



Nottawasaga Valley
Conservation Authority



2019

Annual Report

Healthy Watershed, Healthy Communities

2019 Board of Directors

- Councillor George Watson
Chair
Town of Wasaga Beach
- Councillor Keith White
Vice Chair
Township of Essa
- Councillor Donna Jebb
Second Vice-Chair
Town of New Tecumseth
- Deputy Mayor Bob Meadows
Township of Adjala-Tosorontio
- Councillor Gail Little
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- Councillor Andrea Matrosov
Town of The Blue Mountains
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- Councillor Thom Paterson
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- Councillor Mariane Mcleod
Town of Collingwood
- Councillor Dane Nielsen
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- Councillor Rob Nicol
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- Councillor Margaret Mercer
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- Councillor Ralph Manktelow
Town of Mono
- Councillor Shirley Boxem
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- Councillor Cathy Keane
Township of Oro-Medonte
- Councillor Walter Benotto
Town of Shelburne
- Mayor Don Allen
Township of Springwater

Nottawasaga Valley Conservation Authority

The Nottawasaga Valley Conservation Authority (NVCA) is your public agency dedicated to creating a healthy environment and communities through innovative watershed management.

The NVCA is committed to protecting watershed communities from natural hazards like flooding and erosion. Thanks to our watershed partners, we can work to preserve and enhance land and water resources in the watershed, and also connect our community with their environment through nature-based educational and recreational opportunities.

As one of the 36 conservation authorities legislated by the Ontario *Conservation Authorities Act*, we are governed by a board of directors appointed by our 18 member municipalities. Critical to our success is our strong partnerships with our member municipalities, government agencies, community partners and local landowners.

NVCA's jurisdiction extends over the 3,700 km² of the Nottawasaga Valley watershed, excluding the lands within CFB Borden. The Nottawasaga River and its tributaries run from highlands on the Oak Ridges Moraine, Niagara Escarpment and Oro Moraine through the internationally significant Minessing Wetlands before flowing into Georgian Bay.

Our Vision

Innovative watershed management supporting a healthy environment, communities and lifestyles

Our Mission

Working together to lead, promote, support and inspire innovative watershed management



Watershed Management Services

Watershed Management Services works to protect people and property from risks posed by flood, erosion and other natural hazards.

To facilitate effective decision making, NVCA advances our knowledge of the watershed through monitoring, and enacts our understanding through policy and communication.

Planning, Regulations & Enforcement

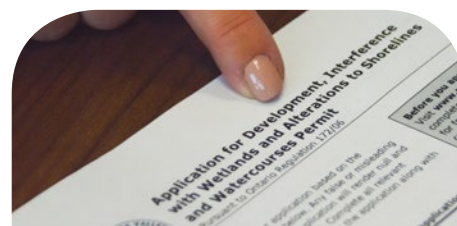
Processed 2,615 applications and inquiries under various provincial acts: *Conservation Authority Act, Planning Act, Niagara Escarpment Planning and Development Act, Aggregate Resource Act, Green Energy Act, Drainage Act, and Environmental Assessment Act*. This is an increase of 6.7% over 2018 (165).

Completed the 2019 Integrated Watershed Management Plan (IWMP) for the Nottawasaga Valley Watershed.

The IWMP is a 20-year plan which provides direction for the NVCA's strategic and business plans and sustainability initiatives.

The plan describes the process of how NVCA will manage human activities and natural resources in the watershed, while taking into account social, economic and environmental issues, as well as local community interests and issues such as the impacts of growth and climate change.

In the process of developing the IWMP, a detailed watershed characterization study was completed in June 2018, followed by an extensive stakeholder engagement process. Thank you to all of our stakeholders for your involvement and engagement in this process.



NVCA staff processed 2,615 planning and permit applications and inquiries in 2019.



Planning & Regulations

by the numbers

712

applications reviewed & approved under *Conservation Authorities Act*

387

consents, variances, zoning, Niagara Escarpment Commission & official plan amendments reviewed

22

subdivision plans reviewed

61

site plans reviewed

7

environmental assessments reviewed

87

non-compliance issues investigated under the *Conservation Authorities Act*

914

responses to general planning & permitting questions

280

consultations, solicitor inquires & other services offered



NVCA staff monitors flood prevention structures around the watershed, including dams, dykes and erosion control works.

Water Resources & Flood Warnings

Issued 8 flood messages including a Spring Safety Statement. NVCA remained out of low water conditions.

