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Working Together For A Healthy Environment



**2016
Annual Report**

St. Clair Region
Conservation Authority

Vision, Mission, and Objectives

Vision

Vision is defined as foresight. The vision of the St. Clair Region Conservation Authority reflects the future desired state of our region.

"A healthy and sustainable natural environment in the St. Clair region."

Mission

A mission reflects action. In order to achieve our vision, it is necessary to provide leadership, effective management and ongoing communication.

"The St. Clair Region Conservation Authority has as its mission, to provide leadership through coordination of watershed planning, implementation of resource management programs and promotion of conservation awareness, in cooperation with others."

Objectives

- *Develop and maintain programs that will protect life and property from natural hazards such as flooding and erosion*
- *Protect, manage, and restore our natural systems including woodlands, wetlands, waterways, and lakes*
- *Provide recreation and education opportunities for the public to enjoy and learn from our natural environment*
- *Build a stronger and more valued organization through business excellence*



2016 Board of Directors

Betty Ann MacKinnon, Township of Adelaide-Metcalf
Frank Nemcek, Municipality of Brooke-Alvinston
Joe Faas, Municipality of Chatham-Kent
Jeff Wesley, Municipality of Chatham-Kent
Alan Broad, Township of Dawn-Euphemia
Kevin Marriott, Township of Enniskillen/Village of Oil Springs
Gerry Rupke, Municipality of Lambton Shores
Dan McMillan, Municipality of Middlesex Centre
John McCharles, Town of Petrolia
Muriel Wright, Town of Plympton-Wyoming
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Mike Kelch, City of Sarnia
Cindy Scholten, City of Sarnia
Don McCallum, Municipality of Southwest Middlesex/Village of Newbury
Steve Arnold, Township of St. Clair
Steve Miller, Township of St. Clair
Tony Bruinink, Municipality of Strathroy-Caradoc
Norm Giffen, Municipality of Strathroy-Caradoc
Todd Case, Township of Warwick

The Conservation Authority is governed by a Board of Directors appointed by the member municipalities within the jurisdiction of the St. Clair Region Conservation Authority. The 20 Authority Directors vote annually to select a Chair, Vice Chair and Executive Committee.

The Board met six times in 2016 and is responsible for establishing the policy and procedures under which the Conservation Authority operates. Conservation Authority board members provide a crucial link between this organization and the municipalities we serve.

Executive Committee

Steve Arnold, Chair
Andy Bruziewicz, Vice Chair
Tony Bruinink
Joe Faas
Norm Giffen
Larry Gordon
Betty Ann MacKinnon
Jeff Wesley
Muriel Wright



Chair's Remarks

I am pleased to present our Annual Report outlining our accomplishments over the last year. We completed a strategic plan that charts our path for the next five years. We found we did not need to change direction or alter our core programs, rather, we looked at opportunities to enhance our efforts in an effective and comprehensive manner.

As an organization, we strive to effectively provide programs that further our vision of a healthy and sustainable natural environment in the St. Clair region. We do this with an eye toward financial accountability and the needs of our member municipalities.

We are not in this alone. We work with many partners as funders, project participants, and volunteers. You have all been a critical part of our success.

As you read this annual report, I believe you will be impressed with the wide range of conservation programs provided throughout our region. I thank our Board of Directors for their support and hard work over this last year and to our dedicated staff who continue to work on behalf of our communities.

*Steve Arnold
Chair*



Protecting Life and Property

Flood Operations

Flooding is a natural process, and while the Conservation Authority has done much to reduce the risk to life and property, some flooding in developed areas is unavoidable. The Conservation Authority actively works with municipalities and landowners to reduce the threat to life and property from the dangers of flooding. Authority staff meet annually with municipal representatives to review and update Flood Warning Plans that enable an organized and coordinated response in the event of changing watershed conditions. A network of 11 stream gauges, five snow sampling stations, ice monitoring, and current meteorological data allow staff to monitor conditions, delineate short- and long-term trends, and advise the local community of potential flooding events.

Flood Warnings: The Authority operates a warning program designed to notify residents in flood-prone areas of potential flooding events. Should a flood be imminent, the Municipal Flood Coordinators and the media are advised and officials take appropriate action.

There are four types of statements issued:

- Watershed Conditions Statement for Water Safety
- Watershed Conditions Statement for Flood Outlook
- Flood Watch
- Flood Warning

In 2016, one Watershed Condition Statement (March 25) and two Flood Watches (March 28 and 31) were issued. These bulletins were related to extensive rainfall received in the watershed over the Easter weekend and following week causing watercourses to overflow into floodplain areas. Average and drier conditions resulted in low flood risks for the remainder of the year.

Shoreline Erosion and Flooding: The Authority issues warnings for potential property damage due to wave action along southern Lake Huron, the St. Clair River, and northeastern Lake St. Clair shorelines.

W. Darcy McKeough Floodway: The W. Darcy McKeough Floodway was built to protect the community of Wallaceburg and portions of the former Townships of Chatham and Sombra from severe flooding. Since 1984, the Floodway has been operated six times. The Conservation Authority maintains this important infrastructure to ensure it functions efficiently and effectively when a flooding event requires its operation. Maintenance and repair activities that were completed in 2016 include:

- Completion of a slope stability investigation
- Floodway berm repair
- Culvert replacement and repair of dam drop structure
- Drainage improvements

In addition, the Authority was successful in acquiring funds to complete a Dam Safety Review of the W. Darcy McKeough Floodway.

3-D Mapping Project Underway

The SCRC is undertaking an extensive project to develop better elevation mapping. Similar projects are being implemented by the province and at many other Conservation Authorities. The project will create an improved and more accurate elevation model for the entire SCRC watershed. A high resolution Digital Elevation Model (DEM) will provide authority staff with more accurate elevation and slope measurements that allow for higher quality floodplain mapping, more precise delineation of regulated areas, and better planning and placement of conservation projects (i.e., wetlands, tree planting).

2016 saw significant progress:

- Digitized hydrological features encompassing seven subwatersheds
- 47 site-specific checks for the planning department
- 825 454.5 metres of digitized watercourses for a study of the Lake Huron Tributaries completed with the SCRC biology department
- Produced large-scale hydrologically enforced DEM with sub-metre resolution for the Sarnia area

Future goals include:

- Continue digitizing hydrological features in the remaining subwatersheds
- Continue to create value-added products that display elevation information
- Continue to complete case studies and build a reputation for the SCRC as leaders in accurate elevation mapping



West Ipperwash and Murphy Road Dynamic Beach Assessment

The Lake Huron Shoreline Management Plan, approved in 2015, outlines development and site alteration constraints along dynamic beaches to prevent loss of property by flooding or erosion of the shoreline due to high lake levels. As part of this plan, the SCRCa contracted Baird & Associates to complete an assessment of the dynamic beach along West Ipperwash Beach and a section in Sarnia (east of Murphy Road allowance) on Lake Huron to refine the hazard limit if technically supported. The completed assessments will be included as an Addendum to the Management Plan.



SCRCa staff organized and attended numerous open houses to obtain feedback from the local community on the West Ipperwash Dynamic Beach study.

Water and Erosion Control Infrastructure Grants

The Ministry of Natural Resources and Forestry provided \$80 000 in support of two projects at the W. Darcy McKeough Floodway in 2016-17. The funds were provided to the SCRCa through the Water and Erosion Control Infrastructure (WECI) program.

- \$50 000 for floodway channel repairs
- \$30 000 for Dam Safety review assessment

Erosion Control Projects

Aamjiwnaang First Nation Shoreline Naturalization:

Aamjiwnaang First Nation approached the SCRCa for advice and design support regarding a proposed shoreline naturalization project along the St. Clair River. Collaboration and consultation with local community members resulted in the proposed design. Armour stone will replace failing steel sheetpile and habitat pods will be installed. In addition to decreasing the impact of shoreline erosion, it is hoped that the naturalization project will provide the community with easier access to the shoreline and the opportunity to celebrate and reconnect with their cultural and traditional relationship with the water. Construction is expected to occur in early 2017.

Courtright Park Shoreline Restoration: Courtright Park in the Township of St. Clair has approximately 400 metres of St. Clair River shoreline historically protected with concrete, rubble, and stone. In recent years, many sections have failed and are in need of repair. The SCRCa is working with the township to develop a shoreline design that will provide shore stabilization, improve access to the river, enhance aquatic habitat, and improve the general appearance of the park. The construction will be implemented in phases subject to available funding.



The proposed design at Courtright Park will include an armour stone/rip rap revetment with aquatic planting and gravel beds incorporated along parts of the shoreline.



Promoting Safe Development and Healthy Communities

While municipalities encourage valuable development, it is important that new houses and businesses are located safely out of areas susceptible to natural hazards (e.g., flooding). It is also important that any development completed within a natural hazard area does not impact adjacent landowners or other landowners within the watershed.

