

2022

NVCA ANNUAL REPORT



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Our Vision

A sustainable watershed that is resilient to the effects of climate change, urban growth and other stressors and provides for safe, healthy and prosperous people and communities.

Our Mission

Working together to deliver innovative, integrated watershed management that is responsive to the environmental, economic and social sustainability of the Nottawasaga Watershed.

What We Value

An abundance of clean water, clean air and fertile soils that provide for healthy people and ecosystems.

Natural heritage systems and the ecosystem services they provide, particularly as they support resilience to the effects of a changing climate.

Distinctive landforms and waterways including the Georgian Bay coastline, Niagara Escarpment, Minesing Wetlands and others that give our watershed a unique sense of place.

Quality recreational opportunities that our hills, forests, meadows, wetlands, waterways and coastline provide for residents and tourists alike.

A wealth of resources within the capacity of our watershed to provide for thriving communities, successful economies and sustainable agriculture, now and in the future.

Message from the CAO

As we welcome a new year and a new Board of Directors, we mustn't forget the great work the entire NVCA team accomplished in 2022. This year was a pivotal year for us. As we were navigating the changes to the *Conservation Authorities Act*, we were faced with more changes including Bill 23, the *More Homes Built Faster Act*.

The NVCA team overcame these hurdles and remained steadfast at protecting our watershed from pressures such as climate change and development.

As we face these mounting challenges, there has never been a better time to ensure our partnerships with municipalities, funders and watershed residents remain strong.

Together, we will ensure our promises to protect and manage drinking water sources, rivers and streams, natural hazards and the lands we were charged to conserve are kept.

We will continue to guide our decisions based on an integrated watershed management approach by balancing human, environmental and economic needs. The tools in the *Conservation Authorities Act* and *Planning Act* will also help ensure that communities in the Nottawasaga Watershed are well planned and are desirable places to live in.

I hope you enjoy this annual report, where we highlight the work that our passionate and knowledgeable team accomplished to protect and enhance our watershed.



Doug Hevenor
Chief Administrative Officer



Climate Change

Climate change has been a hot topic for our funders, partners and supporters. Some municipalities in the Nottawasaga Watershed, such as the City of Barrie, the Township of Mulmur, the Town of Collingwood and Town of Wasaga Beach have already declared climate emergencies.

According to the Intergovernmental Panel on Climate Change, the next few years are critical for slowing greenhouse emissions. Recognizing the importance of responding to climate change, NVCA released the 2022 – 2025 Climate Change Action Plan In 2022.

This plan addresses both threats and opportunities of climate change and summarizes the actions that will drive our watershed to be better prepared for change.

Some actions were already completed, such as the installation of electric vehicle charging stations and implementing a hybrid work model for staff. With the help of funders, partners and volunteers, NVCA planted over 100,000 trees and restored many kilometres of rivers, streams and fish and wildlife habitat.

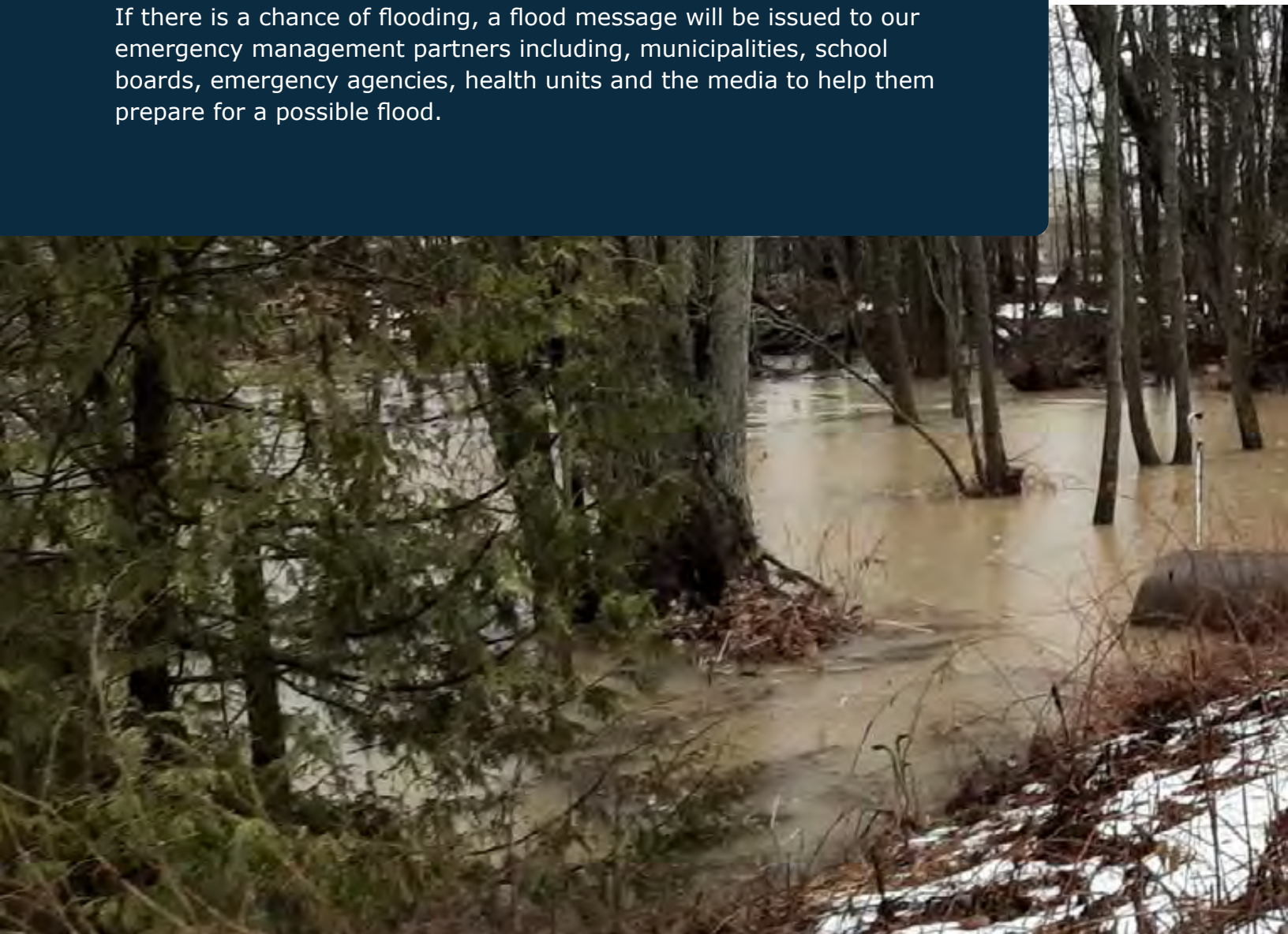
NVCA will report annually on the progress of implementing the Climate Change Action Plan and is committed to work with our partners to face the challenges that our communities and ecosystems face.

Flood forecasting and warning

There are over 6,100 km of streams and rivers in the Nottawasaga Watershed. NVCA is responsible for monitoring these watercourses for chances of them overtopping their banks, causing flooding in nearby communities in the Nottawasaga Watershed.

Every day, NVCA's Flood Management team works closely with partners to monitor key watercourses and weather stations in the watershed. They combine this information with the weather forecast to determine the chance of flooding in the next two or three days.

If there is a chance of flooding, a flood message will be issued to our emergency management partners including, municipalities, school boards, emergency agencies, health units and the media to help them prepare for a possible flood.



Flood mapping

NVCA and the Township of Clearview successfully applied for a grant from the Flood Hazard Identification and Mapping Program to help improve flood hazard mapping through the Village of Creemore. This work will continue through 2023 and be completed by March 31, 2024.

Pretty River Dike

NVCA continued to work with the Town of Collingwood to maintain the Pretty River Dike to help reduce the risk of flooding in the urban areas of Collingwood. While considering the ecological functions of the corridor, vegetation growing along the sides of the dike must be removed from time to time to ensure its full functionality.



Planning and Regulations

NVCA is responsible for directing new development outside of natural hazards such as floodplains, steep slopes, dynamic beaches and other hazardous lands to protect public safety. Staff also worked to ensure development does not impact sensitive environmental areas such as wetlands, shorelines and watercourses.

Regulations and permitting

In 2022, the Regulations team continued to work with property owners, developers and municipal partners to provide high quality review services for permit and planning applications. This included addressing the recent changes in Bill 23, the *More Homes Built Faster Act*, and responding to an increased volume of complex files involving natural hazards and non-compliance cases.

Non-Compliance

NVCA worked to resolve 103 non-compliance matters under Ontario Regulation 172/06 in 2022. The Regulations team worked with landowners with support from municipal partners to resolve many of these matters through permitting or voluntarily removal and restoration.





Development planning

As experts in natural hazards in the Nottawasaga Watershed, NVCA's Planning Services team work closely with municipalities, developers and consultants to find a balance between development, protecting lives and property from natural hazards and preserving watershed health.

This work begins early in the development planning process. NVCA's engineers, planners, ecologists and groundwater specialists review the proposed development plan to identify potential risks and features that may be impacted by the development. This information is communicated to developers and municipalities, and may include requests for supplementary information such as environmental impact studies, natural hazard studies and stormwater management studies.

NVCA has established partnership agreements with municipalities to identify key roles and services in the development plan review process. Examples include expertise in natural hazards, stormwater management and source water protection. The partnership agreements help ensure that development application reviews are coordinated and streamlined.

Removing barriers to better customer service

NVCA continues to implement measures that enhance clients' experience by providing clear information and exploring opportunities to automate our application processes.

The Regulations team also prioritized and streamlined files to increase efficiency and explored the best way to automate data management. NVCA also contracted a consulting firm to examine current fees and opportunities to expand the level of service for our partners and watershed residents.

Modernizing data management

A significant portion of NVCA's Planning and Regulations staff time is spent on administration tasks, including processing applications, data entry, preparing fee requests, invoices and responding to status requests.

Recognizing efficiencies can be created through technology, NVCA is investigating opportunities for a file data management system to reduce the resources required for manual data entry. This would allow the Regulations and Planning teams to focus on application reviews and provide better customer service. The Information Management team will first look at upgrading the current system before exploring other software solutions.

Review of Planning Services and Fees

Between 2018 and 2021, NVCA's Planning and Regulations teams have seen a 75% increase in workload with the same staffing levels, placing tremendous pressure on the team to meet provincial and municipal review timelines. These delays in services have resulted in reduced efficiency in recognizing user fee revenues.

NVCA has hired Watson and Associates Economists Ltd. to examine current fees along with opportunities to expand services in order to meet the needs and expectations of our partners, current legislation, as well as to be more consistent with other conservation authorities



Better Communications

The Planning Services and Communication teams worked together to help watershed residents better understand the NVCA permitting process.

These efforts included updating the permit and regulations section of NVCA's website, creating a new brochure, presenting to real estate agents and developing animated graphics to illustrate hazards regulated by NVCA.

This effort will continue in 2023 with the goal to provide enhanced customer service to NVCA's watershed residents and to increase familiarization with the regulations and permitting processes.





Ensuring a net gain for natural features in the Nottawasaga Watershed

Population growth and the resulting urbanization, presents a challenge for the protection and enhancement of wetlands and natural areas throughout the Nottawasaga Watershed.

In 2021, NVCA's Board of Directors approved the Achieving Net Gains through Ecological Offsetting Policy. With this new policy, developers must avoid and minimize the impact to natural features, such as wetlands. If impacts to these natural features could not be avoided, developers must rehabilitate, restore or recreate the features and functions of the natural areas.

In 2022, NVCA received over \$241,000 from developers to offset impacts on natural features that could not be avoided. NVCA's Stewardship team has already started using this funding to undertake ecological restoration projects in the watershed.



Ecological Restoration





Healthy watersheds are the work of many hands

In 2022, over 1,000 volunteers and dozens of landowners and farmers worked with NVCA's Stewardship team on over 80 practical and meaningful projects across the watershed.

Additionally, over 1,000 people participated in workshops, community meetings and events to learn more about the Nottawasaga Watershed and how residents can help make positive impacts to the environment in their communities.

These hands-on projects include farm practices to reduce pollution and restore habitat. They also helped to protect water quality, biodiversity and create green infrastructure to mitigate and adapt to a changing climate.

Not only do these projects benefit residents throughout our 18 watershed municipalities, they also extend into Georgian Bay and the larger Great Lakes system, making it a better place to live, work and play.

Nottawasaga River Restoration Project

The Nottawasaga River Restoration Program is a stream restoration initiative coordinated by NVCA and Nottawasaga Futures – South Simcoe Streams Network. Staff and volunteers worked to improve the water quality in the Upper Nottawasaga River and tributaries such as Pine River and Sheldon Creek to improve the overall quality of the Nottawasaga River.

These efforts help enhance the world class trout and salmon sports fishery found in the Nottawasaga River. Recreational fisheries provide important economic benefits for many municipalities within the Nottawasaga Watershed.

The Nottawasaga River is also home to native species such as brook trout and river burbot, as well as two species at risk – lake sturgeon and northern brook lamprey. All of these fish rely on healthy waterways to thrive.

In 2022, NVCA’s River Restoration team completed several large, multi-year projects – including one of Southern Ontario’s largest river restoration projects to date.





Restoring the Pine River

In 2022, NVCA's River Restoration team embarked on a new river restoration initiative for the Pine River in Township of Mulmur.

To begin, volunteers secured Christmas trees to the bottom of the eroding banks to control erosion. A large excavator machine then inserted logs and tree roots to the bank to create fish habitat and further stabilize the bank.

The excavator increased flood capacity by lowering stream banks and also added natural sod, trees and shrubs to the bank to help further protect it from erosion. Lastly, volunteers planted thousands of native trees and shrubs along the stream to provide shade to cool the water in the river during the summer.

The Nottawasaga River Restoration Project was funded by Fisheries and Oceans Canada, the Ontario Trillium Foundation, H. John McDonald Foundation, Takla Foundation, Great Lakes Local Action Fund, Lake Huron-Georgian Bay Watershed Community Action Initiative, Department of Fisheries and Oceans Canada, the Ontario Trillium Foundation, Environment and Climate Change Canada, World Wildlife Fund Canada, Mansfield Ski Club, Friends of the Pine River and Bass Pro Shops – Cabelas Outdoor Fund.

Building the Mad River Restoration Plan

Through monitoring river temperatures in the Mad River, the River Restoration team found fish and wildlife habitat in the river is in decline. To improve water quality, NVCA partnered with the Friends of the Mad River to start the Mad River Enhancement Program.

In 2022, NVCA's River Restoration team collected information to have a better understanding of the current condition of the river. This included water temperature, physical makeup of the river and fish populations.

So far, the team has identified abundant rainbow trout populations as well as river burbot, a native cold-water fish, previously not recorded in the Mad River. The team also discovered that there may have been an island in the middle of the river that helped to slow down the flow of the water.

The Friends of the Mad River will continue to raise funds for further research opportunities and hope to begin stream restoration work in 2023.





Fighting the 'Phrag'

Phragmites australis ssp. australis (European Common Reed) is an invasive perennial grass that has spread rapidly throughout Ontario, causing severe impacts to our communities and ecosystems. It forms thick stands that chokes out native vegetation. It limits shoreline access, impeding recreational activities like swimming and boating and degrades shoreline ecosystems. This tall grass spreads rapidly and can take over wetlands harming turtle, bird and native plant habitat. It is most easily managed when stands are small or still establishing, and requires annual monitoring to ensure effective control.

Since 2014, NVCA's Stewardship and Watershed Science teams have been working with the Town of Collingwood, Blue Mountain Watershed Trust, Georgian Bay Forever and community groups in the Silver Creek Wetland Complex to remove *Phragmites* in an effort to control the spread of this invasive plant.

In 2022, staff and volunteers only found a few stands of *Phragmites* remaining and were left wondering if they were winning the battle to removing *Phragmites* from the Nottawasaga Bay Shoreline, or will this invasive species return once lake levels decrease.



Creating resilient watersheds with natural infrastructure

About 681 km² of the watershed is located in floodplains, which represent about 18% of the Nottawasaga Watershed. As the watershed experiences the effects of development and climate change, natural hazards may be impacted.

NVCA's Stewardship team has been working to improve resiliency for flood and erosion by expanding green infrastructure to create landscapes that can better absorb water. These projects include restoring grasslands, forests and wetlands. When planted on critical groundwater recharge areas, these natural systems also help recharge aquifers and high quality drinking water sources.

This work is also key to protecting biodiversity and building resiliency to climate change. Additionally, many of these sites are located in the Greenbelt and other areas that connect wildlife habitats, helping to promote species migrations.



Stewardship on the farm

Consider this – every cow can produce about 33 billion fecal bacteria and 0.3 kg of phosphorus a day. Each kilogram of phosphorus that flows into rivers and streams can grow up to a tonne of algae. Well managed manure can be a wonderful, carbon-rich fertilizer for cropland and pastures.

Without proper management, this can create devastating effects to the Nottawasaga River, impacting water quality for livestock and causing algae blooms that harms fish and wildlife. Recreational activities like fishing and visits to Wasaga Beach will also be unsafe as provincial recreational water quality guidelines may be exceeded. A little prevention goes a long way.

Many farmers have long practiced good stewardship and many are interested in doing more! NVCA's Healthy Waters Program helps support sustainable agricultural practices with project cost-sharing, technical advice and workshops.

Projects in 2022 included the installation of manure management systems, fencing to restrict livestock from sensitive streams and wetlands, and cover crops to help keep topsoil on farms, which increases productivity and reduces runoff. Additionally, farmers worked with NVCA to complete clean-water diversion projects around barnyards.

Although project grants provide some assistance, it is important to recognize the significant contribution of time and money from the landowners. NVCA also assists by waiving regulatory permit fees for eligible stewardship projects.

Utopia Experimental Farm

NVCA is excited to be part of the Utopia Farmland Project – a soil health farming research project. This is a multi-year regenerative farming initiative, to transition from conventional farming to one focused on soil health, water quality, soil conservation, biodiversity enhancements and climate change mitigation.

This multi-year project began in 2021 has a value of \$150,000 to date. It has engaged over 30 volunteers, who've contributed over 700 hours of their time.

Partners and supporters include the Compost Council of Canada, Canadian Agricultural Partnership/Ontario Ministry of Agriculture, Food & Rural Affairs, Dalhousie University, A & L Canada Laboratories, Miller Compost, North Line Industries, Scott & Lynn Dobson, Ian McLachlan, Visions of Utopia, Joe Pantalone, Antler Family, FITEC, Overton Environmental and World Wildlife Foundation.

The advisory board of the project includes Scientific Researchers from Agriculture & AgriFood Canada, Quebec Ministry of Agriculture, Ontario Ministry of Agriculture, Food & Rural Affairs, International contacts in Australia, United States, the Americas.



Drinking water protection

Unused wells can pose a threat to drinking water sources. Surface contaminants like bacteria can use them as a shortcut to enter deeper aquifers. Research has shown that about 30% - 50% of private wells fail their drinking water tests, primarily due to bacteria and nitrate from failing septic systems or manure leaching.

In 2022, NVCA provided grants to five residents to assist with the cost to properly decommission their unused wells.





Grassland restoration

Compared to European pasture grasses, native prairie grasses have roots that can extend a few meters deep, far deeper than most trees, and much deeper than non-native grass species. As a result, native grasslands are important areas for flood protection and carbon sequestration. They are also critical to providing habitat for species at risk such as bobolink and meadowlark as well as numerous pollinators.

Over 97% of native grasslands have been lost in Southern Ontario since post European Colonization, resulting in many of the species that rely on grasslands to be considered species at risk in Ontario

In 2022, NVCA initiated six projects covering over 54 hectares to help restore grasslands as well as enhance hay and pasture management. Additionally, a total of 16 grassland projects are in-progress since 2019, including restoration, enhancement, bird and soil monitoring for soil-carbon, infiltration and compaction. Thank you to the many farmers, rural landowners, volunteers and the Nature Conservancy of Canada who made this possible.

Native prairie restoration takes considerable site preparation and seeding. As it is a fire adapted system, some site maintenance is needed, be it fire, mowing or grazing to prevent succession. The cost is considerable, especially since most of the native wildflower seeds are rare, hand collected and processed.

Thanks to funding support from Grasslands Ontario, World Wildlife Canada, Environment Canada and the Nature Conservancy of Canada, these projects are more affordable to landowners that want to help restored these endangered ecosystems.

Wetland restoration and enhancement

When there is a lot of rain or snowmelt, wetlands absorb and slow floodwaters, which helps alleviate property damage and can even save lives. In the face of climate change, these wetlands are ever more important as we experience more extreme storm events. For example, the Minesing Wetlands protects the Town of Wasaga Beach from regular flood events.

In Southern Ontario, over 70% of wetlands have been lost, mainly due to agriculture and development activities. Between 2002 and 2016, over 698 hectares have been destroyed in the Nottawasaga Watershed alone.

Protecting existing wetlands is a priority for NVCA. But, it is not enough to reverse these losses. That's why NVCA's Stewardship team is working with landowners to actively create and restore our wetlands. One of these projects is a 0.15 hectare wetland in the Township of Clearview. This wetland will provide wildlife habitat, groundwater recharge, and will benefit a creek downstream of the property. The landowner is also working with NVCA to restore grassland in a large area next to the wetland project.

Thanks to the Nature Conservancy of Canada, Ducks Unlimited Canada and many volunteers, a wetland-enhancement woody-berm project was also completed in the Minesing Wetlands within the Township of Springwater.



Watershed Science

Creation of the Stormwater Management Group

Streams and rivers in the Nottawasaga Watershed are connected through other streams, rivers, wetlands and groundwater. Ontario's current policies and guidelines promote the management of stormwater using a watershed-wide approach.

Stormwater is water that flows naturally through a watershed in the form of rain and snow-melt. The soil in farmlands and natural areas can absorb stormwater and slowly release it into rivers and streams, helping to create a constant, permanent flow of water.

As the Nottawasaga Watershed becomes more urbanized, natural areas and farmland are replaced with hard surfaces such as parking lots and pavements.

Water flowing over hard surfaces will flow faster into streams, creating larger fluctuations in water levels compared with naturally vegetated areas. This water may contain contaminants such as oil and pesticides. Unmanaged, this water can flow directly into rivers and streams, impacting water quality. Also, without natural areas to absorb and slowly release water, the permanent flow of water may also decrease. Through proper stormwater management, including Low Impact Development, we can better protect our streams and rivers.

Through the Stormwater Management Technical Working Group, NVCA is working with municipal staff and other agencies to promote stormwater best management practices throughout the Nottawasaga Watershed. Initiated in 2022, the group considered current stormwater management practices, potential climate change impacts in the watershed and explored options to monitor stormwater and enhance processes.

Source water management plan updates

Under the *Safe Drinking Water Act*, Source Protection Plans and Assessment Reports must be updated before an expanded municipal drinking water well can provide water to residents.

Wells in the Township of Springwater and Township of Clearview have been expanded to accommodate an increase of development. NVCA's Watershed Science team assessed the vulnerability of these municipal drinking water systems to contamination and identified potential significant drinking water threats.

NVCA continues to work with member municipalities to ensure that the new or updated municipal drinking water systems are in alignment with the goals of the provincial Clean Water Act.

Improving water quality in the Town of Shelburne

In 2022, NVCA partnered with the Town of Shelburne on the Boyne River Monitoring and Stewardship Project. The objective is to monitor potential impacts of the expansion of the waste water treatment plant. Pre-expansion samples allowed for the establishment of baseline conditions which will be compared to samples taken after the plant's expansion.

In 2022, monitoring activities included benthic macroinvertebrates (aquatic insects) and fish. The stewardship component of the project included working with the local high school to plant 200 trees and shrubs in the town along Walter's Creek. NVCA's Stewardship team also worked with a local landowner to investigate opportunities to improve water quality by managing a dam on the property.



Natural heritage


Natural heritage in a watershed is a combination of various landforms and their ecosystems that sustain plants, fish and wildlife. This includes forests, streams, wetlands, valley lands, regenerating fields and areas that connect these features.

In 2022, NVCA's Watershed Science team completed the Natural Heritage Program Strategy. This is a document that, in part, provides direction to NVCA to develop a natural heritage system within the Nottawasaga Watershed as we face the pressures of development and climate change.

Other action items in the strategy include updating wetland maps, assisting with conservation land inventories, monitoring natural heritage and communicating all of the above to NVCA's member municipalities, partners, funders and watershed residents.



Lands and Operations

A person with a backpack is walking on a wooden boardwalk that winds through a dense, lush green forest. The boardwalk is made of light-colored wood and has a simple railing. The surrounding vegetation is thick with various green plants and trees, creating a vibrant natural setting.

NVCA owns and manages over 6,000 hectares of property throughout the Nottawasaga Watershed. By conserving these lands, we are able to protect important natural features, as well as ecosystems and their functions. Watershed residents and visitors are able to enjoy recreational opportunities provided by these natural areas.

NVCA's properties are not suitable for development and are held for conservation and wildlife habitat, as well as flood control. The majority of these properties were acquired through partnerships and donations to ensure the long-term protection of their natural features.

Creating enjoyable experiences

NVCA collects user fees to help staff and volunteers with ongoing maintenance and restoration of our conservation areas.

Increased visitor use means the maintenance list for trails and other recreational areas is long and constantly being addressed. Many NVCA trails are considered accessible, which require a high standard of care. Accessible boardwalks, bridges, washrooms and interpretive signage are all part of a positive visitor experience. To better accommodate continued high visitor numbers, NVCA will continue to review infrastructure needs and develop plans for implementation.

NVCA's Lands and Operations Enforcement Officers also patrol conservation areas to ensure visitors follow rules and regulations, such as keeping dogs on leashes, not littering, staying on trails and being respectful of other conservation area users. Not only does this create better experiences for other visitors, it ensures wildlife habitats are not disturbed or damaged.

Refreshing our conservation areas

Many NVCA conservation areas have lookouts, bridges and other infrastructure to enhance visitor experiences. These platforms are great for connecting trails, wildlife viewing or simply reflecting.

As these platforms age, it is important to replace them to ensure visitor safety. In 2022, the Lands and Operations team replaced a lookout platform and installed a new accessible pond dipping platform on Papa Bear Pond at the Tiffin Conservation Area. Thank you to the Rotary Club of Barrie for helping to put the finishing touches on the accessible platform and to FedDev for providing funding support.

In an ongoing effort to reduce our carbon footprint and to work towards meeting Canada's climate change targets, NVCA is promoting the use of electric vehicles (EV) by installing EV charging stations. In 2021, NVCA received a grant to install three EV charging stations at the Tiffin Conservation Area.

Two of the chargers will be available for use by NVCA staff and fleet and one charger is available for public use, located in the trailhead parking lot at Tiffin Conservation Area.

Minesing paddling safety

As paddling in the Minesing Wetlands is becoming a popular tourism destination, NVCA and Tourism Simcoe County continued to work together to ensure visitors better understand the skills and risks involved with exploring the wetlands. Minesing Wetlands is a remote wilderness area that is challenging to paddle and even more challenging to rescue from.

Creating revenue through engagement

Tiffin Conservation Area and Historic Fort Willow Conservation Area support annual events that help raise funds for NVCA.

As we recovered from the COVID-19 pandemic, these conservation areas are once again fully open for weddings and events. In 2022, 25 couples got married at NVCA properties. A total of 36 events were hosted at the Tiffin Centre for Conservation.

Not only do these activities generate revenue for maintaining conservation areas, but they support local businesses through service providers and tourism opportunities. Many people who attend events at NVCA's properties come from outside the watershed and may stay in the area. During their time here, they stay at local accommodations, eat at local restaurants and shop in local stores. Travel leads to trade.



Bringing our festivals back

Before the COVID-19 pandemic, NVCA held two annual festivals – the Spring Tonic Maple Syrup Festival and the Festival at Fort Willow.

In 2022, the doors opened again for the festivals and both were a great success!

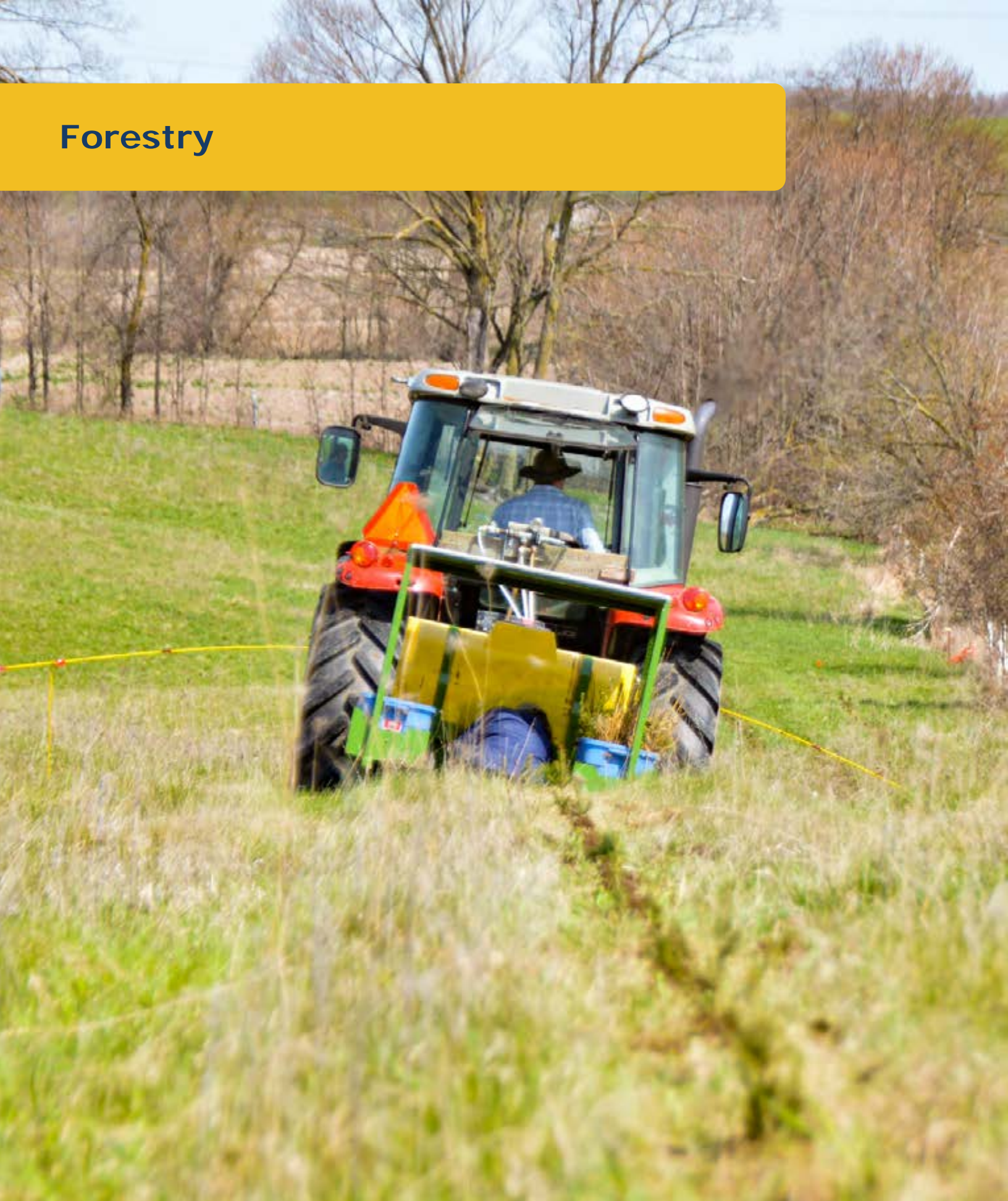
Partnering with the Rotary Club of Barrie, the Spring Tonic Maple Syrup Festival welcomed 2,500 people. Visitors learned first-hand how maple syrup was made by Indigenous Peoples and pioneers and toured the sugar shack to learn about current methods of production. Admission included a full pancake and sausage breakfast with fresh maple

syrup, as well as activities including historical reenactors, firefighters, paramedics, outdoor skill demonstrations by the cadets and much more!

In the fall, the Historic Fort Willow Conservation Area came to life, as over 1,500 visitors experienced what life was like pre-European contact, during the Fur Trade and the War of 1812. Visitors made candles, learned about the items that were traded between Indigenous Peoples and Europeans, experienced first-hand how sailors work on ships, saw how food was made by settlers and learned about military drills.



Forestry



In the early 1900s, as settlers established communities in the Nottawasaga Watershed, they started to clear land for farming. Topsoil quickly eroded and the sand underneath was exposed, creating inhospitable conditions for farming and residents. Between the 1960s and early 1990s, the Province of Ontario planted millions of trees to restore lost forests. Fast forward to today, NVCA is the only organization in the watershed that offers large scale professional tree planting services.

The forests that NVCA has planted not only stopped the spread of desertification, they also help provide wildlife habitat, shade rivers and streams, produce oxygen, among many other benefits. Well managed forests also contribute to the economy by providing wood for development and wood fiber for products such as paper.

NVCA's Forestry Program started in 1964, one of NVCA's longest running programs. In 2022, only 20% of the program was funded by levy, the rest was covered by grants, landowner fees and donations.

Each spring, the program plants 14-15 different varieties of trees, including white pine, red pine and white spruce. In 2022, NVCA's Forestry Program planted over 115,000 trees on 23 properties.

2 Billion Tree Program announced

In November 2022, the Federal Government announced the 2 Billion Tree Program. With this funding, NVCA will continue to work with landowners to plant forests, take advantage of the Managed Forest Tax Incentive Program and access trees for both the Stewardship and Forestry Programs.

Real evidence of climate change

Climate change affects many processes, including where pests live. As temperatures in the Nottawasaga Watershed increase, pests like ticks are becoming more common.

In previous years, Forestry staff rarely encountered ticks during site visits. In 2022, ticks were found at most properties Forestry staff visited, and found as many as ten ticks in a post-visit tick-check!

Helping trees migrate in the face of climate change

Like many living things, trees require specific environments to thrive. As temperatures become warmer, trees that are adapted to the Nottawasaga Watershed may be stressed, and may struggle to survive. As conditions change, the watershed will be more suitable for trees that were adapted for more Southern climates, such as Ontario's Carolinian Zone.

Trees will naturally migrate to more suitable conditions, but this process will take hundreds, even thousands of years. Humans can help this along with strategic tree planting.

But this takes time and research for nurseries to learn how to grow these trees for this new climate. It also takes considerable effort to collect the seed itself.

Several nurseries in Ontario have had success in developing seed treatments for trees such as sycamore. NVCA has incorporated this tree into the 2022 plantings to start the tree migration process.





Environmental Education



Habitats and communities... in communities

NVCA's Education team continued to be a trusted partner with many organizations, including Simcoe County District School Board (SCDSB), the Rotary Club of Barrie and Georgian Bay Forever (GBF). In 2022, the Education team worked with over 7,000 students to help them connect with our natural world and become the future stewards of our watershed.

Each year, NVCA develops and delivers Habitats and Communities programming for Grade 4 students in the SCDSB.

In 2022, the Education team visited the students at their schools to investigate habitats and communities in greenspaces in or around their schoolyard. Teachers also gained skills by learning new games and grew an appreciation for the outdoor spaces around their schools. Once comfortable, these areas are great opportunities for many types of lessons.

As students become more familiar with the natural areas around them, NVCA and SCDSB hope that they will return to these spaces with their families to foster a long-term appreciation for nature close to home.







Teaching water quality

Thanks to funding from GBF, students in the Town of Collingwood were able to access two water quality programs free of charge.

Through the Microplastics Program, students gained hands-on experience on how microplastics affect our land and waters using microscopes and soil sifters. In the Enviroscope Program, students learned about direct and indirect sources of pollution and how to mitigate them.

While these programs were initially intended for the Town of Collingwood, it has been expanded to several municipalities, including the Township of Clearview, Penetanguishene and Meaford.

NVCA also partnered with SCDSB and GBF to offer professional development in teaching water quality.

Expanding our offerings in French

In 2022, NVCA's Environmental Education Program hired a French educator to expand program offerings. This will provide municipalities with the opportunity to access nature-based environmental education programming in both official languages!

Corporate Services

NVCA's Corporate Services team include Human Resources, Finance, Governance, Communications and Information Management. These teams provide critical support to other departments within NVCA.

Administration and finance

As COVID restrictions lifted in the province, the Administration team welcomed clients back to a fully open John Hix Administration Centre. They continued to provide excellent customer service, assisting customers with questions regarding permit applications, education programs, hunting and fishing permits, conservation areas and much more.

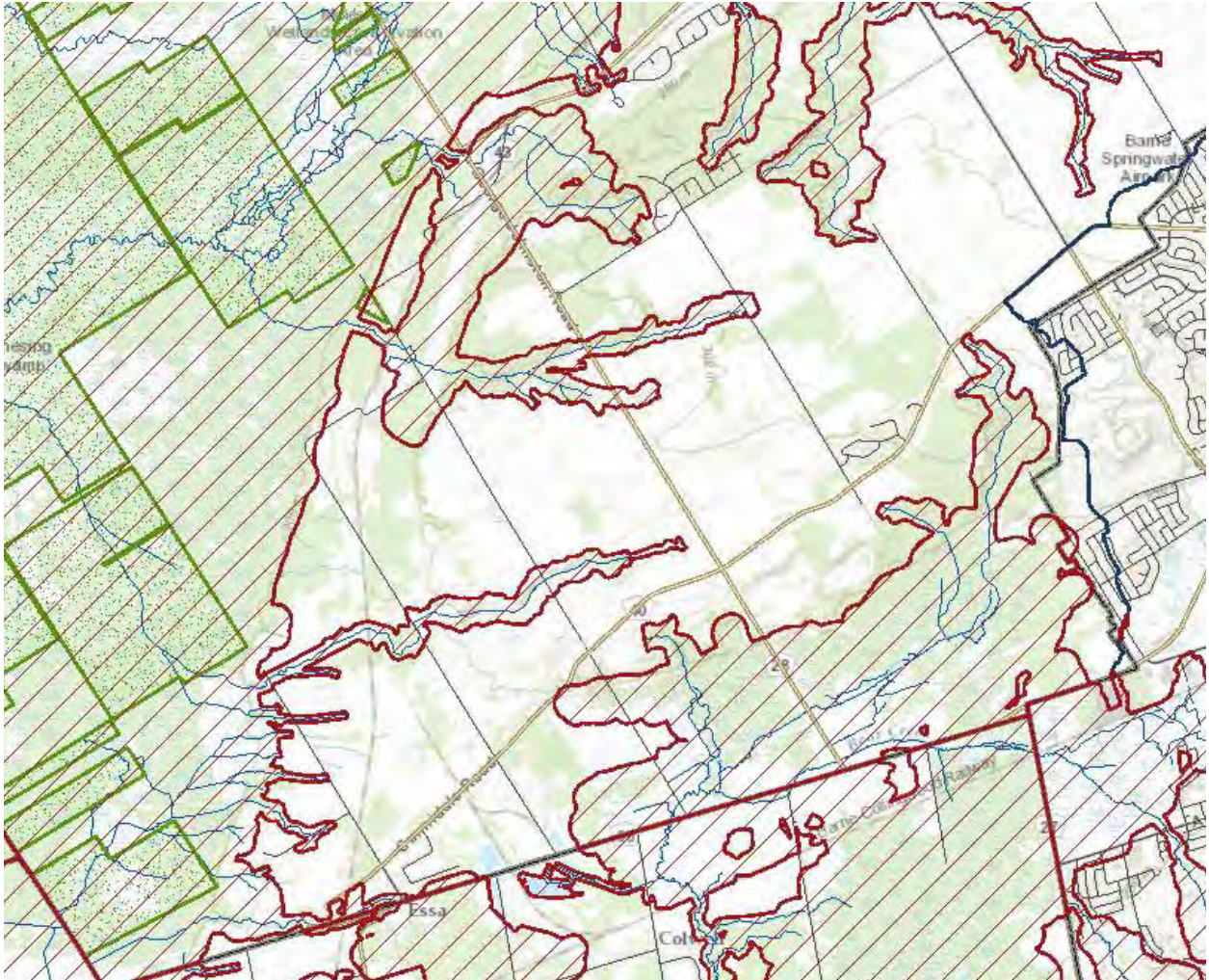
The Board of Directors approved a hybrid meeting model for board meetings. NVCA board meetings will take place either in-person or remotely throughout the year, with the ability to request in-person meetings as required. After the October 2022 municipal election, a new Board of Directors will lead NVCA. Staff have begun to prepare a board orientation package and other items to welcome new board members and provide a solid foundation on the operations, mission and activities of NVCA.

The Finance team continued to support staff and the Board of Directors. Once again, NVCA received a clean audit for the previous fiscal year.

Communications

The Communications team worked with other departments to better service NVCA's watershed residents and visitors. In addition to supporting the Annual General Meeting, producing the 2021 Annual Report and supplements, the Communications team also promoted events such as festivals and volunteer opportunities. To keep watershed residents and visitors informed, the team also maintained NVCA's social media platforms and website.

For the first time, NVCA participated in 'Giving Tuesday' and exceeded our \$10,000 fundraising goal. This funding will be used towards ecological restoration, environmental education and trail maintenance at NVCA's conservation areas.



Information management

Supporting the multiple departments of NVCA, the Information Management team provides mapping and technical solutions such as identifying erosion and flood hazards, sites for restoration projects, and locations for trails. In addition, the Information Management team facilitated the management of NVCA's extensive databases and GIS information.

The Information Management team was also responsible for providing technology resources allowing a seamless and secure work environment (at the office and remotely).



Opportunities for the next generation

Thanks to grants, NVCA welcomed six summer students in the summer of 2022. These students had first-hand experience in working in education, watershed science, ecological restoration, communications and lands and operations.

We wish these students the best of luck on their future career paths.

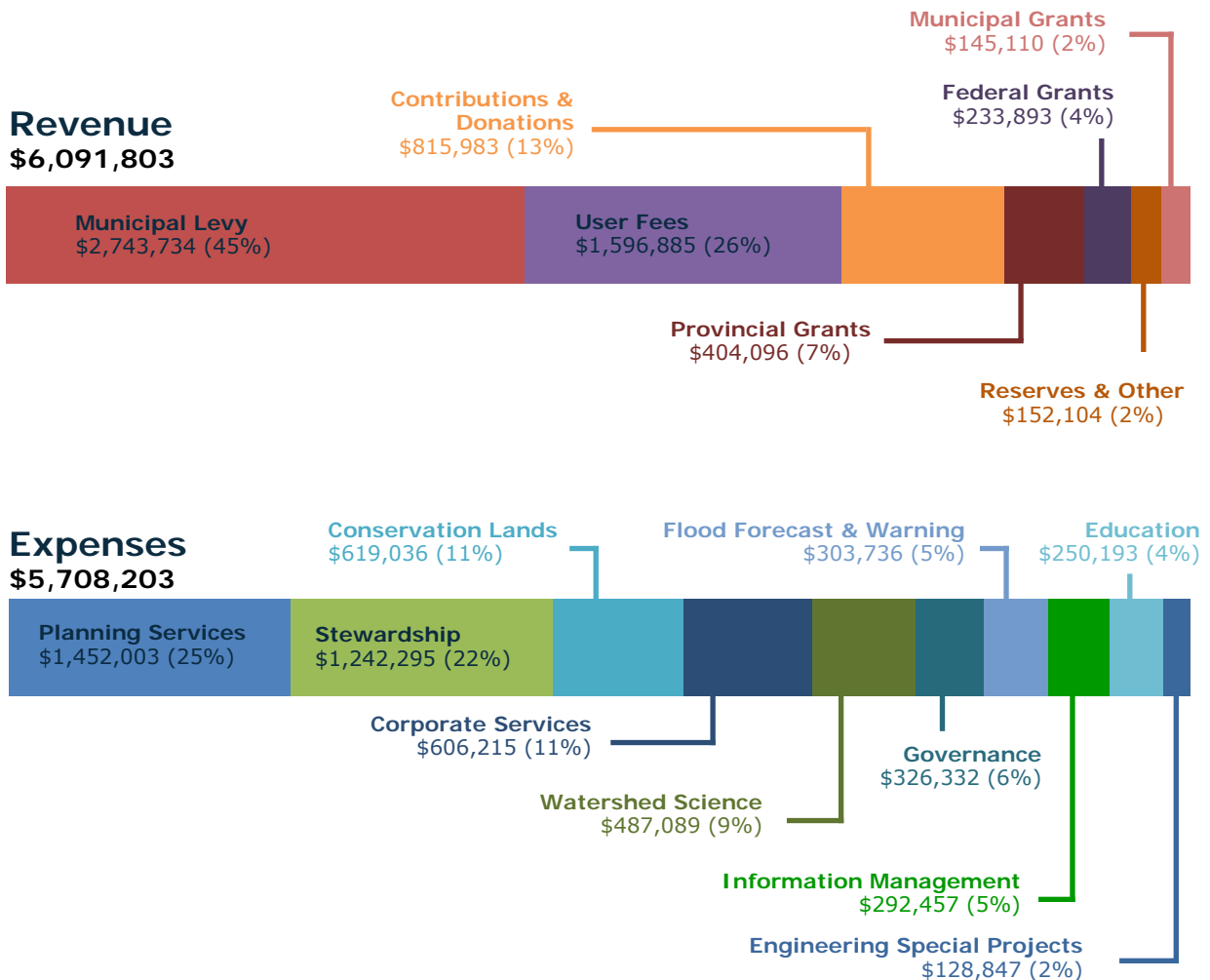
Setting the post-pandemic scene

As Ontario came out of the COVID-19 pandemic, NVCA staff started to return to the office in a hybrid work model. The Administration team lifted COVID restrictions and reopened the John Hix Administration Centre to clients.

NVCA also developed and implemented an Electronic Monitoring Policy and a Right to Disconnect Policy in accordance to provincial law.

Financial Report

NVCA's total 2022 operational budget was \$5,095,130. Revenue came from diverse sources, including member municipalities, provincial and federal governments, local non-governmental partners, and user fees for programs and services and the NVCA ended the year with revenue at 6,091,803. Operational expenses for the year came in at \$5,708,203. In 2022, NVCA purchased \$197,336 in capital assets (from an approved capital budget of \$254,150), funded through the capital asset levy. This financial information is condensed from year-end, unaudited, statements. The auditor's report for the year ending December 31, 2022, is posted on the NVCA website at nvca.on.ca once approved by the Board of Directors.



NVCA Staff as of December, 31 2022

CHIEF ADMINISTRATIVE OFFICER

Doug Hevenor

CORPORATE SERVICES

Sheryl Flannagan, Director
Haleigh Cowen, Finance & HR Administrator
Kerry Jenkins, Administrative Assistant
Christine Knapp, General Accountant
Kimberly Winder, Receptionist/Administrative Assistant

Communications

Maria Leung, Communications Coordinator

Information Management and Technology

Hendrik Amo, Manager
Robert Bettinelli, Information Management and Technology Specialist
Lyle Wood, GIS Analyst
Darcy Persad, GIS/Database Technician

WATERSHED MANAGEMENT SERVICES

Chris Hibberd, Director

Engineering & Flood Program

Mark Hartely, Senior Engineer
Megan Durkin, Water Resource Engineer
Marianne Maertens, Water Resource Engineer
Michael Saunders, Engineering Technologist
Sheri Steiginga, Flood Operations Field Specialist
Taryn Arsenault, Flood Operations Field Specialist

Watershed Science

Ryan Post, Manager
David Featherstone, Senior Ecologist
Ian Ockenden, Watershed Monitoring Specialist
Sarah Thompson, Watershed Monitoring Technician
Jennifer France, Watershed Monitoring Technician

Planning and Permits

Ben Krul, Manager
Tyler Mulhall, Regulations Technician
Stacy Van Opstal, Regulations Technician
Meagan Kieferle, Senior Regulations Technician
Emma Perry, Planning Ecologist,

Katelyn Wardlaw, Planner I
Davin Metheral, Planner I
Tyler Boswell, Planner I
Christy Wilcox, Development Review Assistant

CONSERVATION SERVICES

Byron Wesson, Director

Lands & Operations

Kyra Howes, Manager
Clint Collis, Lands & Operations Technician
Mike Bacon, Lands & Operations Technician
Spencer Macdonald, Lands & Operations Technician

Environmental Education

Naomi Saunders, Manager, Environmental Education
Susan Hall, Environmental Education Assistant
Jo-Ann White-McKenna, Environmental Education Associate
Bob Cole, Environmental Education Associate
Stephanie Zsolnay, Environmental Education Associate
Willem Span, Environmental Education Associate
Kylee Hinde, Environmental Education Associate
Amanda McKibbon, Environmental Education Associate
Stephanie Snider, Environmental Education Associate
Emma Maurice, Environmental Education Associate

Forestry

Rick Grillmayer, Manager

Stewardship

Fred Dobbs, Manager
Sarah Campbell, Aquatic Biologist
Shannon Stephens, Healthy Waters Program Coordinator
Laura Wensink, Restoration Biologist
Emily Phillips, Restoration Technical Assistant



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