Inspected and operated flood and erosion control structures, including Utopia, New Lowell and Tottenham dams as well as the Pretty River Dyke. A Dam Safety Review was completed for New Lowell Dam in March 2019.

Ongoing maintenance and improvements to the NVCA stream and weather gauges to improve data quality and reliability.

Developed a Georgian Bay Shoreline flood warning statement.

Started developing Wasaga Beach floodplain mapping.

Provided engineering review in support of planning and permit applications.

Watershed Science

Monitored the health of the aquatic environment, looking at:

- Water chemistry – 18 sites
- Benthic invertebrates (water "bugs" that are an indicator of water quality) – 57 sites
- Water temperature – 23 sites
- Fisheries – 18 sites

Monitored groundwater at 92 drilled wells in the watershed for water levels and ambient water quality as part of the Provincial Groundwater Monitoring Network and other well networks.

Provided ecological and natural heritage review in support of planning and permit applications.

Published the 2018 Watershed Health Checks which include nine subwatershed health checks and one watershed-wide health check. These documents provide an overview of the health of forests, wetlands, streams and groundwater in the NVCA watershed. They also identify stewardship priorities, future challenges and opportunities to improve environmental health.

Completed the following reports to advance the scientific understanding of the Nottawasaga Valley Watershed.

- Considerations for Soil Moisture Monitoring
- Community Based Monitoring: Applicability to the Low Water Response Program
- NVCA Groundwater Monitoring Network Review and Assessment

Continued special water quality monitoring projects in the Hockley Valley and around the New Tecumseth Waste Water Treatment Plant.

Continued the Marsh Bird Monitoring Program in the Minesing Wetlands and Forest Breeding Bird Monitoring Program at the Tiffin Conservation Area.

Drinking Water Source Protection

Provided ongoing local support efforts for the implementation of the South Georgian Bay Lake Simcoe Source Protection Plan.

As the Risk Management Official for Essa, Clearview, Innisfil, Melancthon, Mono, Mulmur, Adjala-Tosorontio, New Tecumseth and Shelburne, NVCA completed risk management plans for significant drinking water threats as identified through the source protection process in addition to a number of site inspections.



NVCA scientists monitored groundwater at 92 drilled wells in the watershed for water levels and ambient water quality as part of the Provincial Groundwater Monitoring Network and other networks.

Watershed Monitoring

by the numbers

92

drilled wells monitored for groundwater level & quality

23

sites monitored for stream temperature

57

sites monitored for benthic macro-invertebrates, a measure of stream health

20

sites monitored as part of the Provincial Water Quality Monitoring Program

8

flood messages issued



Campers from NVCA's new stewardship camp help scientists monitor fish health in the Nottawasaga River



Conservation Services

Conservation Services works to enhance, restore and safeguard sensitive environmental areas, and through outdoor education and public programming, connect and engage residents with the natural-side of the watershed.



Volunteers help build a shed using Pioneer building methods at the Historic Fort Willow Conservation Area to further replicate the War of 1812 at the site.

Conservation Lands Program

Provided recreation opportunities for 50,000 visitors at 12 conservation areas across the watershed.

In partnership with the Rotary Club of Barrie, NVCA received 3,000 attendees at the annual Spring Tonic Maple Syrup Festival.

Hosted 700 students from eleven schools and 490 visitors at the Annual Festival at Fort Willow event.

Worked with the Utopia Friends of the Gristmill and Park on fundraising and implementation of the Utopia Master Plan. Began development of a 1.5 kilometre trail at the Utopia Conservation Area.

Partnered with Friends of Fort Willow, Friends of Minesing Wetlands, Friends of Utopia Gristmill and Park, Friends of Pine River, Blue Mountains Watershed Trust, the Bruce Trail Club, Nature Barrie, Rotary Club of Barrie and many other groups to maintain and improve recreational opportunities at NVCA conservation areas.

Facilitated more than 50 groups and outdoor events at the Tiffin Centre, including Scouts, Girl Guides, cadets and live-action role playing groups. Hosted 80 wedding celebrations and other events such as celebrations of life and corporate meetings.

Offered 100 hunting passes for Minesing and Osprey Wetlands, and secured hunters for exclusive hunting properties. Increased staff presence during the hunting season at all conservation areas.

Unveiled a stone monument in honour of John and Rosemary Dunsmore who donated 46 ha of property to the NVCA in 2011.

Undertook significant upgrades at the John L. Jose Education Learning Centre at the Tiffin Centre for Conservation, including building a new, energy efficiency washroom and upgrade to the Education Cabin.