The St. Clair Region Conservation Authority is responsible for managing development within areas of natural hazards through Ontario Regulation 171/06 - *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*. To prevent future risk and to protect the interests and liability of our member municipalities, this regulation requires landowners to obtain the permission of the Authority prior to developing within natural hazard areas associated with watercourses and other areas susceptible to river or lake shoreline flooding, ravine and shoreline slopes, wetlands and land adjacent to wetlands. Through pre-consultation with proponents and member municipalities, wetland areas and hazard constraints are discussed and avoided upfront in most cases.

The Authority also provides hazard and surface/groundwater comments on municipal planning matters. Natural hazard studies can include floodlines, stormwater management, stable slopes, coastal assessments, and engineering. The Authority may occasionally obtain outside expertise to review complex technical reports. This review and input assist municipalities in meeting their obligation to adhere to related provincial policies.

The Authority also responds to requests for property information from members of the public, lawyers, and real estate agents. These inquiries are important as they give prospective property buyers or people considering work in high-risk areas a prior understanding of the risks and requirements involved.

In 2016, high lake levels resulted in more erosion of the Lake Huron shoreline. Regulations staff responded to numerous requests by shoreline residents for the installation of shore protection along the toe of the lake bank. This activity requires prior written permission from the Conservation Authority. Staff also responded to several investigations concerning unauthorized shore protection works. In some instances, new shoreline protection can be detrimental and cause erosion to adjacent properties. A proactive Conservation Authority review is the best approach when it comes to shore protection so the characteristics of the shoreline can be examined.



Great Lake Water Levels

Throughout 2016, Great Lake water levels remained high in both Lake St. Clair and Lake Huron. Water levels increased by 8 cm in Lake Huron compared to 2015 and remained relatively unchanged in Lake St. Clair. Both lakes continued to exceed the 10-year long-term average for most of the year.

Lake levels are an important factor in managing our flood and erosion control programs. In addition to shoreline erosion impacts, high lake levels can foster enhanced flood risks in the southern portions of the watershed characterized by flat terrain. Water levels in the lower Sydenham River (Wallaceburg and Dresden for example), are actually determined by the water level in Lake St. Clair. The higher the lake level, the less room there is in the lower reaches of the Sydenham River to accommodate increased flows from storms and spring snow melt.

Supporting Municipalities with Natural Heritage Advice

Municipalities are responsible for the management and protection of natural heritage under the 2014 Provincial Policy Statement. To fulfill this obligation, local municipalities have, by way of agreement, requested the SCRC to provide natural heritage comments and guidance on municipal planning matters. Planning and ecology staff provide technical advice and review complex natural heritage environmental reports and assessments to ensure municipal land-use planning and development activities adhere to provincial policies.

Planning and Regulations Activity

	2015	2016
General Inquiries	23	13
Reviewing and advising on Official Plans, Official Plan Amendments, Zoning By-laws, Zoning By-law Amendments and Subdivisions	65	44
Reviewing and advising on Severances and Variances	70	80
Applications under Ontario Regulation 171/06	183*	118
Inquiries under Ontario Regulation 171/06	122	115
Non-Compliance Matters under Ontario Regulation 171/06	9	19
Legal Inquiries	63	45
Review of Environmental Studies and Development Assessment Reports including Terms of Reference	18	11
Hearings	0	1
Total	553	446

* In 2015, higher number of Ontario Regulation 171/06 applications due to Renewable Energy Act projects (63).

Creating Healthy Watersheds

Climate Change Research at Warwick Conservation Area

In cooperation with Forests Ontario, the Forest Gene Conservation Association, and the Southwest Afforestation Technical Team (SWATT), the Conservation Authority is undertaking an assisted tree migration project at Warwick Conservation Area.

The project involves the creation of a 2-hectare plantation consisting of a number of tree species from genetic stock from Pennsylvania, Tennessee, and local stock from Ontario. Over the years, the 1500 trees planted this spring will be monitored to compare their relative survivability and growth success.



From left to right: Ravi Singh, Forests Ontario; Steve Shaw, St. Clair Region Conservation Authority and SWATT; Greg Greer, Forests Ontario and SWATT; and Suzanne Perry, Forests Ontario, help plant trees as part of an assisted tree migration study at the Warwick Conservation Area.

Woodlot Management Services

Qualified forestry staff provide woodlot management and marking services to landowners. This is an excellent option for landowners who would like independent advice or an appraisal of their woodlot. Management plans are created that meet the specific goals of the landowner. Proper silviculture techniques and good forest practices are encouraged to ensure the long-term health of the woodlot while meeting the needs of the landowner.

The Conservation Authority is certified to prepare and/or approve plans created through the Managed Forest Tax Incentive Program. One new plan and three renewals were completed in 2016.

Drain Maintenance Program

Authority staff worked with municipal drainage superintendents on the maintenance of 10 km of municipal drains in 2016. The herbicide applications assist in controlling woody vegetation, decreasing the frequency of drain clean-outs, and reducing sedimentation caused by frequent clean-outs.

Tree Planting Program

This spring, 102 000 seedling trees and 760 large-stock trees were planted on private and public properties. During the fall, 56 large-stock potted trees were planted.

Approximately \$165 000 in federal, provincial, and local grants were secured through 7 separate funding programs and used to offset planting costs for most landowners taking part in the seedling program.

Tree Maintenance

For a tree planting project to be successful, maintenance of the trees is essential. The Conservation Authority offers a service to provide weed control for newly planted seedlings for three years. Survival assessments were completed for a portion of 2016, 2015, and 2011 planting projects. Tree survival averaged 92% for 2016 sites and an average of 89% for projects over the last 5 years.

Forest Ontario – 50 Million Tree Program

Forest Ontario has a long-term agreement to plant 50 million trees province-wide by 2025 and plays a large role in our landowner grant program. In 2016, the SCRCA received \$73 000 from Forest Ontario for 10 planting projects including funding for the 2-hectare assisted tree migration (climate change) plot at Warwick Conservation Area this spring.

Authority Tree Seed Collection

Just as it is important to select the correct species for a project's site conditions, it is also important that trees be grown from seed collected from the same geographic location where planting is to take place. This ensures the best tree species genealogy for the site and results in better tree growth, survival and longevity. The Conservation Authority collects local tree seed throughout the watershed and ships the seed to the wholesale nursery stock grower. Tree seed collected in 2016 will be used in the 2018 afforestation program. About 600 litres of oak and hickory seed were collected and another 2500 litres of walnut seed were collected and shipped to the SCRCA's supplying tree nursery.

Woodlands Conservation By-law

The Conservation Authority continues to administer the Woodlands Conservation By-law on behalf of the County of Lambton. This partnership not only assists with the regulatory aspect of the by-law, but has expanded local outreach and education related to conserving woodlands. Staff has found an increase in inquiries by landowners with regards to woodlot issues and how they relate to the by-law.

Healthy Watersheds

Grants to the Conservation Authority Help Landowners

The Conservation Authority's Healthy Watersheds Program is an initiative that provides technical and financial assistance to improve and protect rural water quality. The SCRCA actively seeks grants that will bring dollars into the region to support the conservation efforts of landowners. Projects include wetland creation/enhancement, sediment traps, agricultural erosion control structures, buffer strips, riparian/stream bank protection, wildlife habitat creation, windbreaks, reforestation, and native grassland habitat. In 2016, grants were obtained for landowners from Environment and Climate Change Canada (Habitat Stewardship Program – Species at Risk & Prevention Streams); Wildlife Habitat Canada; Ontario Ministry of Natural Resources and Forestry (Species at Risk and Canada-Ontario Agreement); Ministry of the Environment and Climate Change (Canada-Ontario Agreement); Ministry of Agriculture and Food & Rural Affairs (Canada-Ontario Agreement); Ducks Unlimited Canada; Middlesex Stewardship Trust Fund; Ontario Trillium Foundation; Ontario Soil and Crop Improvement Association (Species at Risk Farm Incentive Program); and Forest Ontario.

- Species at Risk Stewardship Fund – \$49 500 in grant was available for landowners. This program, funded by the Ministry of Natural Resources and Forestry, provides assistance for landowners with projects located in the east and north branches of the Sydenham River.
- 50 Million Tree Program – For reforestation projects one hectare or larger in size, up to \$1000 per acre is available from Forest Ontario. A total of \$75 000 or more is available each year for landowner tree planting projects in the SCRCA watershed through Forest Ontario
- Sydenham River Species at Risk Habitat Stewardship Program – A \$52 000 grant was available in 2016 which funded projects for landowners located in priority area one for aquatic species at risk in the east branch of the Sydenham River above Dresden.
- Sydenham River North Branch Prevention Habitat Stewardship Program – \$12 500 in grant for landowners
- Healthy Lake Huron – Lambton Shores Program – An \$18 000 grant is available until March 2017. This program, funded by the Ministry of the Environment and Climate Change, assists landowners with projects located in the priority area.
- Healthy Sydenham Headwaters Initiative – \$30 000 grant funded by the Middlesex Stewardship Council Trust Fund, will assist landowners with wetland creation and upland habitat restoration projects in the Sydenham Headwaters watershed.

