosystem of trees, shrubs, grasses, wildflowers and wildlife. Forests provide many social and ecological benefits such as carbon sequestration, habitat for flora and fauna, building materials and opportunities for recreation. The amount of forest cover, deep forest habitat and riparian cover are important indicators that can be used to describe forest health within the watershed.

Forest conditions in the NVCA jurisdiction are generally good, with overall forest cover at 33% within this area. Forest cover has recovered from historic lows in the early 1900s, but is currently under pressure from urban growth and agricultural conversion.

Forest interior habitat (generally more than 100 m from the forest edge) is critical for a variety of sensitive forest wildlife. Environment Canada has recommended that at least 10% of a watershed should be forest interior habitat to support these important wildlife functions. Unlike many areas of southern Ontario, the NVCA watershed meets this minimum guideline.

The Willow Creek, Pine River and Mad River subwatersheds and the Severn Sound headwaters have the highest percentage of forest cover and forest interior in the NVCA jurisdiction. These areas form an important ecological corridor extending from the Niagara Escarpment to the Canadian Shield. Maintaining and enhancing ecological corridors will be important to allow forests and wildlife to adapt to climate change.



**Did you know** that rare forest communities are present within the watershed? A mosaic of rare pine-oak woodland and tallgrass prairie is found in Wasaga Beach Provincial Park. The Minesing Wetlands hosts rare bur oak and hackberry swamps. The cliffs of the Niagara Escarpment support old-growth cedar stands.





# Groundwater Quality

A

Groundwater is water that is located underground in sands and gravel or bedrock fractures. It is dynamic, infiltrating into the ground from rain or snowmelt then moving to spring and seep discharge areas or downward into aquifers. Groundwater sustains stream flow and wetland levels during dry spells. It supports a variety of human uses including municipal and private water supplies, agricultural irrigation and recreational activities.

More than 130 municipal wells and over 10,000 private wells are found within the Nottawasaga watershed. These wells provide drinking water for most watershed residents.

Source Water Protection is an important initiative focused on protecting municipal drinking water in Ontario, especially where groundwater is particularly vulnerable to contamination including areas that are

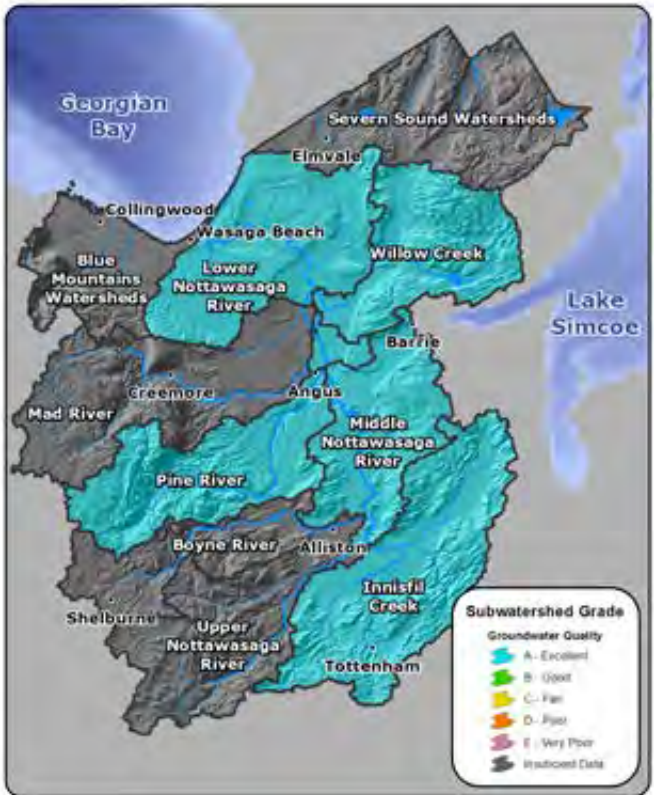
- 1) near municipal well sources,
- 2) highly vulnerable aquifers, which lie close to the ground surface, and
- 3) significant groundwater recharge areas.

Road salt application, industrial chemical uses, poorly maintained septic and manure systems and fertilizer use are potential sources of contamination that could adversely impact groundwater quality.

Through the Provincial Groundwater Monitoring Program partnership with the Ministry of the Environment, the NVCA monitors water levels and water quality in 16 wells located in various aquifers throughout the watershed.