Completed a hazard tree assessment and removed trees that were unsafe for visitors at the Tiffin Conservation Area.

Constructed a new shed using Pioneer building methods at the Fort Willow Conservation Area with the help of volunteers.

Developed a new Smoke-Free Outdoors Spaces policy for all conservation areas and other outdoor spaces owned and managed by the NVCA

Forestry Program

Planted 139,330 trees on 21 properties across the watershed.

Received financial contributions (outside of levy) from provincial and municipal governments, Forests Ontario, corporations and private landowners totaling \$226,174.

Managed 961 acres of forest by working with 49 landowners to develop their Managed Forest Plans.

Conducted Arbour Day sales in three municipalities, selling about 4,750 tree seedlings to urban and rural landowners.

Stewardship & Restoration

The stewardship team completed over 129 stewardship projects and events by leveraging \$507,628 in funding and donations to support projects that improve water quality and restore habitat. The total value of the projects were \$897,895, including the in-kind contributions of landowners, donated equipment time and volunteers. Thank you to our funders, volunteers, school groups, landowners and farmers who contributed to this effort. Here are some of the projects completed by our stewardship team.

Worked with farmers and rural landowners to reduce 291 kg/year of phosphorus runoff to streams and lakes. This will help prevent up to 146 tonnes of potentially toxic algae growth.



These paper bags are filled with up to 350 tree seedlings! When tree planting crews are ready to plant trees in the spring, the tree seedlings are loaded onto a truck and delivered to the plant site.

Lands, Stewardship & Forestry
by the numbers

13,001
acres of conservation lands managed

183
stewardship & forestry projects completed

114
km of stream enhanced or rehabilitated

\$507,628
of funding applied to watershed stewardship & forestry projects

137,250
trees planted by NVCA's Forestry Program

2,237
volunteers engaged in hands-on stewardship projects



An excavator stabilizing an eroding stream bank using on-site grass mats, trees and shrubs



Volunteers building fish hotels in the Nottawasaga River on the Mad River.



Volunteers remove invasive Phragmites in Collingwood. The dense stalks of Phragmites crowds our native vegetation, removing habitat and food supplies for wildlife.

Engaged over 2,556 volunteers in hands-on habitat restoration projects. Together we've helped restore 114 km of stream and many hectares of habitat!

Completed 42 projects with farmers, including installing manure storage, diverting clean water, retiring marginal farmland, restoring native grasslands and pollinator habitats, and planting stream-side buffers. These projects protect streams, beaches, lakes and groundwater from bacteria, nutrient runoff, algae blooms and nitrate contamination.

Worked with farmers to protect rivers and wetlands by installing over 1.8 km of fence that restricts more than 170 livestock from accessing sensitive streams, lakes and wetlands.

Enhanced 20 km of stream, rivers and shorelines with projects like enhancing fisheries habitat, creating naturalized buffers, stabilizing bank erosion and planting native trees and shrubs. These trees help cool water, stabilize banks, reduce pollution runoff from entering the river and create resilience to climate change.

Created fish habitat structures with volunteers to enhance fish habitat connectivity and create canoe access along 4 km of the Mad River in the Minesing Wetlands.

Responded to 290 stewardship information requests and conducted 63 site visits with landowners interested in stewardship projects.

Engaged hundreds of people at dozens of fun and informative community events and hands-on volunteer habitat restoration days.

Cut down 2.8 tonnes of invasive Phragmites in Wasaga Beach and Collingwood, and also 0.4 ha in the globally rare Great Lakes Coastal wetlands. Monitored and treated 3.2 ha of Phragmites in the internationally significant Minesing Wetlands with the Nature Conservancy Canada.

Forestry staff helped control 3.3 ha of invasive tall manna grass in a swamp forest. This area is a critical habitat for species at risk like the Cerelean Warbler and Wood Turtle.

Planted 32.3 ha of native grassland to restore habitat for species at risk, like bobolink and meadowlark and native pollinators. These restoration projects are very important in protecting grassland ecosystems, as approximately 99% of Ontario's tallgrass prairie has been lost.

Created and restored 3.01 ha of wetland. Wetlands help filter runoff, reduce bacteria, reduce flooding and provide habitat for many species, both rare and common. Swamp forest restoration efforts in Minesing provide habitat for the endangered cerelean warbler and the wood turtle, as well as dozens of other species at risk.