In 2016-17, \$322 000 in grants have been allocated for landowners covering 46 stewardship projects. Over the last 16 years, the Conservation Authority distributed more than \$2.7 million in grants to landowners, which resulted in over 850 projects.

Healthy Sydenham Headwaters

The SCRCA continues to encourage conservation and restoration efforts in the headwaters of the Sydenham River. Staff meet with landowners seeking to implement stewardship projects such as this newly constructed wetland in Strathroy. The wetland will reduce overland flow and serve as a sink for nutrient runoff from nearby farm fields. Funding for this project came from Ducks Unlimited Canada; Middlesex Stewardship Council; Environment and Climate Change Canada's Habitat Stewardship Program (Aquatic Species at Risk); Wildlife Habitat Canada; and the Ontario Ministry of Natural Resources and Forestry Species at Risk Program.



GLASI – Working to Improve Soil Health

The St. Clair Region Conservation Authority is in the second year of a 3-year grant from the Ontario Soil and Crop Improvement Association under the Great Lakes Agricultural Stewardship Initiative (GLASI) Education and Outreach Component. This grant is to increase awareness of social, environmental, and economic implications for agriculture related to soil health, water quality, and pollinator health in our watershed. Funding for the three years is \$56 190 and will go towards education and outreach including workshops, bus tours, social media, and attending farm events.

Through this program, the Authority hosted a Soil Health workshop and a bus tour. Peter Johnson from Real Agriculture spoke about soil testing and how to interpret soil analysis results with 31 local farmers at the workshop.



Soil Health Bus Tour – Lambton County

In August, staff hosted a bus tour that provided farmers with an opportunity to talk with one another about their experiences with cover crops, soil health, and pollinator habitat. With funding from the Ontario Soil and Crop Improvement Association through the Great Lakes Agricultural Stewardship Initiative, the Ontario Ministry of Environment and Climate Change, and Environment Canada, the bus tour stopped at six Lambton farm properties, including two SCRCA properties – Sinclair Property and the McPhail Tract.

The 25 participants saw a soil erosion project that consisted of a series of Water and Sediment Control Basins (WASCoBs) or berms and hickenbottoms being installed; discussed woodlot management; learned about pollinator habitat from Rob Buchanan from Ontario NativeScape; discussed cover crops and seeding equipment with champion landowners and an Ag dealer; and heard from Glenn Munroe, the Senior Policy Analyst for the Environmental Commissioner's Office of Ontario. Mr. Munroe has maintained contact with at least two of the farmers on the tour and included their discussions in the Environmental Commissioner's Office's report entitled *Putting Soil Health First: A Climate-Smart Idea for Ontario*. The tour began and ended at A.W. Campbell Conservation Area and participants were treated to a barbecue. The discussions continued long into the evening after the barbecue ended.



Helping Aquatic Species at Risk

The Sydenham River supports an incredible variety of aquatic life, making it one of the most species-rich watersheds in all of Canada. Many of the aquatic species of the Sydenham are listed as species at risk either provincially or federally.

The Conservation Authority received federal and provincial funds to undertake research, site-specific habitat improvements, and to develop and distribute an annual newsletter. Education programs where students learn about the biology and ecology of species were brought to Hillside Public School at Kettle and Stony Point First Nations and North Lambton Secondary School in Forest.

SCRCA Supports Municipalities – Municipal Drains

The SCRCA, acting under the Conservation Authorities Act as a watershed management agency, provides review of drainage projects for municipalities.

According to provincial direction, the SCRCA issues Standard Compliance Requirements (SCRs) under the Drainage Act & Section 28 Regulations Team (DART) protocol. The protocol was developed to streamline the approvals process and includes a set of SCRs for regular repair and maintenance activities that, if followed, would serve as the written permission to proceed with work under the Conservation Authorities Act. In 2016, 63 SCRs were issued.

At this time, the protocol only addresses the maintenance and repair of drains as required by the Drainage Act and does not address issues relating to new drains and improvements to existing drains. However, the SCRCA has a supplementary review process for projects that fall outside the protocol and Letters of Review are issued for these projects. In 2016, a total of 50 Letters of Review were issued. Both the DART protocol and Letters of Review do not apply to permission under the federal Fisheries Act, or the Ontario Endangered Species Act, or any other regulatory requirements.

SCRCA Receives Grants to Study Wetlands

For the second year, the SCRCA received \$30 000 from the Ontario Ministry of Natural Resources and Forestry to undertake evaluations of wetlands in the region. An additional \$15 000 was received from the Great Lakes Sustainability Fund. This helped the Authority identify and better understand a number of key wetlands and to determine their provincial significance.



Fish Monitoring

With support from the Fisheries and Oceans Canada (DFO) and a three-year partnership with the Friends of the St. Clair River funded by the Ontario Trillium Foundation, the SCRC biology staff have been able to complete fish community surveys throughout our watershed. Survey work for the Ontario Trillium Foundation focused on the St. Clair River Area of Concern while work funded by the DFO took place throughout the St. Clair Region.

The purpose of fish community surveys is to gain important information on fish species distribution and watershed health, which assists in developing management recommendations. The fish data collected were compiled and shared with other entities, including DFO and the Royal Ontario Museum so that the information can be used to instruct policies and studies. This data will contribute to important fish records that began in the early 1900s.

Highlights from 2016:

- 16 sites were sampled and 13 000 fish were examined (identified, weighed, measured and recorded)
- Invasive species that threaten our native fish were found at multiple sites including carp, goldfish and goby
- Over 50 fish species were identified; there are approximately 160 native freshwater fish species in Ontario with the Sydenham River being home to at least 82 of these species



Through the SCRC's reptile program, eastern spiny softshell turtle eggs were incubated and about 80 hatchlings were released back into the wild in 2016. Biologists have noted an absence of young turtles in the Sydenham River as nests for this secretive species are often subject to predation by skunks, raccoons, and other predators. It is hoped that efforts such as this will provide opportunities for this species to maintain its population while stewardship projects to enhance habitat are undertaken.

Reptile Monitoring

With support from the Ministry of Natural Resources and Forestry's Species at Risk Stewardship Fund, the SCRC was able to carry out reptile monitoring, habitat enhancement projects, landowner stewardship projects, and public outreach programs. Two species of particular interest for the program were the endangered eastern foxsnake and eastern spiny softshell turtle.

Highlights from 2016:

- Continued monitoring of the four artificial nesting boxes and 65 coverboards that provide habitat and the opportunity to gather information on local snake populations
- Distributed five new artificial snake nesting boxes and installed 10 new snake coverboards
- A local high school student volunteer contributed to the SCRC's reptile monitoring program by maintaining and monitoring local snake coverboards and artificial nesting boxes
- Maintained the snake hibernaculum and brush pile habitat enhancement project at the McKeough Conservation Area
- Performed turtle population and nesting habitat surveys
- Expanded the spiny softshell turtle rehabilitation program that works to aid in the recovery of the imperiled population
- Staff from the Biology Department attended the Canadian Herpetological Society Conference to network and gain knowledge on current scientific research and conservation efforts in Canada

Fish Barrier Removed

The Conservation Authority removed a barrier on Bear Creek that was impeding the movement of fish upstream. The project, which was done with the cooperation of the landowner, became challenging when rare mussels were discovered. After receiving a permit from Fisheries and Oceans Canada, over 300 mussels, including 69 of the rare mapleleaf mussel, were found and relocated upstream to a suitable area.

Following the relocation, the barrier was removed and a riffle was constructed by placing rock across the river, creating improved invertebrate habitat and improved oxygen levels in the water downstream.

This project was funded by Fisheries and Oceans Canada's Recreational Fisheries Conservation Partnership Program, Friends of the St. Clair River (using Ontario Trillium Foundation funds), Ministry of Natural Resources and Forestry (MNRF), MNRF Youth Rangers, and the federal Habitat Stewardship Program.



Following the removal of a barrier that was blocking fish movement, rocks were used to create a riffle that improves the habitat of the river.

Water Quality Monitoring

Surface Water

Surface water samples were regularly collected at 22 sites to provide water chemistry information for the following programs:

- Provincial Water Quality Monitoring Network
- Canada-Ontario Agreement on Great Lakes Water Quality
- Healthy Lake Huron – Lambton Shores Tributaries

Field tests were conducted on parameters such as dissolved oxygen, pH, conductivity, and temperature, while samples were bottled and shipped to the Ministry of the Environment and Climate Change to be analyzed for nutrients, *E. coli*, and metals.

The health of the aquatic habitats was also assessed by sampling the invertebrate organisms such as insects, worms, and crustaceans that live on the bottom of the watercourse. Benthic samples were collected at 16 sites.

