

ANNUAL REPORT 2020



NIAGARA PENINSULA
CONSERVATION
AUTHORITY

Progress & Resilience

The Niagara Peninsula watershed is located on the traditional territory of Indigenous peoples dating back countless generations.

We would like to show our respect for their contributions, and recognize the role of treaty-making in what is now the Province of Ontario.



COVER PHOTO: MONARCH BUTTERFLY AT MORGAN'S POINT CONSERVATION AREA

2020 Board of Directors

The Board of Directors are committed to serving the Niagara Peninsula watershed on behalf of their municipalities and communities. They contribute their leadership and expertise to decisions that determine the policies and programs of the Conservation Authority.

Bill Steele

Port Colborne

Brad Clark

Hamilton

Brenda Johnson (Chair)

Hamilton

Brian Wright

Hamilton

Bruce Mackenzie (Vice Chair)

Grimsby

Dave Bylsma

West Lincoln

Deborah Coon-Petersen

West Lincoln

Diana Huson

Pelham

Donna Cridland

Wainfleet

Ed Smith

St. Catharines

Jack Hellinga

Port Colborne

James Stewart Beattie

Hamilton

John Ingraio

Welland

John Metcalfe

Haldimand County

Ken Kwall

Lincoln

Leah Feor

Fort Erie

Malcolm Woodhouse

Thorold

Rick Brady

Niagara Falls

Rob Shirton

Haldimand County

Robert Foster

Lincoln

William Rapley

Niagara-on-the-Lake

Message from the Chair

In 2020, and throughout the global pandemic, the Niagara Peninsula Conservation Authority (NPCA) Board of Directors had a challenging year, but was able to mark many successes during these trying times. As communities discovered the value of greenspace while having to comply with physical distancing regulations, high volumes of new nature lovers visited our parks and trails. The Board of Directors are very proud that NPCA staff, with dedicated support from our volunteers, were able to adapt to the increased demand of our trails, to ensure they remained open, clean and safe for everyone to enjoy.

We are equally proud of staff who adjusted to the new reality of COVID-19 so quickly, enabling the organization to keep operating “business as usual”. While transitioning to working from home, or remaining on-site with the appropriate health and safety measures in place, we continued the preservation, restoration, and conservation of our lands.

The Board of Directors adapted as well, switching our Full Authority, Finance, Governance, and Public Advisory Committee meetings to a virtual format which presented challenges, but we pushed through, embraced that change, and continued to support the important work of the NPCA. I can say with certainty that the Board members are anxious to return to in-person meetings as soon as we are safely able to do so.

Thank you again to all volunteers, staff, committee and fellow Board members at the NPCA for a phenomenal job done in 2020.



Brenda Johnson
Chair, Board of Directors
Niagara Peninsula Conservation Authority



Message from the CAO

The theme of our 2020 Annual Report “Progress & Resilience” speaks to the many accomplishments of NPCA staff and the Board of Directors despite the challenges posed by the pandemic. The report highlights the NPCA’s adaptive capacity to bounce back and deliver on our important work, while staying nimble and financially steady. More importantly, it presents the momentum and energy behind the transformation of the organization.

By any measure, 2020 was an extraordinary year. We successfully delivered on a majority of the Auditor General of Ontario’s recommendations, developed new policies, and steadfastly provided critical programs and services, while maintaining the highest standards of health and safety, transparency, accountability, and customer service. The Niagara Peninsula Conservation Foundation (NPCF) also made impressive progress under the new Board of Directors.

Our new 10-year Strategic plan will re-affirm our commitment to the protection, conservation, and restoration of natural resources, and chart the course for the next generation of conservation authority work. It will take into consideration the challenges we will need to address in the Niagara Peninsula watershed due to growth, and climate change impacts in the coming decades.

The year was also critical in terms of changes to the Conservation Authorities Act. The NPCA was proactive in communicating key issues that significantly impacted our role and mandate. The work with Conservation Ontario and the Province of Ontario to implement the legislative changes

and regulations has begun. The unwavering support of conservation authorities from the community through this process was a reminder of our accountability to the local environment, and a testament to the important work we do at a grassroots level.

The NPCA is thankful to our municipal partners, stakeholders, residents, volunteers, and community groups for their collaboration and support. I acknowledge the hard work and dedication of our exceptional staff. On behalf of our staff, I want to express my appreciation to the Chair, Vice Chair and the Board of Directors for their strong support and encouragement through the pandemic.

Much remains to be done! We look forward to continuing to build on this year’s progress with all of our partners into 2021 and beyond.



Chandra Sharma, MCIP RPP
CAO & Secretary-Treasurer
Niagara Peninsula Conservation Authority





NIAGARA PENINSULA CONSERVATION AUTHORITY



About Us

The Niagara Peninsula Conservation Authority is a community-based natural resource management agency that works to protect, enhance, and sustain healthy watersheds. With more than 60 years of experience, the NPCA offers watershed programs and services that focus on flood and hazard management, source water protection, species protection, ecosystem restoration, community stewardship, and land management.

The NPCA is one of 36 Conservation Authorities in the Province of Ontario. Managing 41 Conservation Areas within the Niagara Peninsula watershed, NPCA lands are held in public trust for recreation, heritage preservation, conservation, and education. These natural and shared greenspaces marry nature, culture and adventure to create limitless opportunities for discovery.

NPCA Mission

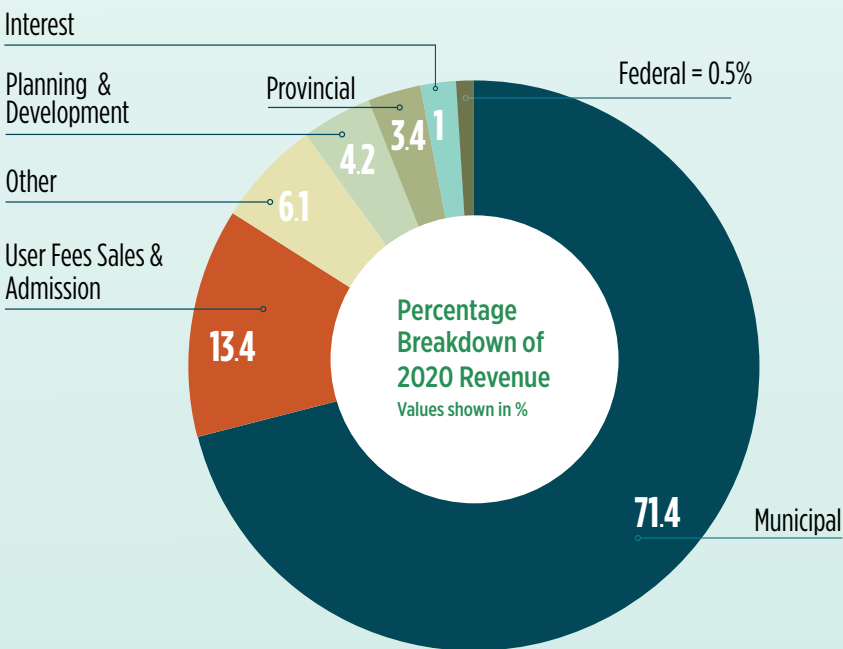
To implement our Conservation Authorities Act mandate by remaining a responsive, innovative, accountable and financially sustainable organization. Our success in meeting our mission is dependent upon working in collaboration with our partners in conservation. Ensuring the future viability of the Niagara Peninsula watershed is a shared responsibility.

NPCA by the Numbers

- 520,000 Residents
- 242,900 ha Watershed Jurisdiction
- 41 Conservation Areas
- 2,881 ha NPCA Land Holdings
- 202 Local Waterways
- 2 Great Lakes
- 21 Board Members
- 15 Municipalities
- 4 Flagship Properties
- 80 Surface Water Monitoring Stations
- 46 Groundwater Wells

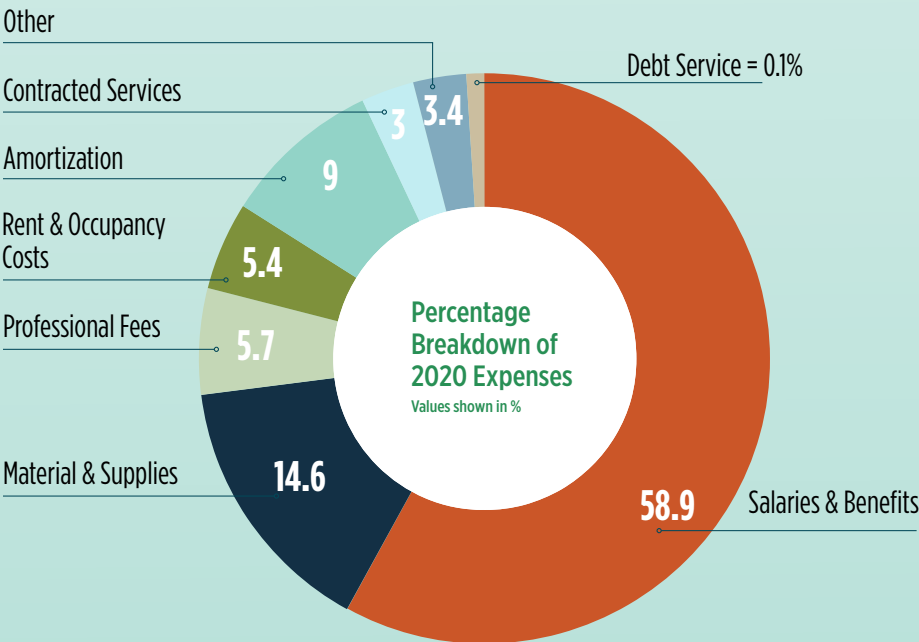
NPCA Financials

2020 Revenues



The graph above illustrates that in 2020, NPCA’s operating revenues originated in two streams— government and self-generated.

2020 Expenses



The graph above illustrates the breakdown by expense for disbursements required to support operations.



NIAGARA PENINSULA
CONSERVATION
AUTHORITY

2020 YEAR IN REVIEW

Conservation Areas & Recreation

78,000

Paid day-use Visitors at 4 Flagship Parks

69%

Increase in Visitors at all Parks

120

Seasonal Campers at Long Beach CA

90

Seasonal Campers at Chippawa Creek CA

900+

Annual Membership Passes Sold

500

Hunting Permits Issued

43

Small Group Guided Heritage Tours

Flood Management

**13 Flood Bulletins
Issued**

**6 Lake Erie Flood
Watches**

**8 km of
Floodplain
Mapped**

**2 Lake Erie Flood
Warnings**

**13 Data Requests
Conducted**

**1 Watershed
Conditions
Statement**

**4 Lake Erie
Shoreline
Conditions
Statements**



Community Engagement & Education

3,704

Volunteer Hours

6

Awards Of Merit

243

Active Volunteers

9

Weeks of Summer
Adventure Day Camps at
Capacity

350+

Guests at the
Conservation Awards

2

New Mickey Difruscio and
Family Legacy Pollinator
Gardens with City of
Niagara Falls and Port
Colborne

3,200

Wildflowers Planted

2,000

Trees Planted

NEW

Ball's Falls
Nature School

50+

Community Groups
Engaged

Restoration Grant Program

3 km

Waterways Restored

18 ha

Land Reforested

1 ha

Riparian
Habitat Restored

40,900

Trees Planted

5 ha

Wetland Restored

2,000

Shrubs Planted

Watershed Management

812 Surface Water Quality Samples

25 Benthic Macroinvertebrates Samples

45 Groundwater Samples

8 Well Decommissioning Projects

347 Permits Issued

900 Planning Reviews

225 Complaints and Violations Received

28 Notices of Violation

1 COVID-19 Information Portal
7,000 visits

2 Memorandums of Understanding with Niagara Peninsula Conservation Foundation, Land Care Niagara

226 SURVEYS
RAP Fish Consumption Study

News Media & Social Media

850,000 Website Views
1,177 Media Stories
56 Media Releases
26,000+ Social Community

Signature NPCA Event

31,000 Online Visitors
Virtual 46th Annual Ball's Falls Thanksgiving Festival

Virtual Events with Partners

1,128 Online Visitors
Niagara Regional Children's Water Festival

30,000 International Online Visitors
4th Annual Celebration of Nations Festival

11,000 Online Visitors
2022 Canada Summer Games-World Turtle Day

3,014 Online Visitors
Bioblitz with Niagara College

2020 Partner Spotlight



Aviva

Bert Miller Nature Club

Birds Canada

Brock University

Carolinian Canada

Celebration of Nations

District School Board of Niagara

Ducks Unlimited Canada

Earth Day Hamilton-Burlington

Eco-Defenders

Forests Ontario

Friends of Malcolmson Eco-Park

Friends of One Mile Creek

Friends of Walker's Creek

Ganawageh Urban Homes Inc.

General Motors

Glanbrook Conservation Committee

Greater Niagara Chamber of Commerce

Haldimand Stewardship Council

Hamilton Health Sciences – Acquired Brain Injury Program

Iroquoia Bruce Trail

Land Care Niagara

Landscape of Nations 360°

Mel Swart Conservation Park Committee

Mississaugas of the Credit

Niagara 2022 Canada Summer Games

Niagara Antique Power Association

Niagara Bruce Trail Club

Niagara Catholic District School Board

Niagara Chapter of Native Women

Niagara Coastal Community Collaborative

Niagara Falls Nature Club

Niagara Handweavers and Spinners Guild

Niagara Parks Commission

Niagara Peninsula Aspiring Global Geopark (Ohnia:kara)

Niagara Peninsula Conservation Foundation

Niagara Peninsula Hawkwatch

Niagara Regional Metis Council

Niagara Restoration Council Inc.

Ontario Power Generation

Oonuhseh - Niagara Native Homes Inc.