As part of Year One of the Nottawasaga River Restoration Program, the stewardship team stabilized 320 m of bank along Sheldon Creek and the Upper Nottawasaga River and constructed 800 m²

of new floodplain. The program aims to improve water quality and habitat for rainbow trout, brown trout, Chinook salmon and Northern Brook Lamprey (a species at risk) in the upper Nottawasaga River and Sheldon Creek.

Completed fish community monitoring work at 4 stations on Sheldon Creek. Thanks to Credit Valley Conservation and their punt boat electrofisher, fish community sampling was also completed on the main branch of the Nottawasaga River.

Provided support to the Township of Adjala Tosorontio to remove two large log jams on the Boyne River adjacent to the 2nd Line of Tosorontio. This work reduced local flooding, improved fish passage and enhanced a canoe route.

Improved flow conditions in Bear Creek in the City of Barrie by working with student volunteers to construct a 12 m long breach plug built out of anchored fresh-cut coniferous trees and on-site sod. The breach plug was designed to retain flow in Bear Creek and eliminate the diversion of flow into the road-side ditch on County Road 27. Enhanced a brook trout migration route by removing eight log jams that were blocking the channel.

Enhanced a 120 m long coldwater trout stream bypass channel at the Town of Mono's Baker property by adding on site grassy sod mats and red osier dogwood clumps to the banks of the creek found at the site. This work was completed in order to stabilize this constructed trout stream, enhance in-stream habitat and increase summer flow velocities in order to reduce warming of the stream.

Environmental Education

Provided quality outdoor and environmental education to 14,689 youth. This includes welcoming 474 youth over the summer as part of the Camp Tiffin day camp program.

New education programs were also introduced. These include Stewardship Summer Camp, Winter and March Break Camp, Family Nature Days, and Bat Night. Campers in the new stewardship camp learned about habitat restoration and helped restore the watershed with projects such as removing Phragmites in Collingwood, creating fish habitat in Essa and enhancing trails and stream banks by removing the invasive garlic mustard.



Through the Wonderful Wetlands Outreach Program, sponsored by the Rotary Club of Barrie, students learned the importance of wetland habitat and biodiversity. With the opportunity to give back to their community, the students were eager to enhance the wetland in their community with the seeds of wetland plants.

Environmental Education

by the numbers

193

school & group visits to the Tiffin Centre

1013

youth came to activities at the Tiffin Centre

14,689

youth participated in NVCA education programs





Some of NVCA's outstanding staff who help protect our watershed resident's lives and properties, and the environment



Corporate Services

Corporate Services plays a critical supportive role to the board of directors and across the organization, providing finance, human resources, communications and administrative leadership.

Governance & Corporate Support

Provided financial, human resources, communications and administrative support to the board of directors and all NVCA departments.

Brought new Board of Directors on for the 2019-2022 term through orientations and other learning experiences.

Processed four Freedom of Information Requests.

Shared information about NVCA through our website (66,720 visitors), social media (325,800 impressions), traditional media, e-newsletter (1,526 subscribers) and other channels and venues.

Geographic Information Systems (GIS) & Information Management

Developed and implemented an Online Camp Tiffin registration and payment application.

Supported National Disaster Mitigation Program funding through GIS mapping and analysis.

Updated core datasets, including Landuse, Land Cover, Regulation Limits and Ortho Imagery.

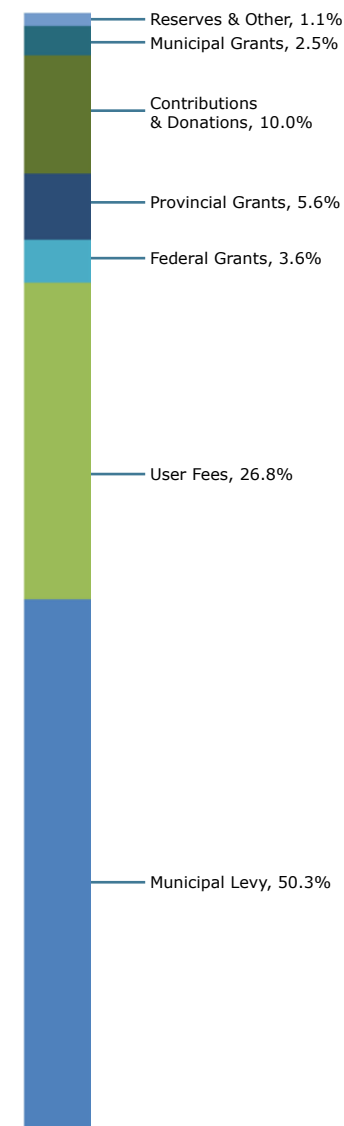
Developed corporate applications for asset management, invoicing, and centralized information system.