Results of this sampling form the basis for the water quality grades reported in the SCRCA Watershed Report Cards.



Groundwater

In an effort to better understand Ontario's groundwater resources, the Ministry of the Environment and Climate Change implemented the Provincial Groundwater Monitoring Network to monitor water quality and quantity in a number of test wells. The Network is a cooperative effort of the Conservation Authorities in Ontario, on behalf of the Ministry of the Environment and Climate Change. Water levels are monitored at nine groundwater wells and the water quality at eight groundwater wells.

One of the wells is outfitted with satellite telemetry and is used by the province as part of its monitoring program for low water advisories.

West Nile Virus Control

Lambton County Community Health Services contracted the Conservation Authority to undertake the Lambton County Larvicide Program as part of its overall West Nile Virus Control Program. Approximately 16 000 catch basins were treated in Sarnia-Lambton, Aamjiwnaang First Nation, and Kettle and Stony Point First Nation. Three separate rounds of application were completed over the summer. The catch basins were treated with a pelletized larvicide called methoprene. The treatment is designed to prevent mosquito larvae from becoming adult biting flies and reduce the risk of spreading West Nile Virus throughout the community.

Drinking Water Source Protection

After almost a decade of research and public consultation, the Thames-Sydenham and Region Source Protection Plan was approved by the province and is now law.

The purpose of the provincial Clean Water Act (2006) is to protect existing and future sources of municipal drinking water. Protecting water at the source is the first barrier in a multi-barrier approach to providing a safe, clean supply of water. The Act is part of the Ontario government's commitment to protecting and enhancing human health and the environment, as well as implementing the Walkerton Inquiry recommendations.

The St. Clair Region, Upper Thames River, and Lower Thames Valley Conservation Authorities worked together, along with the Thames-Sydenham and Region Source Protection Committee, to develop the Plan to protect municipal sources of drinking water throughout the region. The Committee is a group of citizens, appointed under the Clean Water Act, representing municipal, business, general public, First Nations, and interest group sectors from across the region.

The Source Protection Plan contains local policies that address a range of drinking water threats. The Source Protection Committee worked hard to create a balance between the important goal of protecting our municipal supplies of drinking water and the burden this would create on municipalities and other implementers. In general, for existing activities that are a significant risk, the approach was to manage the risk through the use of Risk Management Plans and Prescribed Instruments. This allows the activities to continue while managing the risk such that the activity is no longer a significant threat to the drinking water source.

For future activities that would create a new significant risk, generally the approach was to prohibit this activity in those vulnerable areas where it would be a significant threat. Whenever possible, where other agencies have mechanisms in place that adequately address the significant threats, these mechanisms were used to reduce duplication. The Committee also felt it was important to address moderate and low risks. This was done primarily through education and outreach.

While the responsibility for Risk Management services lies with municipalities, Conservation Authority staff had been contracted to provide this service by a number of municipalities in the Source Protection Region.

Great Lakes

Healthy Lake Huron

A team of dedicated environmental professionals joined together in 2011 to coordinate actions aimed at improving overall water quality along the southeast shores of Lake Huron. This group is leading the Healthy Lake Huron – Clean Water, Clean Beaches campaign, a concerted effort to address nuisance algae concerns and to promote safe and clean beaches and shorelines from Sarnia to Tobermory.

The Lambton Shores watershed was identified as one of five target watersheds. The SCRCA provides grants to farmers and landowners to implement Best Management Practices (BMPs) that improve water quality in the Lambton Shores Watershed. In 2016, seven landowners participated. Four of the grants were part of a cover crop program, two were tree planting projects, and the final project was a septic upgrade along the shores of Lake Huron.

A number of other activities were undertaken as part of the Healthy Lake Huron Initiative:

- The SCRCA hosted the fourth annual Great Canadian Shoreline Cleanup event at Centre Ipperwash Beach with 14 volunteers from the community
- A display at the Forest Fall Fair provided an opportunity for staff to engage with the community and promote Healthy Lake Huron initiatives
- A newsletter was distributed to farmers discussing cover crops, soil health, and water quality
- Staff participated in the Forest Ag in the Classroom event using an Enviroscape to demonstrate how anthropogenic influences (both rural and urban) influence water quality and what best management practices can be implemented to reduce our impact on water quality
- Monthly and storm event water quality sampling continues to evaluate the impact of runoff on nutrients entering Lake Huron
- A community steering committee continues to provide input to ensure programs are meeting the needs of the Lambton Shores watershed



The Healthy Lake Huron Program is funded by Environment and Climate Change Canada and through Canada-Ontario Agreement funding from both the Ontario Ministry of Environment and Climate Change and the Ontario Ministry of Agriculture, Food and Rural Affairs.



Lake Erie Domestic Action Plan

In response to the ever increasing algal bloom issues in Lake Erie, the governments of Canada and Ontario announced a phosphorus reduction target of 40% by 2025. To achieve this ambitious goal, a Domestic Action Plan for Lake Erie is being prepared that will outline activities designed to reduce excess nutrient loads to the lake and decrease toxic algal blooms. Many programs implemented by the Conservation Authority already support this initiative but will become increasingly important as the plan is finalized in 2017. The SCRCA is represented by the General Manager who sits on the Agriculture Working Group providing input into the strategy.

Invasive Species – Battling *Phragmites*

The Conservation Authority partnered with the Lambton Shores *Phragmites* Community Group once again this year to help battle invasive *Phragmites* in a provincially significant coastal wetland on Lake Huron, which has been a long-standing issue in this area for many years. In 2016, funding was provided by the Great Lakes Guardian Community Fund for \$25 000. The Lambton Shores *Phragmites* Community Group also received three years of generous financial support from the National Wetland Conservation Fund.

St. Clair River Area of Concern

In 1987, the St. Clair River was identified as one of 43 Areas of Concern (AOC) in the Great Lakes Basin by the governments of Canada and the United States. AOCs are locations where local historical pollution severely limited the use and enjoyment of the water body. In the St. Clair River, municipal and industrial discharges along with habitat loss contributed to the St. Clair River's AOC designation.

The goal of the AOC program is to implement a Remedial Action Plan (RAP) to restore environmental challenges (also called Beneficial Use Impairments) that were identified in the St. Clair River. The St. Clair Region Conservation Authority plays an important role in this program by coordinating and managing projects in collaboration with the federal and provincial government, First Nations, industry, and local community groups.

2016 Highlights

The Canadian RAP Implementation Committee (CRIC), responsible for implementing actions to improve the environmental health of the St. Clair River, prepares status assessments for "impaired" Beneficial Use Impairments (BUI) and initiates a process that involves consultation with Aamjiwnaang and Walpole Island First Nations and the Binational Public Advisory Council (BPAC), a local citizen's group consisting of both Canadian and American representatives. The following highlights progress made in 2016:



Bird or Animal Deformities or Reproductive Problems – Four years of monitoring and research indicate that deformity rates and hatching success of snapping turtles and leopard frogs are no different than other areas of the Great Lakes. CRIC and BPAC approved the "not impaired" status in 2016. Consultations with Aamjiwnaang and Walpole Island First Nations are currently being conducted.

Beach Closings – Improved E. coli levels at a local swimming area along with improved waste water infrastructure has led CRIC to recommend this BUI be considered "not impaired." First Nation consultation is ongoing.



Restrictions on Drinking Water Consumption or Taste and Odour Problems

The "Restrictions on Drinking Water Consumption or Taste and Odour Problems" BUI was identified as "impaired" in the St. Clair River AOC due to frequent water intake closures resulting from upstream industrial and municipal spills. Although spill frequency has decreased significantly since the 1980s, CRIC recognized that ongoing concerns remain regarding spills to the St. Clair River. In response, a discussion paper was drafted and open houses were held to stimulate discussions among the public, First Nations, stakeholders, and agencies regarding the status of this BUI. Many valuable and insightful comments were received that will guide next steps in preparing a formal status assessment.

Sediment Remediation Project

Three areas of mercury contaminated sediment remain along the shoreline of the St. Clair River and have been recommended for removal by hydraulic dredging. The Ministry of the Environment and Climate Change and Environment and Climate Change Canada are working together to review and confirm the technical assumptions for the project that are required to support the detailed engineering work. Key developments on this complex file will be communicated at public information sessions.

SCRCA Contributions

The SCRCA has been an important contributor to the success observed in the AOC program this year. Some examples include:

- Providing shoreline enhancement expertise and guidance to local partners
- Preparing a Fish and Wildlife Habitat Management Plan that will guide local habitat restoration efforts after the St. Clair River is removed from the list of Great Lake AOCs.
- Technical Geographic Information System (GIS) support.



Restrictions on Dredging Activities – Sediment quality in the St. Clair River has drastically improved over the last three decades, resulting in no limitations on the disposal of dredged materials removed from the St. Clair River. Consultation with First Nation communities was completed in 2016 followed by BPAC approval of the re-designation recommendation to "not impaired."