Groundwater quality monitoring began in 2003 and is now being conducted annually. Monitoring data allows the NVCA to track changes in the groundwater levels and quality over time.

Results to date indicate that all monitoring wells meet Ontario Drinking Water Quality Standards.



**Did you know** that areas of sinkholes, known as karst, are present near the brow of the Escarpment? Streams and wetlands can “disappear” into karst then reappear hundreds of metres downstream as high quality cold water springs, which often support brook trout.





# Wetland Conditions

Wetlands play an important role in the ecological health of a watershed. They improve water quality by filtering runoff from agricultural and urban areas.



Wetlands hold back water on the landscape, which controls flooding, reduces erosion and helps maintain stream flows during dry periods. The wetland swamps, marshes and fens in the Nottawasaga watershed provide habitat for a rich variety of flora and fauna.

Current wetland cover in the NVCA jurisdiction is generally very good. Wetlands cover 12% of this area, which exceeds the 10% minimum habitat guideline recommended by Environment Canada. Historically more than 70% of wetlands in Ontario have been lost due to urban expansion and agricultural conversion. These pressures continue today in the NVCA jurisdiction.

Large expanses of wetlands can be found on poorly drained lands west of the Niagara Escarpment and within the lowlands in the central portion of the watershed. Long, narrow wetlands are often found along river valleys as well as along the Georgian Bay shoreline.

Wetlands within the watershed provide important habitat for a wide range of wildlife including migrating waterfowl, overwintering deer, a variety of nesting marsh and forest birds, turtles and amphibians. Many wetland species also depend on nearby upland habitats for nesting, foraging and/or hibernation – the maintenance of these connected upland areas is vital to support these wildlife functions.

The Ontario Ministry of Natural Resources has identified a number of wetland groupings within the watershed as provincially significant. Provincial and municipal planning policies protect these wetlands from development.

**Did you know** that the Minesing Wetlands, located in the heart of the watershed, is recognized as an internationally significant wetland? It supports a number of rare plant and wildlife species and protects Wasaga Beach from flooding. The coastal wetland marshes along the Collingwood shoreline are considered globally rare; this marsh type is found only in a few other locations along the Great Lakes shores.



# Be a Watershed Steward

## Healthy Waters, Healthy Communities

Our watershed ecosystems benefit us all. Healthy natural heritage systems, including water resources, are the foundation of a sustainable community. Often these services are overlooked and undervalued. Ecosystem services will become even more important as urban growth continues in our watershed communities.

New growth represents challenges and opportunities for us as a watershed community. Water resources, including stormwater and wastewater, must be carefully managed in urbanizing areas to ensure that the health of our rivers, streams and lakes is protected. Development must be planned to ensure it is safe from flooding and erosion hazards. Interconnected forests, wetlands and streams are needed to maintain water quality as well as the variety of life on our landscape.

Through innovative planning and wise stewardship, we can sustainably manage our local streams, lakes and natural areas for the benefit of present and future generations.

## What You Can Do

If we all work together, we can make a difference. Imagine if all 190,000 people living in our watershed region made wise environmental choices! Improving the health of the watershed requires each of us to make environmentally sound choices and habits a part of our everyday life.

Stewardship initiatives such as healthy waters projects, tree and shrub planting, agricultural best management practices, green infrastructure, backyard improvements and wildlife habitat protection and restoration can be simple and cost effective ways to help maintain and restore watershed health.

Here are some things you can do at home to help:

- Conserve water by using a rain barrel, reducing lawn and garden watering, planting drought-resistant native plant species and installing low-flow household products.
- Don't pour anything down storm drains – these drains often flow untreated into local water bodies.
- Minimize your use of fertilizers and pesticides and keep your septic system in good working order to avoid contaminating groundwater and nearby rivers, streams and lakes.
- Plant native trees, shrubs and wildflowers to improve water quality, help clean the air and enhance local wildlife habitat.
- Purchase/build and install bird and bat boxes to provide wildlife habitat on your property.
- Prevent the spread of invasive species by gardening with native and non-invasive plants, properly washing your boat when moving from lake to lake, disposing of bait away from water bodies and cleaning your footwear and bike tires before using local trails.

**If you are considering a project to restore habitat, plant trees or improve water quality, contact our stewardship staff for advice. There may be financial assistance available through the NVCA, often in partnership with other government and non-government agencies.**



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