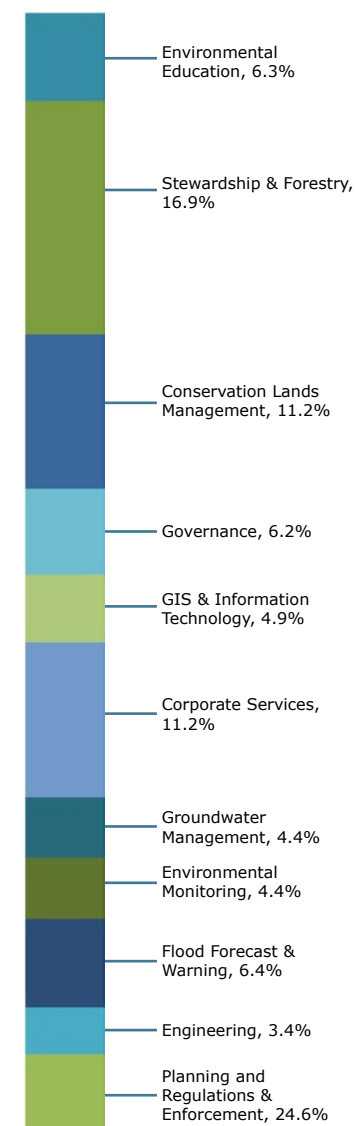
In 2019, staff updated NVCA's land cover GIS spacial layer to support multiple program areas

Financial Summary

Revenues



Expenses



NVCA's total 2019 budget was \$5,073,452. Revenue came from diverse sources, including member municipalities, provincial and federal governments, local non-governmental partners, and user fees for programs and services.

The 2019 balanced operational budget as approved required the use of \$45,903 from NVCA's reserves. Additional board approvals for the use of operational reserves throughout the year brought the total to \$175,508. With solid revenue performance including funding partnerships and expenditure control, NVCA ended the year requiring the use of \$110,941.

In 2019, NVCA purchased \$168,667 in capital assets (from an approved capital budget of \$164,100), with the overages funded through operational dollars.

This financial information is condensed from year-end, unaudited, statements. The auditor's report for the year ending December 31, 2019, is posted on the NVCA website at nvca.on.ca once approved by the Board of Directors.

The NVCA Board of Directors and staff extend a heartfelt thank-you to all our watershed partners for their volunteer and financial support throughout 2019.

NVCA Staff

Permanent and contract staff as of December 31, 2019.

Doug Hevenor,
Chief Administrative Officer

Corporate Services
Sheryl Flannagan, Director

Finance & Administration—Haleigh Ferguson, Executive Administrator • Christine Knapp, General Accountant • Kelcey McCuaig, Accounting Clerk • Kimberly Winder, Receptionist/Administrative Assistant • Jillian Cassis, Digitization Assistant

Communications—Maria Leung, Communications Coordinator

GIS/IT—Hendrik Amo, Manager GIS/IT • Robert Bettinelli, Information Management and Technology Specialist • Lyle Wood, GIS Analyst

Conservation Services
Byron Wesson, Director

Lands & Operations—Kyra Howes, Manager, Lands & Operations • Clint Collis, Lands & Operations Technician • Mike Bacon, Lands & Operations Technician • Spencer Macdonald, Lands & Operations Technician • Henry Pelley, Maintenance Technician

Environmental Education—Naomi Saunders, Manager, Environmental Education • Aryanne Hawke, Environmental Education Associate • Bob Cole, Environmental Education Associate • Charlotte Driscoll, Environmental Education Associate • Grant Wilson, Environmental Education Assistant • Jo-Ann White-McKenna, Environmental Education Assistant • Maegan McConnell, Environmental Education Assistant • Pamela Green, Environmental Education Associate • Susan Hall, Environmental Education Associate • Taryn Arsenault, Environmental Education Associate

Forestry—Rick Grillmayer, Manager, Forestry

Stewardship—Fred Dobbs, Manager, Stewardship Services • Sarah Campbell, Aquatic Biologist • Shannon Stephens, Healthy Waters Program Coordinator