Community Conservation

Aquatic Education Day in Port Lambton

One-hundred and sixty students ranging from kindergarten to grade 8 attended our River Day in the St. Clair River Area of Concern. The children had the opportunity to visit different stations where they learned about various topics relating to the water cycle, wetlands, and the Great Lakes. Staff demonstrated how they perform fish surveys and taught the children about the animals that live in our watercourses. The river day was held by the Conservation Authority with funds received from an Ontario Trillium Foundation grant secured through a partnership with the Friends of St. Clair River.



Aamjiwnaang Envirofest

SCRCA staff participated in Aamjiwnaang's Envirofest in August. Information was shared with community members on the St. Clair River Remedial Action Plan and a number of Conservation Authority programs including the unique and valuable wildlife found within our watershed and our programs to protect species at risk, critical habitat, and vulnerable ecosystems. Community members were invited to search through our benthic invertebrate samples to see what kind of life can be found in a healthy creek.



Kettle and Stony Point First Nation Students Participate in Education Program

Students from the Hillside School at Kettle and Stony Point First Nation participated in a program to learn about aquatic invertebrates, fish, reptiles, species at risk, and their environmental significance. On the first day, the classes spent time with our biologists in Shashawandah Creek where they were able to capture aquatic invertebrates and check minnow traps. The second visit consisted of an in-class portion where SCRCA staff presented material on habitat loss, reptilian species at risk, and played an educational game outside with the children that reinforced the concepts learned earlier in the day. This program was funded through the Reptiles at Risk program through the Ministry of Natural Resources and Forestry, the Ontario Trillium Foundation, and the Aboriginal Funds for Species at Risk program through Environment and Climate Change Canada.

Strathroy District Collegiate Institute Earth Week

The SCRCA attended Earth Week at Strathroy District Collegiate to introduce Grade 9 Canadian Geography classes to Species at Risk and Invasive Species. The presentations covered species at risk and invasive species located within the watershed with an emphasis on mussels and reptiles. During the question and answer session, it was clear there was a lot of interest in species at risk reptiles, particularly turtles. Overall, around 200 students were reached during the two-day program.

Turtle Watch

The SCRCA, in conjunction with the Coldstream Public Library, held a community information event called Turtle Watch. The information presented was created by the Toronto Zoo's Adopt-a-Pond program with a focus on locally significant turtles as well as other local reptiles and amphibians. In addition to reptiles and amphibians, the importance of wetland habitat was discussed.

Following the presentation, all those in attendance were invited on a walk that showcased a degraded wetland full of *Phragmites* as well as healthy wetlands and stream habitats in Coldstream Conservation Area. This program was funded, in part, by Wildlife Habitat Canada and the Ontario Ministry of Agriculture Food and Rural Affairs Species at Risk Stewardship Fund.

Kid's Funfest

This Sarnia event focused on children and provided an opportunity for the Conservation Authority to engage youth in nature-based activities.



Agriculture in the Classroom

The Conservation Authority worked with the Agriculture in the Classroom programs at the Brigden, Wyoming, and Forest Fall Fairs. Our displays focused on the important role farms play to help maintain healthy wetlands, forests, and overall watershed health.

Camp Blast

Our Forestry Intern introduced kids at "Camp Blast" to the variety and importance of trees in our community. Twenty children participated in this hands-on program.



Young Naturalist and Junior Conservationists

The Conservation Authority sponsored the Lambton Wildlife Inc.'s youth programs. Both groups met once per month with SCRCA staff at local wild spaces to learn about conservation, habitats, and species at risk in the watershed. Overall, approximately 35 youth and their families benefit from these monthly meetings.

Conservation Awards

The Conservation Authority offered Conservation Awards to deserving individuals and groups who have contributed to the environmental wellbeing of our region. The 2016 recipients were:

Brandon Jordan: Brandon had been volunteering with the Conservation Authority since June 2015. Brandon's work focused on the conservation of a Species at Risk, the eastern foxsnake. Brandon volunteered his time to maintain and monitor snake coverboards and artificial nesting boxes throughout the St. Clair Region.

Municipality of Strathroy-Caradoc: The Municipality was nominated based on their efforts to reduce energy consumption and for their tree planting initiatives. The Municipality was recently selected as the recipient of the Ontario Recreation Facilities Association's Don Harrison Energy Champion Award for its leadership in energy conservation initiatives. In partnership with the Conservation Authority, Conservation Foundation and TD Friends of the Environment Foundation, the Municipality planted trees along road allowances and in parks with the participation of local school children.

Municipality of Brooke Alvinston: For the last four years, the Municipality encouraged its local rural residents to plant more trees on their properties to increase tree cover and, where possible, create future roadside aesthetics by providing a subsidy towards the cost of the trees for its residents. Over 2000 large-stock trees have been purchased and planted throughout Brooke-Alvinston since 2013 by numerous property owners. In addition to this, Brooke-Alvinston has planted more than 3800 seedling trees on its own properties over the past three years.

TD Friends of the Environment Supports Community Tree Planting

Once again, TD Friends of the Environment Foundation supported community tree planting efforts in Mount Brydges and Sarnia through TD Tree Days with \$8600 in grant funding. Between the two events, there were nearly 120 volunteers and 450 trees planted. Many thanks to the partners and volunteers involved, including the Municipality of Strathroy-Caradoc, City of Sarnia, Lambton College International Student Organization, local Scouts groups, and St. Clair Region Conservation Foundation.



Events – Experience our Watershed

Maple Syrup Festival

About 700 people visited the A.W. Campbell Conservation Area to experience demonstrations of syrup production from times past. Tours included a story of how maple syrup was discovered by our First Nations people who later taught pioneers the wonders of this important staple. The festival was held from March 19 – 20. The Alvinston Firemen's Association provided the traditional pancake and sausage meals at the Alvinston Community Centre.



Sydenham River Canoe Race

78 canoes and kayaks participated in the Sydenham River Canoe and Kayak Race with \$2400 raised for Conservation Education. Norm Giffen, an Authority Board member, won the award for the most money raised. The fastest time for the 17 km competitive race was won by Rene Boogeman and Keir Johnston at 1 hour 25 minutes and 40 seconds. Our sincere thanks to all who participated.



A Geocaching Adventure

Geocaching is a high-tech treasure hunt, which uses a global positioning system (GPS) unit to locate a hidden cache (treasure). The annual event was held at the Lorne C. Henderson Conservation Area where 51 people from as far away as England took to the woods to discover hidden caches.

Members Bus Tour

Authority board members and municipal guests participated in a tour highlighting the Conservation Authority's projects and programs in the southwestern portion of our region. This provided an opportunity for municipal councillors to see first-hand how the Authority reaches out to the community to further healthy and safe watersheds.



Girish Sankar, Director of Water Management, describes a shoreline erosion control project at Cathcart Park as part of the members bus tour in June.

Art Walk

The Conservation Authority participated in Artwalk, a weekend-long festival celebrating the development of Sarnia's arts and culture district.



Conservation Education

St. Clair Conservation reaches out to students with a simple message – what can you do to protect our watersheds? Over 25 programs have been developed to introduce students to nature and to empower them to make a difference. The hands-on programs are all curriculum-based and provide an opportunity for students to discover how they can contribute to a healthier environment. The Authority offers outdoor and in-class programs for elementary and secondary schools. Many of the education programs are supported by donations from businesses and organizations. In 2016, 13 900 students participated in conservation education classes.



Specialist High Skills Major (SHSM)

The SCRCA developed high school programs to facilitate a number of certification programs for a variety of SHSM's including:

- Compass/Map/Global Positioning System (GPS)
- Geographic Information System (GIS)
- Watershed Management
- Tree Planting
- Project Wild & Below Zero
- Species Identification

Authority staff also offered Innovation, Creativity, Entrepreneurship (ICE) Training.



Chatham-Kent & Lambton Children's Water Festival

A record 1800 elementary students from Chatham-Kent and Lambton Counties attended the annual three-day Children's Water Festival at the C.M. Wilson Conservation Area in early October. The Chatham-Kent & Lambton Children's Water Festival educated Grade 4 and 5 level children about water conservation, protection, and related environmental issues through 40+ fun and interactive activities. This fall, more than 450 volunteers from a wide diversity of community groups assisted in this event. The Chatham-Kent and Lambton Children's Water Festival was coordinated by the Lower Thames Valley Conservation Authority and involved many partners including the SCRCA.



River Bottom Critters and Groundwater: River Bottom Critters is an in-class program, sponsored by the Sarnia-Lambton Environmental Association (SLEA), which gives students a first-hand opportunity to see how river bottom animals can be used to determine the quality of the aquatic health of a watercourse. 3300 students poked and probed through the petri dishes and discovered the wealth of life that thrives on the St. Clair River bottom. SLEA also sponsors Go With the Flow, which is a groundwater program that introduced 1800 K-8 students to the fundamentals of groundwater hydrology and the importance of protecting our groundwater resources.