Park in the City Committee (NF)

Peninsula Field Naturalists

Port Colborne Garden Club

Ridgeway and District Garden Club

Six Nations of the Grand River Development Corporation

Society for Ecological Restoration - Niagara College

TD Friends of the Environment Foundation

Trout Unlimited - Niagara Chapter



Rockway Falls at Rockway Conservation Area

Our Staff: A Year of Progress & Resilience


The year began with prioritizing the establishment of a corporate structure to appropriately compliment NPCA programs and services. The addition of a permanent CAO provided a fresh vision and new direction, propelling the team forward into a journey focused on organizational transformation and exemplary customer service. Part of this work included refining the performance review process and implementing organizational-wide goal setting.

After a busy first quarter, the onset of the global pandemic began to affect operations and the NPCA was quick to respond with the necessary changes. The Joint Occupational Health and Safety Committee performed a COVID-19 risk identification and assessment to create a new set of operational protocols. Conservation areas required adjustments on the front lines to meet provincial guidelines and ensure public greenspace was available for use by our community members. From transitioning to remote work with workstation relocation, flexing work schedules, and changing work processes and tools, staff overcame many challenges and adjusted with little impact to customer service standards. Although there was increased demand across the organization through turbulent times, the team continued to put forth their best work. Through all these challenges, staff demonstrated exceptional holiday spirit by donating to various organizations and families in need across the watershed.

The resilience of staff at the NPCA has continuously been tested, and this past year proved that it is the dedication to serving our communities that has made this organization what it is.

Accomplishments

- 13 COVID-19 policies and protocols created
- New vehicle inspection app implemented
- 38 head office staff deployed remotely in one week
- 17 staff provided on-site services safely
- 13 park staff continued the monitoring of parks
- 2 staff maintained services at Head Office
- 51 seasonal park staff hired, trained, and deployed for safe public use of parks
- No layoffs during the pandemic

A photograph of a forest trail. In the center, two hikers are standing on a rocky outcrop, looking out over a body of water. The forest is dense with tall, thin trees and green foliage. The ground is covered in rocks and fallen leaves.

Greenspace and access to nature became invaluable as other options for travel and recreation were limited. Conservation areas reopened for passive recreational use with the provincial announcement on May 11. COVID-19 regulations including physical distancing, and conservation area signage was designed and implemented at all locations. Active recreation such as camping began on June 19, and throughout the course of the summer season, NPCA conservation areas occasionally reached capacity. Public communication updates through social media channels increased during this time, to provide visitors with up-to-date information and capacity limits at conservation areas. NPCA properties welcomed thousands of visitors, primarily from within the Niagara Peninsula watershed, with more than 71 per cent of visitors attending from Niagara, Hamilton and Haldimand.

- Advance online health-screening tools for campground visitors, program participants, and event attendees
- Health-screening tools for staff and visitors
- Increase in conservation visitors by 69%
- 78,000 paid day-use visitors at 4 flagship parks during a delayed operating season
- 71% of conservation area visitors attended from within the NPCA watershed



Integrated Watershed Planning

Integrated Watershed Management is the process of managing human activities and natural resources on a watershed basis. In 2020, the NPCA continued its advocacy for the re-establishment of the adaptive management cycle for local natural resources through its participation in integrated watershed planning activities and various watershed studies. This approach focuses on the development and implementation of long-term strategic goals and objectives for the Niagara Peninsula watershed's overall health.

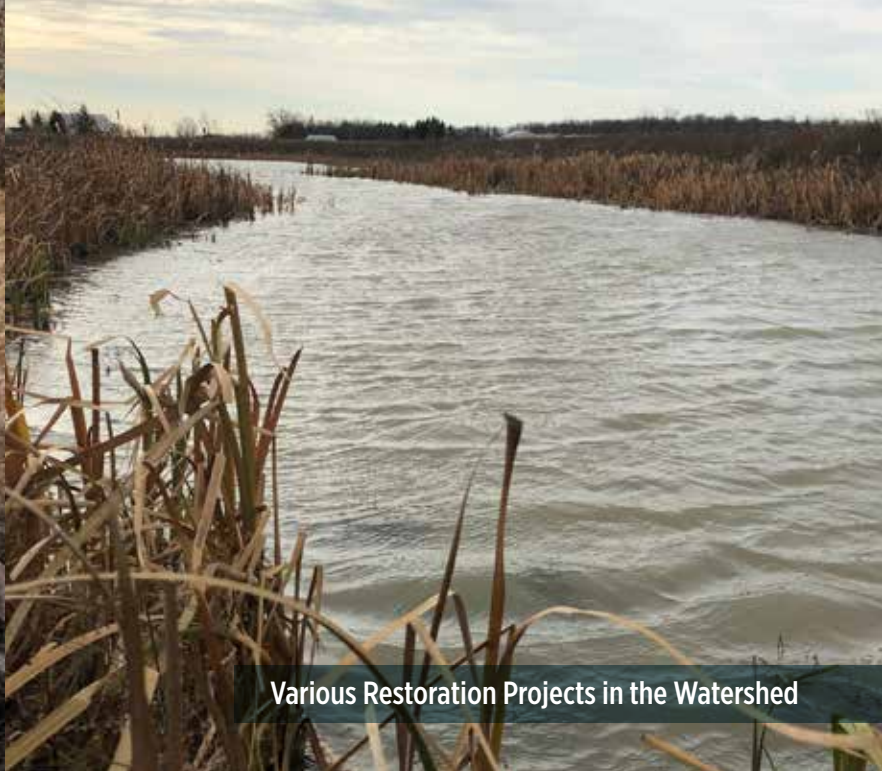
The NPCA supported local integrated watershed planning through its involvement and influence in the following partnered initiatives:

- **The Township of West Lincoln Smithville Master Community Plan and associated subwatershed study.**
- **The Region of Niagara Watershed Plan Equivalent, as part of its Natural Environment Work Program for the new Niagara Region Official Plan.**
- **Niagara Chapter Trout Unlimited Canada's stakeholder collaboration to re-initiate planning for the Upper Twelve Mile Creek subwatershed.**
- **Awarded provincial funding from the Great Lakes Local Action Fund to work with the Niagara Coastal Community Collaborative for the establishment of a citizen science monitoring network along the Lake Erie shoreline.**

Open Data

Geographic Information Systems (GIS) play a critical role in the development and management of inventory and assessment data, which drives the adaptive management cycle leading to and supporting natural resources management recommendations and their implementation. The NPCA made enhancements to its GIS-based decision support infrastructure through improvements to critical information assets and the deployment of new applications on both desktop and mobile platforms. Significant emphasis on mobile data collection and consumption has led to efficiencies in the day-to-day activities of staff across the organization. Strategic future inventory, assessment mapping, and data updates were also identified and approved through the 2021 budgeting process. These have helped the NPCA demonstrate the path forward to properly re-establish the adaptive management cycle for local natural resources.

- **11 New Mobile Applications**
- **8 GIS Web Applications**
- **95 customized map and data package delivered to stakeholders**



Various Restoration Projects in the Watershed

Restoration

Through its Restoration program and services, the NPCA fosters collaboration among partners in the watershed to protect and restore water quality and diverse habitats. Despite COVID-19 restricting restoration operations, the NPCA continued to build on the success of the relaunched Restoration Grant Program. In partnership with landowners and through collaboration with several local and valuable environmental non-governmental organizations (eNGOs), 37 projects were completed, 22 were carried over into 2021 due to the pandemic.

The Restoration Grant Program's evaluation criteria was updated to prioritize applications based on subwatershed needs, and an increased focus on target mapping helped to further identify restoration opportunities for both restoration and land acquisition operations. A new geospatial database and dashboard application was developed to assist with tracking projects, key performance indicators, and day-to-day decisions to support operational efficiencies.

The NPCA engaged with local municipalities to address their immediate needs and identify areas where restoration services could assist to improve water quality, wildlife habitat and forest cover to the benefit of municipal lands and local ecosystems.

Program Highlights

- **\$190,000 in leveraged NPCA investment to complete \$397,000 in projects**
- **40,900 Trees Planted**
- **2,000 Shrubs Planted**
- **18 ha Land Reforested**
- **5 ha Wetland Restored**
- **1 ha of Riparian Habitat Restored**
- **3 km of Waterways Restored**

Water Quality and Ecosystem Health

The NPCA has managed an extensive water quality monitoring program within its jurisdiction since 2001. This includes the monitoring of surface water in major and smaller watercourses, as well as significant groundwater aquifers. The information generated through this program helps the NPCA and its partners understand how surface water and groundwater systems function, and provides information about their overall health.

Surface Water Monitoring

Water resources technicians and specialists collect surface water quality samples eight months out of the year during the ice-free seasons, from a network of 80 monitoring stations across the watershed. They test these samples for temperature, dissolved oxygen, and conductivity, and for general chemistry, nutrients, metals, and bacteria through laboratory analysis. The water chemistry program is operated in partnership with the Ministry of Environment, Conservation and Parks' (MECP) Provincial Water Quality Monitoring Network (PWQMN) and the Niagara Region. A biological monitoring program complements the chemical monitoring program by using bottom dwelling insects, crustaceans, mollusks, and worms as indicators of water quality.

Groundwater Monitoring

The groundwater monitoring program consists of 15 groundwater wells operated in partnership with the MECP's Provincial Groundwater Monitoring Network, and 31 additional NPCA wells located in significant aquifers across the Niagara Peninsula watershed. Groundwater levels are monitored hourly and collect water quality samples yearly, which are tested for various chemical parameters.

Accomplishments

- **Lorraine Bay Watershed Nutrient Field Program completed**
- **Hamilton International Airport and Glanbrook Landfill biological monitoring Field Programs completed**
- **812 surface water samples collected for chemical analysis**
- **Biological samples from 25 monitoring stations collected**
- **45 groundwater quality samples collected for chemical analysis**
- **Water quality sensors deployed in watershed tributaries to monitor hourly water quality parameters**
- **8 Well Decommissioning projects funded**



Source Water Protection Plan

The 2006 Clean Water Act established the NPCA as a stand-alone Source Protection Authority. In partnership with the Source Protection Committee, Niagara Region and local stakeholders, the Niagara Peninsula Source Protection Authority developed a science-based Assessment Report and a Source Protection Plan to protect local sources of drinking water. The Source Protection Plan took legal effect in 2014, and the associated policies have since been fully implemented.

The Source Protection Plan will be updated to accommodate several upcoming changes to the drinking water treatment systems and the Director's Technical Rules, through Section 36 of the Clean Water Act.

- **Implementation of the Source Protection Plan continued**
- **Collaborated with Niagara Region on future upgrades to several drinking water treatment systems**
- **Accommodated changes to the Phase I Director's Technical Rules within the Assessment Report and Source Protection Plan**

*For more information on the Source Protection program please visit:
www.sourceprotection-niagara.ca.*

Ecology and Applied Research

Bat Species Monitoring

Bat species monitoring across NPCA conservation areas was conducted to assist in producing information about migration patterns and habitat sites along the Niagara Escarpment and across the watershed. This information assists the NPCA in managing natural areas and making decisions about conservation area use.

Gypsy Moth Monitoring

The NPCA conducts an annual monitoring program across several conservation area sites, including Chippawa Creek, Comfort Maple, Hedley Forest, Ruigrok Tract, St. Johns, and Willoughby Marsh. This assessment helps to determine the health of these woodlots and supports ongoing and new site management needs.

Wainfleet Bog Restoration and Monitoring

The NPCA carries out ongoing site monitoring and restoration work within the Wainfleet Bog. Monitoring activities have demonstrated the positive results of the NPCA's work, indicating the transformation to a more natural bog ecosystem has provided habitat for native bog plants and animals.

Smith Ness Prairie Restoration and Monitoring

The Smith Ness site serves as an important habitat of ecological diversity in Niagara. This area, which is not open for public recreation, contains thriving tall grasslands that support many bird species that require this type of habitat. Ongoing restoration and monitoring of the site and its prairie grass species is carried out by NPCA staff annually.

Morgan's Point Butterfly Habitat Restoration

Morgan's Point Conservation Area represents an important habitat and foraging area for the Monarch butterfly, which is a species of special concern in Ontario. Habitat restoration work was undertaken to enhance foraging areas and plant species, and to combat plant phytoplasma diseases.

Binbrook Conservation Area Hyslop Parcel Restoration, Design and Planning

Together with partners in conservation, the NPCA initiated the design and planning for the restoration of the newly acquired Hyslop land parcel at Binbrook Conservation Area. Restoration activities are being completed to enhance the wildlife habitat of the area and provide ecological diversity.

Woodend Forest Understory Restoration

Woodend Conservation Area is an increasingly popular conservation area for passive recreation and outdoor education. This increase in demand has impacted the understory community of plant, shrub, and tree species within the forest. The NPCA undertook restoration work within the forested area to re-establish the understory that has been impacted by public use, and planted an assortment of understory species in controlled areas. By contributing to a healthy understory, the forest will remain healthy and ecologically diverse.

Species-at-Risk Population Monitoring

The NPCA undertakes ecological monitoring across many conservation areas for several species-at-risk. Monitoring activities indicate the health of species' populations and helps to expose any potential threats to habitat and populations. This annual data collection contributes to ongoing site management planning and work.

Invasive Species Survey at St. Johns Valley Centre

An invasive species site inventory was conducted with partners at St. Johns Valley Centre. This work allowed staff to assess site management needs and support on-site educational activities.

Academic Partnerships

During a landmark year in terms of conservation area visitation, a remarkable increase was noted across the Niagara Peninsula watershed and throughout the province. The NPCA was pleased to provide input into a developing body of research undertaken by researchers at Brock University, on the importance of parks, greenspace, and outdoor recreation in Niagara. The results of this work are expected to be released in mid-2021.

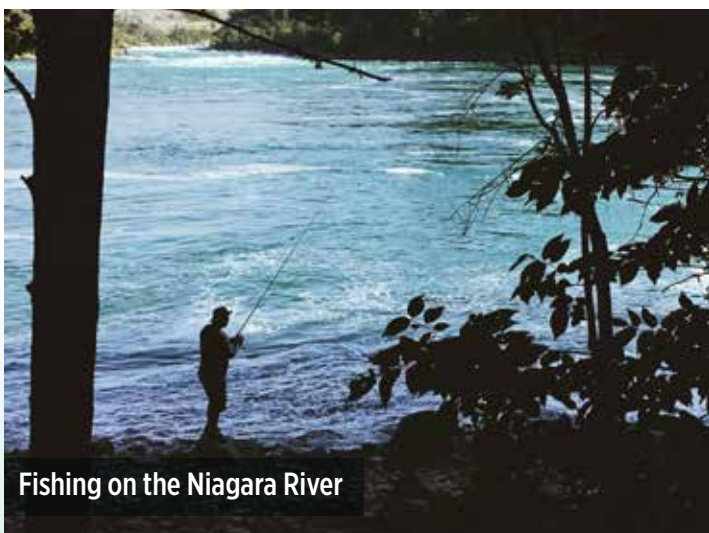
The NPCA also partnered with the Niagara College Office of Sustainability to deliver their annual Virtual Fall Cleanup and BioBlitz, and co-hosted the Virtual World Migratory Bird Day event.



The Niagara River Coastline

Niagara River Remedial Action Plan

Since 1999, the NPCA has been responsible for administering and coordinating the activities of the Niagara River Remedial Action Plan (RAP) with funding support from Environment and Climate Change Canada and the Ministry of the Environment, Conservation and Parks. The Niagara River RAP is implemented by a community-based partnership between government (federal, provincial, municipal), First Nations, Métis Nation of Ontario, the NPCA, non-government organizations, scientists, and citizens working together to restore and protect water quality and ecosystem health in the Niagara River.



Fishing on the Niagara River

To learn more about this collaborative effort please visit:
www.niagarariver.ca

Summary of Accomplishments

- Completed the review of goals for each of the Niagara River's 5 remaining ecosystem impairments, including the gathering of public feedback. The information collected in 2020 will be used to form a Delisting Strategy to guide the remaining activities required to improve the Niagara River ecosystem and remove it from the list of Great Lakes Areas of Concern.
- Conducted in-person and online surveys of Niagara River anglers to understand which fish people are eating from the Niagara River to better focus monitoring, research, and education efforts. Surveys and educational materials are now available in 6 languages. A total of 226 surveys were administered. Surveying will be completed in 2021.
- Partnered with the Niagara Parks Commission to identify locations requiring important riparian habitat enhancement, using additional funding from Environment and Climate Change Canada. Plantings in these key areas are set for 2021.
- All previously identified actions related to the 'Beach Closings' impairment were completed by external RAP partners. The RAP Committee agreed to proceed with an assessment report to determine if the impairment can be removed.



Flood Damage at Crystal Beach, Fort Erie

Flood Forecasting and Warning

The NPCA operates a secure flood warning system developed to warn residents who live in flood-prone areas. Through a network of rain gauges, stream gauges, and snow courses, staff monitor streamflow conditions year-round. Should a flood be imminent, bulletins are issued to municipalities and media, prompting appropriate actions to be taken by officials. Flooding is a natural process, and despite efforts to reduce the risk to life and property in the Niagara Peninsula watershed, some flooding in developed and underdeveloped areas is inevitable.

Snow surveys were conducted twice a month from January to May, and November to December. During the snow survey season, four snow survey dates (out of 13 scheduled) had measurable snow. No real threat of flooding was observed across the riverine watershed.

Routine maintenance, inspections, and calibrations were conducted at all stations, with an additional 15 site visits at certain gauge stations. All climate and water quantity data are routinely uploaded to the data management software, with stations slowly coming online for real-time data acquisition.

- Ongoing implementation of Kister's North America (WISKI) Data management software system
- 13 Data Requests conducted
- 13 Flood Bulletins
- 1 Watershed Conditions Statement
- 4 Lake Erie Shoreline Conditions Statements
- 6 Lake Erie Flood Watches
- 2 Lake Erie Flood Warnings



The NPCA was the first Conservation Authority in Ontario to implement the use of the Alertable App—a trustworthy and reliable emergency alert software platform used by local, regional and provincial officials to notify and inform the public of disasters and hazards. Through this app, the NPCA has the ability to send flood advisories directly to residents of the watershed through mobile devices.

To download the app visit alertable.ca



Port Davidson Conservation Area Weir

Floodplain Mapping and Engineering

The NPCA fulfills its mandate by advocating for and implementing programs that improve the quality of lands and waters within its jurisdiction. This work helps keep people and their property safe from flooding and erosion, provides for the management of conservation and hazard lands, and enhances the quality of life in the watershed by providing lands for regional recreation, heritage preservation and conservation education.

In 2019, the NPCA undertook a comprehensive review of the status of its floodplain mapping and recommended a seven-year workplan to address watercourses and associated tributaries with no floodplain mapping, as well as those that required updating. This work will confirm the extent of potential flood hazards and help guide development in a comprehensive fashion. The consultation and engagement programs were designed to ensure that property owners were aware of any potential impact to their property through a series of town hall sessions, as well as robust marketing and outreach campaigns. Input from property owners and the public is incorporated into the technical process prior to the drafting of the floodplain maps.

Walker's Creek and Beamer Creek Floodplain Mapping Update

The Walker's Creek and Beamer Creek watershed is located in the northeast corner of the City of St. Catharines. With a catchment area of approximately eight square kilometers, the urbanized watershed is largely comprised of residential properties with many parks located along the watercourses. Due to the urban nature of the watershed, the creeks pass through many culverts and bridges associated with roads and other infrastructure.

The first floodplain mapping study for Walker's Creek and Beamer Creek was undertaken in 1987. Approximately 113 private properties, including 41 buildings, were identified as being located within the 100-year flood hazard zone. As it had been 30 years since this floodplain had been mapped, the NPCA updated the floodplain mapping for these two urban watercourses, utilizing the most up-to-date digital mapping, modelling techniques, and climatic data sets.

Haldimand County Lake Erie Hazard Mapping Update

Haldimand County has approximately 87 kilometers of Lake Erie shoreline, nine of which the NPCA regulates. The Haldimand County Lake Erie Hazard Mapping and Risk Assessment focused on the Lake Erie shoreline of Haldimand County that spans the jurisdiction of the NPCA, Grand River Conservation Authority (GRCA), and Long Point Region Conservation Authority (LPRCA). This project was coordinated by GRCA, with the NPCA supporting as a member of the Project Team alongside staff members from Long Point Region Conservation Authority, Haldimand County, and a consulting engineering team. The updated Haldimand County Lake Erie shoreline flood, erosion, and dynamic beach mapping is utilized to provide the most up-to-date and accurate information available to protect lives and property, by regulating development impacted by the Lake Erie natural hazards within Haldimand County.



Shriners Creek Dyke 'B' Reconstruction

The Shriners Creek Dyke 'B' is located on the east side of Garner Road, just north of the residence located at 4282 Garner Road. The Dyke 'B' is located approximately 400 metres from the Garner Road gate and is constructed across Shriners Creek in the City of Niagara Falls for the purpose of flood management. A beaver dam constructed across the inlet of the 60-inch diameter culvert caused severe erosion in the upstream face of the earthen dyke and resulted in the failure of the culvert. As such, the NPCA retained a qualified contractor to replace the failed culvert and repair the eroded earth dyke.