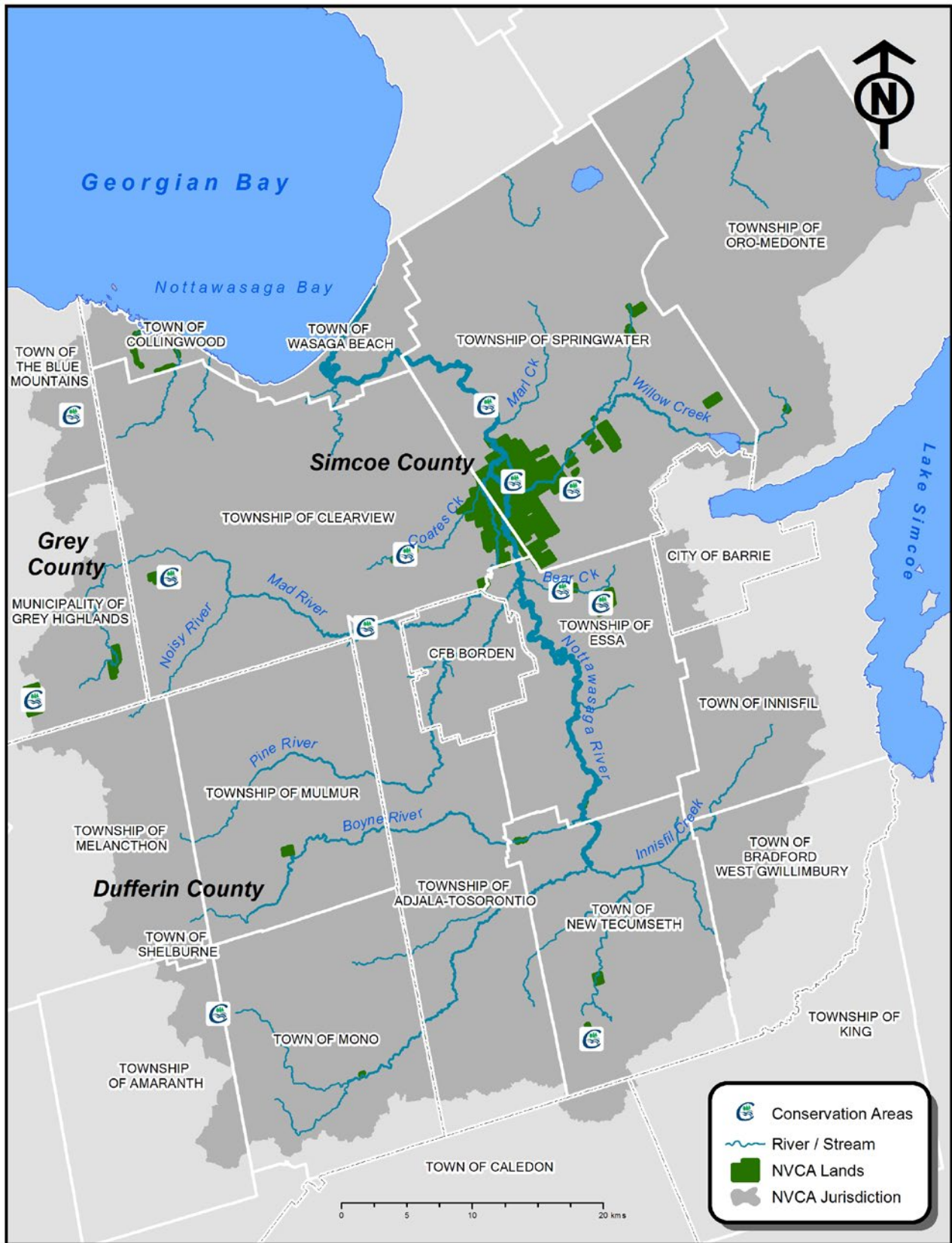
Watershed Management Service
Chris Hibberd, Director

Engineering & Flood Program—Mark Hartely, Senior Engineer • Peter Alm, Water Resource Engineer • Alison Edwards, Water Resource Engineer • Michael Saunders, Engineering Technologist • Sheri Steinginga, Flood Operations Field Specialist

Watershed Science—Ryan Post, Manager, Watershed Monitoring • Alyssa Deurwaarder, Watershed Monitoring Technician • Angela Mills, Hydrogeology Assistant • Ian Ockenden, Watershed Monitoring Specialist • David Featherstone, Senior Ecologist

Planning—Lee Bull, Manager, Planning Services • Amy Knapp, Planner • Emma Perry, Planner • Mike Francis, Planning Ecologist

Regulation & Enforcement—Daniel Dyce, Regulations Technician • Meagan Kieferle, Regulations Technician • Kate Thomson, Regulations Technician



Nottawasaga Valley Conservation Authority

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A member of:

