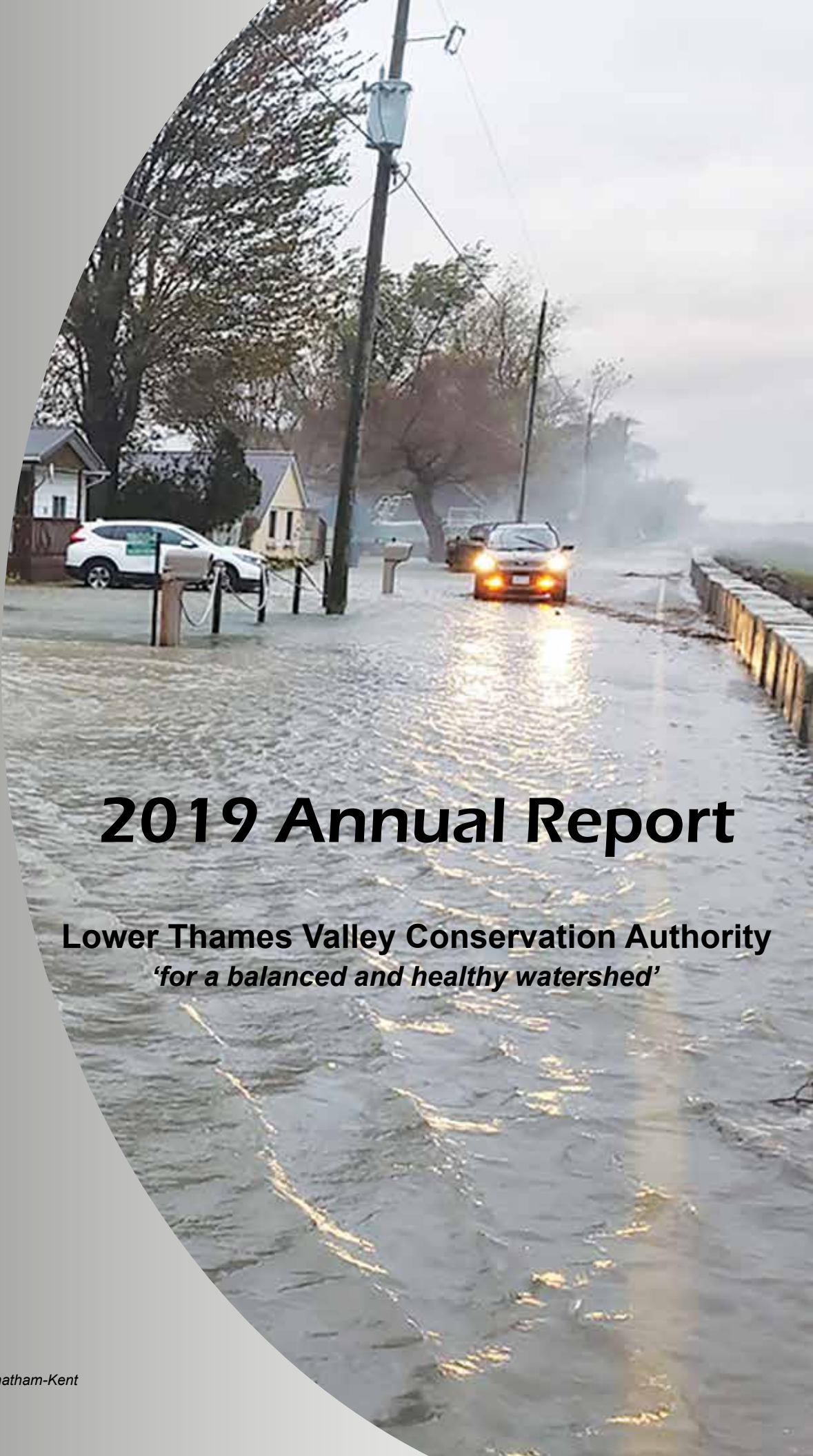




2019 Annual Report

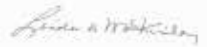
Lower Thames Valley Conservation Authority
'for a balanced and healthy watershed'

October 27, 2019

Erie Shore Drive — Municipality of Chatham-Kent

Message from the Chair




Linda McKinlay
Chair LTVCA

It gives me great pleasure to welcome you all to this year's Annual Report, celebrating not only our 2019 accomplishments, but also over 50 years' worth of Lower Thames Valley Conservation Authority (LTVCA) achievements. It is so important for the Conservation Authority to have these opportunities to connect with our community; after all – that's what it's all about for us: successful community connections.

I would like to begin by thanking our community for joining us in the work we have accomplished this year. Your support and partnering indicates that the steps we've made are in the right direction, and speak to the possibilities of what could be, as we continue to make our watershed a better place for all to live.

This year has been one of significant changes both for the LTVCA and for Conservation Authorities across Ontario. Our year began with a new Board of Directors with a lot of work to do. To mention only a few issues

addressed, 10 new Board members have had to get up to speed with new policies for the Chatham-Kent Shoreline, and a two zone floodplain management approach for Big Creek in the Municipality of Leamington. They also approved a Client Service Improvement Plan, and addressed a 50% reduction in funding from the province for Flood Forecasting and Warning. Even with all of this, they kept up with changes to the Conservation Authorities Act, and ongoing recommendations to address flooding and erosion on Lake Erie and Lake St. Clair. I thank them for their hard work.

Climate Change is the single most important issue that we will be addressing as we move into 2020. Many of our member municipalities are working to reduce individual and collective environmental impacts with declarations of climate emergencies. The LTVCA is working to use the knowledge and expertise that we have, to support and enhance the work that needs to be done. We will be using a Climate Change lens on all we do to ensure that actions taken, support a better future, as well as a better present.

Now, more than ever, the work of a Conservation Authority in watershed management and restoration is critical. If we do not collectively embrace this opportunity to plan and act for the future, we will lose many things we value in this watershed. Thank-you, and we look forward to working with you in 2020.

Chief Administrative Officer's Remarks




Mark Peacock
CAO LTVCA

As demonstrated within the pages of this Annual Report, the staff and Directors of the Lower Thames Valley Conservation Authority (LTVCA) continue to work toward the fulfilment of our vision for the watershed – balancing the health of our water and natural heritage with a healthy economy.

2019 was a banner year in the development of new partnerships and support from existing partners. Of special note, the LTVCA and the Municipality of Chatham-Kent announced a new partnership in November, with the generous financial support of the Ridge Landfill Community Trust and facilitated by Waste Connections of Canada. Ridge Landfill Community Trust will provide \$1,000,000 (One Million Dollars) of funding, to be utilized by the LTVCA and chosen partners over an estimated ten-year period. The trees planted, along with new wetland and grassland habitat, will help combat Climate Change, build much-needed wildlife corridors by reducing habitat fragmentation, control harmful soil erosion and create a more productive, healthier eco-system.

This year, the impacts of Climate Change came to our watershed with force. In the spring, the LTVCA saw significant flooding from an ice jam that in past years would not

have been forecast. Ice depths and discharge rates traditionally would not have created the problems that occurred. In response, staff are working to update statistical models to better understand ice jamming in a changing climate. Throughout the year, staff worked with communities suffering from impacts of an historically high Lake Erie and Lake St. Clair. Significant damage was done to both personal property and public infrastructure. In collaboration with local municipalities, staff brought the issues of residents to the attention of the federal and provincial governments.

The municipalities and Conservation Authorities in southwestern Ontario held a Roundtable meeting on September 19, in London, Ontario. This meeting emphasized that *'High water levels and floods of 2019 must be viewed as a warning / wake up call. Change is needed. Maintaining the status quo in policy and practice cannot continue. Municipalities cannot afford the infrastructure problems our current development approach creates, let alone future costs associated with climate change.'* All levels of government must work to change the way we do shoreline management, so that residents and municipalities are protected from costs of flooding and erosion. No action is not an option.

I would like to thank staff for all their hard work in 2019. They met a year of challenges with dedication and commitment.

Become familiar with our programs and services and engage with our staff at every opportunity to help fulfil our collective goals. We are fortunate to live and work in the Lower Thames Valley, and have a duty to conserve and improve the region's environment for present and future generations.

Our Vision ~ The LTVCA ... for a balanced and healthy watershed

Mission

Leading by example in environmental protection in partnership with the community.