Virgil Dams Safety Review

The Virgil Dams and Reservoirs were constructed in 1968. Owned and operated by the NPCA, these structures are located on Four Mile Creek in the Town of Niagara-on-the-Lake. The facility is comprised of the Upper Dam (located upstream of Line 3), and the Lower Dam (located upstream of Line 2). The drainage area upstream of the reservoirs is approximately 22.6 square kilometres. The primary purpose of the reservoirs is to provide water for the irrigation of farm crops, and they also provide an area for passive recreation and wildlife conservation.

In order to ensure that the Virgil Dams are structurally sound, the NPCA retained Hatch Engineering to undertake an updated Dam Safety Review of the Upper and Lower Virgil Dams. Engineers from Hatch conducted a detailed field inspection and engineering analysis of the facility and completed the review in August 2020. The Upper and Lower Dams were determined to be structurally sound. However, the Ontario Dam Safety Guidelines were updated in 2011, and the Dams are now classified as having a HIGH Hazard Potential under the new guidelines. The NPCA is in the process of coordinating the necessary remedial works required to conform with the new guidelines.

A SEVEN-YEAR FLOODPLAIN MAPPING WORKPLAN

In 2019, the NPCA undertook a comprehensive review of the status of its floodplain mapping and recommended a seven-year workplan to address watercourses and associated tributaries with no floodplain mapping, as well as those that would require updates. This work will confirm the extent of potential flood hazards and help guide development in a comprehensive fashion.

**2019 - Walker's Creek
St. Catharines**

**2019 - Beamer Creek
St. Catharines**

**2021 - Beaver Creek
West Lincoln**

**2021 - Big Forks Creek
Wainfleet**

**2022 - Draper's Creek
Welland**

**2022 - Coyle Creek
Pelham and Welland**

**2023 - Mill Race Creek
Wainfleet**

**2024 - Oswego Creek
Haldimand**

**2025 - Upper Welland River Tributaries
Hamilton, Haldimand, West Lincoln**

**2026 and Beyond - Update floodplain
mapping projects older than 20 years**



Planning and Permits

The NPCA is responsible for the review of planning applications affected by natural environmental hazards, while working in partnership with municipalities to further the conservation of natural resources.

Conservation Authorities enforces Ontario Regulation 155/06, a regulation intended to ensure that new developments (i.e. homes, additions, pools, etc.) are not impacted by flood and erosion associated with watercourses, ravines, and wetlands in order to conserve the natural environment. The primary role of the NPCA is to protect people and property from natural hazards, a role that is extremely important, since the impacts of climate change have resulted in a higher frequency of extreme weather events and higher lake levels.

Ontario Regulation 155/06 requires individuals to obtain permission before undertaking development within an area regulated by the NPCA. The issuance of permits helps the NPCA ensure development activity in a Regulated Area is conducted in a manner that will not impact the environment negatively.

- **347 Work Permit Applications Processed**

Planning Act Review

Conservation Authorities are considered a commenting agency under the Planning Act. The NPCA reviews applications such as Official Plan amendments, Zoning By-law amendments, Plans of Subdivision, Site Plans, Minor Variances and Consents, to ensure the applications are consistent with the Natural Hazards section of the Provincial Policy Statement (PPS) – Section 3.1 – and the NPCA's Regulation.

- **176 Applications Received Under The Planning Act**

Permits Issued per Municipality under Regulation 155/06 (347 Total)

43	Fort Erie
17	Grimsby
14	Haldimand
25	Hamilton
28	Lincoln
29	Niagara Falls
18	Niagara-on-the-Lake
12	Pelham
18	Port Colborne
46	St. Catharines
3	Thorold
70	Wainfleet
5	Welland
19	West Lincoln
347	TOTAL

Niagara Escarpment Development Permit Review

The Niagara Escarpment is an important natural feature in the Niagara Peninsula watershed. Land use within it is regulated by the Niagara Escarpment Commission (NEC) through a Development Permit. The NPCA is circulated on these applications to provide comment, in much the same manner as for Planning Act applications to help ensure the long-term protection of the Niagara Escarpment.

- 42 NEC Development Permit Applications Reviewed

When Building Permits are obtained from a municipality in the watershed, the NPCA becomes involved if there are Regulated Areas on the property (a river or stream valley, Great Lakes and large inland lake shorelines, hazardous lands, watercourses, and wetlands). While these reviews do not always require a full NPCA Permit, particularly when the project is outside of a Regulated Area, the NPCA will instead issue a Building Permit Clearance. These are all important components of the overall Building Permit process and helps ensure property owners are undertaking work in a responsible manner in relation to natural hazards and wetlands.

- 261 Building Permit Clearances Received

Property Information letters

The NPCA responds to numerous basic property inquiries. These range from people interested in purchasing a new property with possible regulated areas, to those looking for more information about planning and permitting policies. Through this work, the NPCA is able to provide information to the public on the importance of avoiding natural hazards. In the case of the building industry, this process helps prospective developers avoid purchasing land that is not suitable for development.

- 91 Formal Property Letters Issued



Planning Reviews By Type

261	Building Permit Clearance
10	Clearance of Conditions
47	Consent
9	Draft Plan Approval Extension
1	Draft Plan Modification
6	Environmental Assessment
91	Formal Property Inquiry
53	Minor Variance
263	Municipal Preconsultation
42	Niagara Escarpment Development Permit
15	Official Plan Amendment
10	Other*
14	Plan of Subdivision
4	Regional Official Plan Amendment
2	Secondary Plans
37	Site Plan Control
5	Plan of Condominium
30	Zoning By-law Amendment

900 TOTAL

*Planning reviews that do not fit into the above categories.

Planning Reviews By Municipality

96	Fort Erie
27	Grimsby
43	Haldimand
84	Hamilton
68	Lincoln
95	Niagara Falls
78	Niagara-on-the-Lake
90	Pelham
35	Port Colborne
67	St. Catharines
47	Thorold
58	Wainfleet
61	Welland
51	West Lincoln

900 TOTAL

Responsible and Sustainable Forestry

In 2020 the NPCA handled the administration and enforcement of the Regional Municipality of Niagara Tree and Forest Conservation By-law. The By-law was introduced to conserve and improve woodlands in Niagara and ensures that when tree cutting occurs, it is carried out in accordance with Good Forestry Practices. In 2021, the By-law will become the responsibility of the Niagara Region for administration.

- 15 Good Forestry Permits
- 97 hectares harvested

Conserving the Environment Through Positive Compliance and Enforcement

The enforcement of NPCA regulations plays a pivotal role in the protection and conservation of wetlands, shorelines, and escarpment areas found within the Niagara Peninsula watershed. Officers within the Compliance and Enforcement team are given authority from the Conservation Authorities Act, Ontario Regulation 155/06, and the Provincial Offences Act. NPCA Officers are also designated Provincial Offences Officers who are appointed Officers by the Board of Directors. These Officers investigate public concerns of possible contraventions of the CA Act, as well as inspect and report on files approved by the NPCA through its permitting process. The main objective of the NPCA's compliance and enforcement role is to protect life and property from natural hazards such as flooding and erosion.