Conservation Lands

The St. Clair Region Conservation Authority and its Foundation own more than 2100 hectares of land including beaches along Lake Huron, campgrounds, day use parks, wetlands, and forests. A wide range of recreational activities are available on these lands including swimming, boating, hiking, bird watching, camping, fishing, and hunting.

Camping

Our three campgrounds were busy in 2016. Campgrounds exceeded \$1.1 million in gross revenue. With 522 serviced campsites and 421 seasonal campers, not only did these three campgrounds provide employment opportunities to over 20 contract and seasonal staff, they significantly contributed to our local economies.

Our campgrounds are very fortunate to have a group of dedicated volunteers who assist staff in delivering many events and activities throughout the camping season. Some of these events included Canada Day Fireworks, Geocaching, Fish Fries, Pig Roasts, and live entertainment.

Campground Development Summary

Lorne C. Henderson Conservation Area

Township of Enniskillen

145 serviced sites with 123 seasonal campers

- Campground pool fence replaced
- Two shower areas renovated with new shower surrounds and ceramic tile installed on the floors and walls
- Subsurface drainage installed in the Towerview campground

Warwick Conservation Area

Township of Warwick

232 serviced sites with 191 seasonal campers

- Upgrades to WIFI system
- Renovations to pool - new porcelain tile
- New steel roof installed on washroom building

A. W. Campbell Conservation Area

Township of Brooke-Alvinston and Municipality of Southwest Middlesex

145 serviced sites with 108 seasonal campers

- An addition was constructed to the existing workshop; the addition houses a superintendent's office, staff lunch room, and storage
- Pool washrooms upgraded with new lighting, washroom fixtures, and an accessible shower area
- Bike cross trail upgraded with new gravel surfacing

Take a Hike

Hiking is increasing in popularity. The Conservation Authority has been very active in making improvements to its network of over 40 km of trails throughout the region. The St. Clair Region Conservation Foundation and other donors have helped provide funds for the purchase of materials for boardwalks and bridges and for gravel to help improve accessibility to the trails. For more information on trails, visit our website at www.scrca.on.ca and select the hiking button.



Peers Wetland Viewing Platform

The Sydenham Field Naturalists constructed a viewing platform at the Peers Wetland just outside of Wallaceburg with funding from the Union Gas Helping Hands program and memorial donations. Peers Wetland is the only sizeable wetland that remains along the lower reaches of Otter Creek. Earlier, work was undertaken on a berm and pumping scheme to manage water levels in the wetland. Trails have been added to improve public access. It is becoming a popular place for nature lovers.



Lake Huron Beaches

The Highland Glen Conservation Area is 10 hectares of beautiful forested ravine land and a 600-metre beach along Lake Huron. The site features a boat ramp within a safe harbour. This is the closest safe harbour to Sarnia in Lake Huron. The Conservation Area has a picnic pavilion and is very popular with boaters and for family picnics.

The Charles J. McEwen Conservation Area along the shores of Lake Huron is a perfect spot for a swim on the 200-metre sandy beach.



A Place for Nature

The Wawanosh Wetlands Conservation Area is part of a series of continentally important wetlands located in southwestern Ontario. It continues to provide critical habitat for North American waterfowl species, as well as other migrating species. The region is host to over 700 species of plants, 220 species of birds, and a wide array of mammals, fish, reptiles, and amphibians. Wawanosh is located within the Mississippi & Atlantic Flyways and is a major migratory route for waterfowl. Migratory waterfowl depend heavily on wetlands like this one to serve as a "refuelling station" on their long journey south, and again in spring when they return home.



Butterfly Meadow – Warwick Conservation Area

TD Friends of the Environment Foundation donated \$2000, which will help enhance a Butterfly Meadow at the Warwick Conservation Area. The garden was originally created in honour of Mac and Barbara Ferguson, and Ron and Mary Jane Van Horne through a private donation.



Strathroy Conservation Area – Trail Improvements

The Strathroy Conservation Area, located right within the Town of Strathroy, includes a three-km trail through a beautiful floodplain forest. A safety railing and stairs were installed along the trail system in the Strathroy Conservation Area. These improvements were funded by Bonduelle, Strathroy.





Conservation Areas	Camping			swimming pool	beach	picnic shelter	play ground	trails	natural area no facilities	phone (519)
	serviced lots	seasonal and overnight	group							
A. W. Campbell	✓	✓	✓	✓		✓	✓	✓		847-5357
Warwick	✓	✓	✓	✓		✓	✓	✓		849-6770
L. C. Henderson	✓	✓	✓	✓		✓	✓	✓		882-2280
Coldstream	✓		✓			✓	✓	✓		666-0190
Shetland	✓	✓	✓			✓	✓			692-5148
Wawanosh Wetlands						✓		✓		245-3710
Highland Glen					✓	✓				245-3710
C.J. McEwen					✓					245-3710
Clark Wright								✓		245-3710
Bridgeview						✓	✓	✓		882-2350
Strathroy								✓		245-3710
Esli G. Dodge						✓	✓	✓		786-2335
Crothers						✓	✓	✓		360-1998
Tony Stranak						✓	✓	✓		360-1998
McKeough Floodway								✓		892-3824
Management Areas										
Sinclair									✓	245-3710
Huff Woodlot									✓	245-3710
Perch Creek								✓		245-3710
Moore										245-3710
Marthaville								✓		245-3710
Harrison Woodlot									✓	245-3710
Bates Lands									✓	245-3710
Gawne									✓	245-3710
Maples Woodlot									✓	245-3710
Reid Property									✓	245-3710
Cuddy Woods								✓	✓	245-3710
Stirling Wetlands									✓	245-3710
Keith McLean								✓	✓	245-3710



Management of Lambton County Lands

Based on the SCRC's experience in managing natural areas, The County of Lambton has contracted out the management of a number of its properties to the Conservation Authority.

- Lambton County Heritage Forest
- Perch Creek Habitat Management Area
- Marthaville Habitat Management Area
- Bowen's Creek Habitat Management Area
- Moore Landfill Buffer Lands
- Szabo Forest
- Meadowview Villa Forest

In 2016, work focused on upgrading trails at the Lambton County Heritage Forest and improving fencing on a sand hill at Port Franks to encourage the establishment of dune grasses. New trees at Bowen's Creek were tended to reduce weed competition.



Lambton County Heritage Forest

McKeough Upstream Lands

Property Management Plans for 14 agricultural rental parcels in the McKeough Upstream Lands have been completed with recommendations and management actions for these properties. Property Management Plans are designed to highlight the property description, historical use, farming practices, forest management, soil and water management, species at risk management, and other key features of the property while addressing environmental risks through best management practices such as riparian planting along watercourses and installing erosion control structures.

Work is continuing to enhance agricultural lands owned by the Conservation Authority. Two wetlands were upgraded in 2016 to improve water retention and reduce soil erosion.

A climate change tree growth plot has been planted on one of the properties and includes 600 red oak and swamp white oak seedlings. The study will compare the growth and survival rates of locally sourced trees with trees sourced from the southern United States.

Foundation Lands

The St. Clair Region Conservation Foundation owns 16 properties totalling 455 hectares. Through agreements, these lands are maintained and operated by the Conservation Authority. In 2016, management activities included:

- New property identification signs installed at the Gawne Habitat Management Area and the Evoy Woodlot
- Dead ash trees removed from perimeter of the property at the Maples Woodlot
- Property identification sign installed at Evoy Woodlot
- Forestry staff worked on a forest management plan that will enable the Evoy Woodlot property to be eligible for the Managed Forest Tax Incentive Plan
- Trails are in the process of being established at the McLean Conservation Lands
- Benthic, reptile, and bird monitoring was undertaken at the McLean Conservation Lands



A prescribed burn was held by Authority staff at the McLean Conservation Lands to help rehabilitate small stands of tallgrass prairie that had been established on the property.



The McLean Conservation Lands is best known for the beautiful lotus ponds established by the late Mr. Keith McLean. They still attract many visitors and garden enthusiasts.

Conservation Foundation

Foundation Board of Directors

Duncan Skinner, President
Lyn Goddard, Vice President
Norm Giffen, Treasurer
Steve Arnold
Bill Bilton
Ken Brooks

Ralph Coe
Ottavio Colosimo
Rex Crawford
Caroline DeSchutter
Archie Kerr
John Simmons

Evoy Woodlot Donated

The St. Clair Region Conservation Foundation received a generous donation from the Evoy family of a 33-hectare woodlot in Enniskillen Township near Oil Springs. Tom Evoy was a board member of the Conservation Authority from 1976 – 1992 and a member of Conservation Foundation from 1979 – 1983.

Tom Evoy was instrumental in establishing the tree planting program in the 1980s. He, along with Conservation Authority staff, started a program that today has seen over 3.5 million trees planted.

Our sincere thanks to Mr. Evoy and his family for making this incredible gift – it leaves a legacy for future generations at a time when natural areas, environmental awareness and a place for people and wildlife is more important than ever.

The property is located on Black Ash Road between Oil Springs Line and Aberfeldy Line.



Members of the St. Clair Region Conservation Foundation and the Evoy family met to commemorate the donation of a 33-hectare woodlot.

Memorial Forests

The St. Clair Region Conservation Foundation launched the memorial forest program in 1987 with the purpose of raising funds to reforest lands within our region. To date, 14 500 trees have been dedicated covering 45 different sites. Through the program, the Foundation arranged for the dedication of trees that have been planted from donations received directly from members of the community. In addition to these trees, the Foundation received donations from the McKenzie and Blundy Funeral Home, Sarnia; Nicholls Funeral Home, Wallaceburg; and the Denning Funeral Home, Strathroy and have established separate memorial forests to recognize this contribution to the environment.

Through the Foundation, trees can be dedicated at any of the Authority's Conservation Areas. In 2016, 538 trees were dedicated and more than 1000 people attended dedication ceremonies held at the various memorial forests.



After 30 years, the two McKenzie and Blundy Memorial Forests are full. It is with great pride that we celebrated the final dedication of trees planted in memory of the families served by the Funeral Home.

Conservation Scholarships Awarded

The Conservation Scholarship program rewards graduating high school students continuing their post-secondary studies in a conservation-related field based on their academic achievement and their demonstrated interest and involvement with the environment. In total, \$3000 was awarded across the St. Clair region this year.

A.W. Campbell Memorial Scholarships – \$1000 award: Jared Vanrabaey, Lambton Kent Composite School; Emily Glasgow, Lambton Kent Composite School

Tony Stranak Conservation Scholarship – \$500 award: Kurtis Minielly, North Lambton Secondary School

Mary Jo Arnold Conservation Scholarship – \$500 award: Jaime Dimillo, St. Patrick's High School

The scholarships are made possible through trust funds established by the St. Clair Region Conservation Foundation and its donors.

Foundation Supports 2016 Projects

- Conservation Education – \$50 000
- Scholarships – \$3000
- Memorial Forest - Tree Planting – \$7000
- Trails – \$6000
- Platform/Docks – \$8000
- Biological Monitoring Program – \$5000
- Conservation Intern Position – \$8000
- 3-D Mapping Project – \$5000

Local Support for Conservation Education

The Foundation continued its efforts in 2016 to seek support for Conservation Education. We wish to sincerely thank the following organizations for their support of conservation education this year.

Sarnia-Lambton Environmental Association

The Sarnia-Lambton Environmental Association (SLEA) donated \$30 000 to support two in-class education programs dealing with the use of benthic invertebrates to measure river quality and the importance of our groundwater resources. Over the last 20 years, SLEA has donated \$544 000 to conservation education.

Union Gas

Union Gas has supported the Spring Water Awareness Program for the last five years with a \$5000 annual donation. The program is offered to Kindergarten to Grade 6.

Plains Midstream Canada

Plains Midstream Canada supports communities where they live and works with a focus on health and safety, capacity building, education, and the environment. In support of our conservation education program, Plain Midstream Canada provided \$3500.

Healthy Kids Community Challenge Lambton

This program provided \$8500 to support the education program. Our staff, is participating in this program by promoting this year's Water Theme.

Friends of the St. Clair River

The Friends of the St. Clair River provides \$2000 to sponsor a program that helps teach students about impairments to the St. Clair River and the progress toward the goal of delisting the river as an Area of Concern.



Bingo Supports Conservation

Thanks to the many Foundation volunteers who assisted with our bingo program in Sarnia, the Foundation was able to support several conservation programs in 2016. A total of \$20 800 was provided to support conservation education, trails, and visitor services throughout Lambton County.

Foundation Land Donations

The Foundation accepts land donations that further the objectives of the St. Clair Region Conservation Authority by preserving important natural areas. To date, the Foundation has received 16 land donations totalling 455 hectares. The Conservation Authority manages these lands on behalf of the Foundation.

- **Bates Conservation Lands**, Municipality of Chatham-Kent, 29 ha, qualified as an Ecological Gift through Environment and Climate Change Canada
- **Clark Wright Conservation Area**, Municipality of Strathroy-Caradoc, 20 ha
- **Cochrane Property**, Enniskillen Township, 1 ha
- **Cuddy Woods**, Municipality of Adelaide-Metcalf, 7 ha
- **Evoy Woodlot**, Township of Enniskillen, 36 ha
- **Fraser Property**, Municipality of Lambton Shores, 1 ha
- **Gawne Property**, Township of Dawn-Euphemia, 40 ha
- **Harrison Woodlot**, The Township of Middlesex Centre, 8 ha
- **Huff Property**, Municipality of Chatham-Kent, 12 ha qualified as an Ecological Gift through Environment and Climate Change Canada
- **Keith McLean Conservation Lands**, Municipality of Chatham-Kent, 130 ha
- **Maples Woodlot**, Town of Plympton-Wyoming, 3 ha
- **Murray Property**, Municipality of Lambton Shores, 1 ha
- **Reid Conservation Area**, Township of St. Clair, 69 ha, qualified as an Ecological Gift through Environment and Climate Change Canada
- **Sinclair Property**, Township of Dawn-Euphemia, 80 ha
- **Stirling Wetlands**, Municipality of Chatham-Kent, 12 ha
- **Western Land Company Property**, Municipality of Strathroy-Caradoc, 6 ha

Ecological Gifts

Three of the properties have qualified as an Ecological Gift through Environment and Climate Change Canada. Canada's Ecological Gifts Program provides a way for Canadians with ecologically sensitive land to protect nature and leave a legacy for future generations. Made possible by the terms of the Income Tax Act of Canada, it offers significant tax benefits to landowners who donate land or a partial interest in land to a qualified recipient. Recipients, such as the Conservation Foundation, ensure that the land's biodiversity and environmental heritage are conserved in perpetuity.

Finance and Administration

The Conservation Authority had a successful year in program development and financial management. On an ongoing basis, Authority staff works to find funds to undertake the proposed projects and to take advantage of funding opportunities that arise over the year. Efforts to find alternative sources of funds have helped the SCRCA maintain the second lowest municipal levy level amongst the 36 Conservation Authorities at only 14% of total budget.

Authority Receives Award

The Authority was proud to receive the Strathroy District Chamber of Commerce TD Bank Group Environmental Awareness Award. The Award was presented by Patty Hodgins, Branch Manager for the Strathroy Branch of TD Canada Trust at the Chamber's award night held on October 20.



Brian McDougall, General Manager and Steve Arnold, Chair of the St. Clair Region Conservation Authority were on hand to accept the Environmental Awareness Award from the Strathroy and District Chamber of Commerce.

Administration Office

Lisa Atkinson, GIS/Photogrammetry Technician
Kevan Baker, Director of Lands
Rick Battson, Director of Communications
Erin Carroll, Manager of Biology
Stephen Clark, Water Resources Specialist
Dallas Cundick, Environmental Planner/Regulations Officer
Melissa Deisley, Regulations Officer
Marlene Dorrestyn, Administrative Assistant
Chris Durand, IT/GIS Coordinator
Patricia Hayman, Director of Planning
Sarah Hodgkiss, Planning Ecologist
Sarah Kellestine, Payroll and Accounting Clerk
Heather Long, Receptionist/Administration Clerk
Brian McDougall, General Manager
Erica Ogden, Planner (October - December)
Tim Payne, Forest Management Specialist
Tracy Prince, Director of Finance
Girish Sankar, Manager of Water Resources
Alison Seidler, GIS Specialist
Jeff Sharp, Conservation Services Technician
Steve Shaw, Manager of Conservation Services
Kelli Smith, Biological Technician (January - February)
Donna Strang, St. Clair River RAP Coordinator
Jessica Van Zwol, Healthy Watershed Specialist
Greg Wilcox, Biological Technical Assistant

Drinking Water Source Protection

John Campbell, Source Water Protection Database Specialist
Deb Kirk, Administrative Assistant
Linda Nicks, Hydrogeologist