When complaints of possible violations are received, staff visit and review the property and related activity to determine if the work is in violation of the Conservation Authorities Act. In many cases, the activity is not a violation, and in others, staff may provide the appropriate corrective measures to bring the work into compliance and avoid further proceedings. Resolving violations through positive landowner relationships, education and voluntary compliance as well as collaboration with other regulatory agencies is often a more successful and beneficial approach.

In instances where work has been done without the permission of the NPCA, officers will provide a Notice of Violation, and may lay charges if the matter is not resolved. This differs from another legal power that can immediately stop the activity, known as a 'stop work order'. When an owner does not respond to the Notice of Violation, or progress towards voluntary compliance is moving too slowly, the NPCA may proceed to formally charge a property owner under the Conservation Authorities Act. This involves appearing in court and can be a costly process involving time and money for both parties. Resolving a violation through voluntary compliance is often a more beneficial approach.

Compliance and Enforcement Complaints

- 225 Total complaints/violations received
- 120 open regulations files
- 105 closed regulations files
- Of 225 complaints, 11 related specifically to NPCA permit non-compliance
- 87 complaints investigated and determined to be within NPCA jurisdiction
- 97 complaints under review
- 41 complaints found not to be within NPCA jurisdiction or frivolous
- 80 complaints filed online via the complaint form
- 28 Notices of Violation issued
- 11 Notices of Violation resolved

2020 Complaints/Violations by Municipality

37	Fort Erie	16	Port Colborne
7	Grimsby	19	St. Catharines
11	Haldimand	15	Thorold
18	Hamilton	25	Wainfleet
20	Lincoln	11	Welland
9	Pelham	7	West Lincoln
17	Niagara Falls	5	Unknown
8	Niagara-on-the-Lake		



Left to Right - Andy Fevez, Joanna Paul and Kyle Joung

Volunteers

The NPCA supports community stewardship projects in partnership with local groups to improve watershed health. Volunteers were recruited in 2020 to help with a variety of initiatives such as the removal of invasive species, maintenance of pollinator gardens, and tree planting projects on municipal properties at Mel Swart Conservation Park and Malcolmson Eco-Park.

Program Highlights

- 1,480 Total NPCA Volunteer roster
- 243 Active Volunteers
- 3,704 Volunteer Hours

Conservation Awards

The NPCA hosted the 29th Annual Conservation Awards at the West Niagara Agricultural Centre and Fairgrounds in February, to celebrate the accomplishments of hundreds of volunteers who gave their time, energy, and resources to make the Niagara Peninsula watershed a better place to live. Right before the country was shut down two weeks later, the event saw a historical attendance record of over 350 volunteers and partners.

The following guest speakers were a highlight of the evening:

Marcie Jacklin — Birding Tourism and Nature Clubs
Brian Green — Healthy Twelve Mile Creek Program
Megan Lalli — Healthy Twelve Mile Creek Program
Kim Rossi — Pathstone Mental Health

Awards of Merit

In addition to awards that recognize individual volunteers, community groups, and organizations, the evening featured another prestigious acknowledgement—the Awards of Merit. This award is bestowed on an individual, group, or business that has contributed voluntarily to enhancing the health of the watershed and restoring the local environment for the benefit of all residents.

Community Groups

Trout Unlimited
Friends of Malcolmson Eco-Park

Lifetime Achievement

Mickey DiFruscio

Individuals

Joanna Paul
Julie Bedard

Youth

Kyle Joung

Community Engagement and Partnerships

NPCA Public Advisory Committee

The NPCA Public Advisory Committee (PAC) is an important liaison between the NPCA and the watershed community. Members provide advice for communicating and engaging with various sectors and share their knowledge and expertise in a voluntary role. Like many other committees around the world, the PAC moved into virtual video conference meetings in March, but still had a productive year. The committee elected a new Chair, Jackie Oblak, filled all committee vacancies, and were actively engaged in the development of the 2021-2031 NPCA Strategic Plan. The PAC also expanded their Terms of Reference to allow members to take on the role of Watershed Floodplain Sub-Committee for the NPCA.

TD Friends of the Environment Foundation Partnership

The NPCA planted 128 trees across the Niagara Peninsula watershed thanks to funding from the TD Friends of the Environment Foundation. With support from the Niagara Chapter of Native Women, the NPCA was able to connect with Ganawageh Urban Homes and Oonuhseh Niagara

Native Homes to plant trees where they would have a direct positive impact for local Indigenous families and improve urban habitat. An additional eight large caliper trees were planted at Ferndale Park in Fort Erie, adjacent to the Fort Erie Native Friendship Centre.

Members of the Glanbrook Conservation Committee (GCC) and NPCA volunteers supported Earth Day Hamilton-Burlington's (EDHB) TD Tree Days event, planting 300 trees at Binbrook Conservation Area on a newly acquired parcel of land. EDHB has been partnering with the NPCA to plant trees at the site for more than 5 years. The GCC has a long history of volunteer work at the location and is a dedicated and valued partner for their ongoing activities to support the environment.

Niagara Region Children's Water Festival

In response to the global pandemic, schools in the province of Ontario were closed in the spring, and emergency remote learning was instituted by the government in early April. The in-person festival component was cancelled, however the Festival Steering Committee supported the decision to still provide online water education resources that educators could use as part of their remote learning curriculum. The NPCA supplied a variety of resources to be included in the reinvented virtual festival, based on the activities that the NPCA would typically have delivered as part of the in-person event. The virtual event was a success with a total of 1,128 unique visitors, 2,094 page views of the online resources, and 1,207 quizzes completed.



One Mile Creek Planting in Partnership with NPCA, Town of NOTL and Friends of One Mile Creek



Bloodroot Blooming at Rockway Conservation Area

Friends of One Mile Creek

The NPCA and Friends of One Mile Creek (FOMC) have worked together for more than 17 years to restore and revitalize Niagara-on-the-Lake's One Mile Creek. In recent years, the Town of Niagara-on-the-Lake removed 876 ash trees destroyed by the emerald ash borer, 214 of which were located within the One Mile Creek watershed. In October, both organizations, alongside 50 volunteers, partnered on two important projects. The newly launched "Trees 4 NOTL" initiative by FOMC to help restore the local tree canopy, and a riparian restoration project adjacent to One Mile Creek that was part of the 29 completed through the NPCA's Restoration Grant Program.

Ontario Power Generation

In June 2019, the NPCA and Ontario Power Generation (OPG) updated and finalized a new Memorandum of Understanding (MOU), outlining the timeframe within which their Welland River watershed funding support should be utilized and laying out the process to ensure both organizations could discuss, approve, undertake, and report on eligible projects. This MOU provides accountability and transparency regarding the distribution of funding into projects undertaken by the NPCA, which serve to provide community outreach, scientific understanding, and advancement of the ecological health of the Welland River watershed. Staff from NPCA and OPG meet on a quarterly basis to ensure that the MOU framework and the associated fiscal reporting are properly carried out. The funding is to be utilized by June 1, 2027, when the partnership will celebrate the 20th anniversary of the initial announcement of \$3,000,000 in funding generously provided by OPG on June 1, 2007.

Six Nations Development Corporation-Community Water Access Program

Managing the COVID-19 pandemic was incredibly hard for many, and especially difficult for Indigenous communities in the watershed and surrounding areas. Approximately 3,159 households in Six Nations rely on potable water. To assist with the challenges of accessing clean water, the NPCA partnered with Six Nations of the Grand River Development Corporation as a Water Access Program Community Collaborator.



Children Learning at Ball's Falls Summer Camp

Education

2020 marked a year of change for educational programming in response to school closures, with a transition to virtual learning to close out the school year. Staff developed innovative virtual education programs and brought environmental learning online for families and teachers. In September, Ball's Falls opened a new Nature School, offering a full-time and part-time school program that blends Ontario curriculum-based learning for grades JK-3, and child-led, inquiry based outdoor education. The Nature School is delivered by two Ontario Certified Teachers (OCT, in good standing) and supported by child and youth development staff and volunteers with experience in the education sector.

In addition to the educational, and recreational programs and services offered by NPCA staff and educators, two other NPCA conservation areas are home to outdoor learning centres for the District School Board of Niagara (DSBN) and the Niagara Catholic District School Board (NCDSB).

"After working with Niagara Region Public Health and revising their outdoor education programs to meet COVID-19 safety protocols, the DSBN was successfully able to open the doors to students at the Walker Living Campus located at Woodend Conservation Area. Throughout the year we offered valuable environmental and outdoor education programing to students from grades 4 to 8, and the impact these daily programs had on students and teachers was tremendous. A day at the Walker Living Campus provided a much-needed break away from a traditional classroom learning environment. Many commented that the day had a calming and rejuvenating effect on students, and was not only valuable for their learning, but also their physical and mental health."

Colleen Fast
Supervisor, Outdoor Education
Walker Living Campus and DSBN
Adventure Campus
District School Board of Niagara

Tourism, Parks and Culture

As with other natural spaces, parks, and conservation areas across Ontario, the NPCA saw a marked increase in visitation at all trails and conservation areas. In addition to providing day-use recreation opportunities such as hiking, cycling, paddle sports and fishing, Chippawa Creek and Long Beach conservation areas offered seasonal and transient camping. Seasonal campers were able to return to their favourite campgrounds, while transient campsites were available at 50 per cent capacity to align with public health recommendations. The NPCA implemented virtual health-screening forms for campers to ensure safe visitation and use of the campground facilities.

The NPCA worked with municipal and agency partners to ensure access to greenspace was available to the watershed community at large. These partnerships allowed for safe, accessible visitation to NPCA conservation areas, while promoting local tourism stakeholders, and supporting eco and sustainable tourism recovery into 2021 and beyond.



Ball Family Victorian Home Decorated for the Holiday Trail

Significant work was undertaken within NPCA properties, including key infrastructure projects at Long Beach, Ball's Falls and Binbrook conservation areas. Historical buildings at Ball's Falls Conservation Area underwent improvements that included the completion of the restoration of the foundation of the Field Centre (c. 1848), the exterior restoration for the Ball Family Victorian Home (c. 1846), and the Historical Chapel (c. 1864). The NPCA also initiated a capital project to upgrade the educational and interpretive gallery within the Centre for Conservation on-site. These ongoing enhancements will carry into 2021, bringing much needed renewed spaces and facilities to park visitors.

sell their exceptional, one-of-a-kind products to customers across the watershed. The website included a virtual visit to the heritage village, and visitors could also book small group, guided in-person tours of the village throughout the Thanksgiving weekend. In-person programming included historical demonstrations and self-guided tours, as well as nature hikes and fall photography. The NPCA is grateful for the funding support provided by the Government of Ontario for the 2020 Thanksgiving Festival that allowed the event to be held.

- **\$36,200 in weekend Admissions**
- **405 Registered Online Customers**
- **43 Small Group Guided Heritage Tours**



Virtual 46th Annual Ball's Falls Thanksgiving Festival

In following event and gathering restrictions, the NPCA was pleased to be able to deliver the 46th Annual Ball's Falls Thanksgiving Festival, blending in-person and online experiences. Through an integrated virtual marketplace on the Thanksgiving Festival website, vendors were able to

Ball's Falls Holiday Trail

The NPCA developed and delivered an all-new family winter and holiday tradition for the community with the Ball's Falls Holiday Trail. This illuminated and accessible trail experience took visitors through an evening of exploration of Ball's Falls and the heritage village, lit-up for the first time and highlighting the majestic lower waterfall. The program ran from November 30 to December 21, with a limited pre-preservation system that was required for set timeslots to comply with public health restrictions. The event was a remarkable success with sold-out weekends and will return over the holiday season in 2021.

- **1,400 Bookings**
- **\$6,000 Raised for the Niagara Peninsula Conservation Foundation**
- **15,000 website views**



Hiker Enjoying Woodend Conservation Area



— NIAGARA PENINSULA —
CONSERVATION FOUNDATION

despite its challenges, 2020 brought many opportunities for the Niagara Peninsula Conservation Foundation. We are thankful that the Foundation and NPCA developed a Memorandum of Understanding to demonstrate the commitment of both organizations towards a long-time partnership. Our success would not be without the support of Conservation Authority staff who assist in the financial, administrative, communications, and operational needs of the Foundation. We launched our first Director's Donation Challenge, where the Boards of the Foundation, Authority, NPCA Public Advisory Committee, in addition to NPCA Staff, contributed to, and far exceeded our expectations. We thank you all for your participation.

We learned over the past year that people are craving the outdoors. This need blends well with the Foundation's mission to raise funds toward environmental endeavors that include increasing green space, improving water quality, restoring habitat, conducting environmental research, and providing education.

We welcomed Andrea Crosby-DiCenso back to join us as our Executive Coordinator. Andrea expressed her "delight and excitement in returning to her first passion – conservation."

We also wish to express our gratitude to the Foundation's Board of Directors who were enthusiastic in welcoming our newest member, Mary Sergenese. Mary brings a wealth

of fundraising talent from the health care sector. There is no doubt that the relationship between our health and wellbeing are strongly linked to the ability to connect with nature.

In November, we partnered with the NPCA on the first Ball's Falls Holiday Trail. A special "Giving Weekend" hosted by the Foundation in December allowed us to fundraise through an outdoor, socially distanced event, that provided the community with the opportunity to explore the fabulous Ball's Falls Conservation Area at night – illuminated and awash with color. It was truly a magical experience.

We also would like to thank our many donors, sponsors, and volunteers for your exceptional support during a year that brought challenges for many. We look forward to a bright future and the promise that 2021 will bring hope and prosperity to all.



Tom Insinna
Board Chair



Andrea Crosby-DiCenso
Executive Coordinator

2020 NPCF Board of Directors

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