Field Offices

McKeough Floodway

Shane White, Superintendent

A.W. Campbell Conservation Area

Mike Tizzard, Superintendent

Don Skinner, Assistant Superintendent

Lorne C. Henderson Conservation Area

Terry Barrie, Superintendent

Mark Bakelaar, Assistant Superintendent

Sharon Nethercott, Conservation Education Coordinator

Melissa Gill, Conservation Education/Community Partnership Technician

Warwick Conservation Area

Bill Turner, Superintendent

Glenn Baxter, Assistant Superintendent

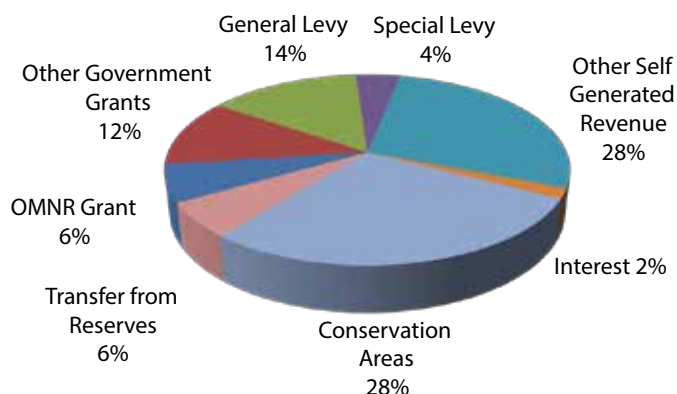
McLean Conservation Lands

Matt Carron, Superintendent

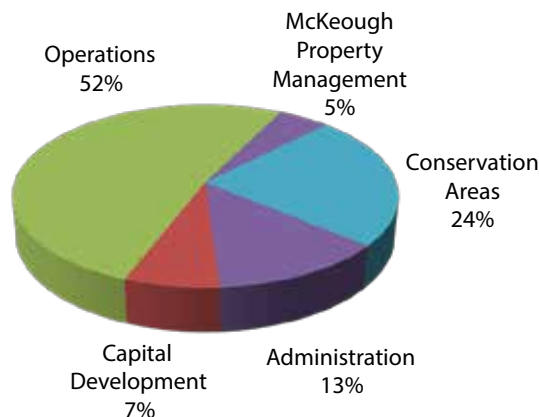
Kelly Johnson, Superintendent

2016 Revenue and Expenditures

Revenue – \$4,857,102



Expenditures – \$4,857,102



Supporting Conservation

Each year the Conservation Authority actively seeks additional grants to bring funds into the region to support conservation. We thank the many organizations that provided additional grants totalling about \$2 million to support conservation programs.

Environment and Climate Change Canada – \$536 500

Sydenham River HSP (3 years) – \$270 000
 Healthy Watersheds – North Sydenham Recovery – \$57 000
 AOC Fish and Wildlife Plan (GLSF) – \$33 000
 Aamjiwnaang First Nation Shoreline Project (GLSF) – \$40 000
 Healthy Lake Huron – \$10 000
 Healthy Watershed Program – \$53 000
 St. Clair River AOC – \$48 000
Phragmites Control – \$25 000
 Aboriginal Fund for Species at Risk – \$500

Ministry of Natural Resources and Forestry – \$270 000

Reptiles at Risk (3 years) – \$76 000
 Species at Risk Stewardship Fund – \$54 000
 Evaluation of Riparian Wetlands – \$30 000
 Fish and Wildlife BUI for St. Clair River AOC – \$30 000
 Water and Erosion Control Infrastructure – \$80 000

Ministry of the Environment and Climate Change – \$380 000

Healthy Lake Huron – stewardship and monitoring – \$60 000
 St. Clair River AOC – \$65 000
 Drinking Water Source Protection – \$180 000
Phragmites Control – Great Lake Guardian Fund – \$25 000
 Shoreline Protection – \$25 000
 Aamjiwnaang First Nation Shoreline Project – \$25 000

Ministry of Agriculture, Food and Rural Affairs – \$258 000

Healthy Lake Huron – outreach and monitoring – \$40 000 (2 years)
 Watershed-wide outreach & education – \$218 000 (2 years)

Friends of the St. Clair River (Ontario Trillium Foundation) – \$157 000

Aquatic Inventories, Habitat, and Education and Outreach (3 years) – \$157 000

St. Clair Region Conservation Foundation – \$92 000

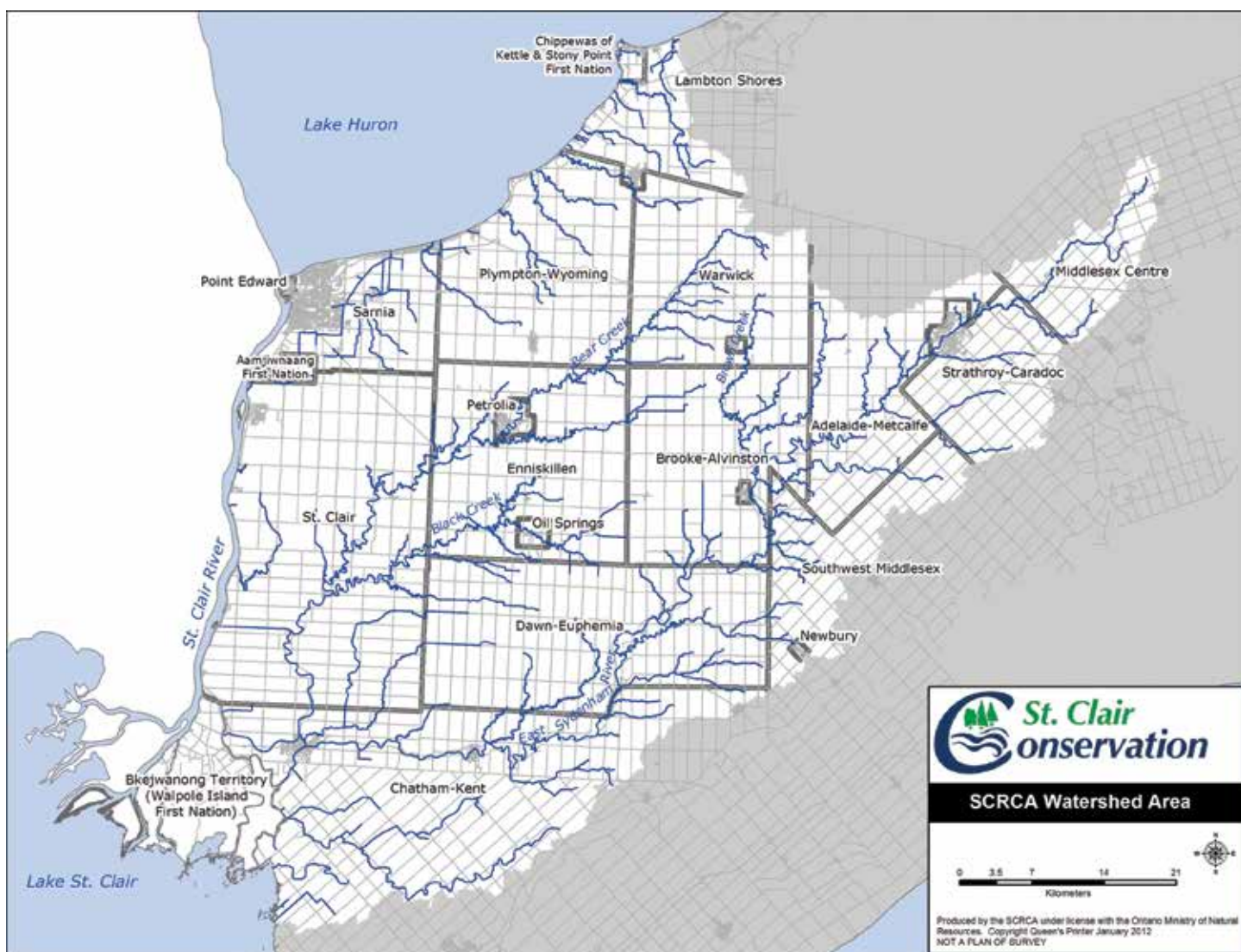
Sarnia Lambton Environmental Association – \$30 000
 Union Gas – \$5 000
 Healthy Kids Community Challenge Lambton – \$8500
 Plains Midstream Canada – \$3500
 Direct Project Support – \$45 000

Other Partners – \$258 500

Friends of the St. Clair River – \$7000
 TD Friends of the Environment Foundation – \$11 000
 J. P. Bickell Foundation – \$3000
 Fisheries and Oceans Canada – \$34 000
 Ducks Unlimited Canada – \$17 000
 Forests Ontario – \$73 000
 Ontario Soil and Crop Improvement Association (3 years) – \$57 000
 Bonduelle Foods – \$2,500
 Wildlife Habitat Canada – \$25 000
 OPG – \$29 000

Employment Programs – \$91 000

Job Creation Partnership – \$70 000
 Summer Experience – \$6000
 Eco Canada Intern – \$15 000



Facts and Figures

Watershed Area – 4,100 km²

Population – 167,000

Drainage area of the Sydenham River – 2,724 km²

East Branch of the Sydenham River

total length – 165 kilometres

total fall – 106 metres

North Branch of the Sydenham River

total length – 137 kilometres

total fall – 77 metres

Land owned by Conservation Authority – 1,698 ha

Land owned by Conservation Foundation – 455 ha

Land managed by Conservation Authority (not owned) – 543 ha

Flood Easements – 648 ha

science

sustainability

educate

engagement

vigilance

recovery

partner

healthy

vision

explore

action

protection



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