Core Values

Respect, integrity, commitment, objectivity, and collaboration.



Creating Resilience in Southwestern Ontario in a Changing Climate

It has been a year of natural disasters for the Lower Thames watershed. Roads, structures and homes have been impacted by Thames River flooding, and flooding and erosion on both Lake Erie and Lake St. Clair. These challenges have also occurred across other regions of Ontario.

In response to these flood events, the provincial government announced that it would undertake consultation on the province's current flood mitigation and land use planning policies. Following this initial engagement in the spring, Douglas McNeil, P.Eng. was appointed by the Minister of Natural Resources and Forestry, the Honourable John Yakabuski on July 18, to review the province's current flood management framework. Specific to Southwestern Ontario he recommended the following:

Recommendation #24

That the provincial, federal and municipal governments work with the Essex Region Conservation Authority and the Lower Thames Valley Conservation Authority (LTVCA) to undertake a coordinated short- and long-term strategy. This strategy is to address the existing and expected impacts to Chatham-Kent, Windsor-Essex and Pelee Island as a result of current and future water levels, flood and erosion hazards, and climate change on Lake Erie, Lake St. Clair and the Detroit River.

Due to the severity of this risk and inter-connected nature of the watersheds and coasts, communities need to move beyond individual management plans for watersheds and lakeshores. Southwestern Ontario needs an integrated strategy that pulls it all together and considers the future impacts on climate changes at the regional scale.

A Southwestern Ontario Regional Resilience Strategy should look to:

- Re-build resilience in places that don't have any left. Re-building resilience is going to cost money.
- Maintaining resilience (natural processes, natural shorelines, protected areas, etc.) is about better planning. Much of this comes down to local planning decisions, supported by the Province, to not build houses everywhere.

With climate change and changing lake levels, planning, which has traditionally supported development along the lakes with engineered shoreline and flood / erosion related solutions, needs to rethink development in hazard lands and provide potential solutions due to these future uncertainties and associated costs.

- It must be noted that in some cases where maintaining a building or rebuilding is not practical, '*retreat*' is the only option.

- Four options are generally available for consideration in resiliency planning:

Avoid: reduce exposure by ensuring new development does not occur on hazardous land (doesn't help with legacy development).

Accommodate: an adaptive strategy that allows for continued occupation while changes to human activities or infrastructure are made to deal with hazards.

Retreat: a strategic decision to withdraw or relocate public and private assets exposed to coastal hazards.

Protect: a reactive strategy to protect people, property, and infrastructure. A traditional approach and often the first considered.

The LTVCA is committed to working with municipalities, the Province and the federal government in developing and implementing this strategy.



Roads, structures and homes have been impacted by Thames River flooding, and flooding and erosion on both Lake Erie and Lake St. Clair.

Board & Staff Directory

Directors 2019

Linda McKinlay (Chair) – Town of Lakeshore
Trevor Thompson (Vice-Chair) – Municipality of Chatham-Kent

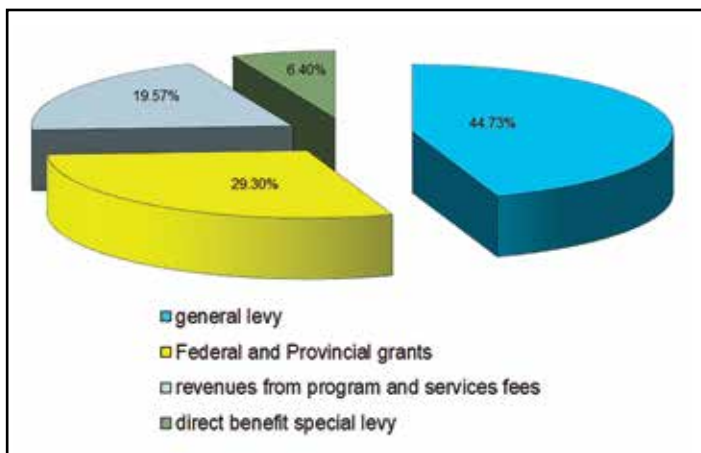
Kimble Ainslie – City of London
Christa Cowell – Municipality of Southwest Middlesex
Sarah Emons – Township of Southwold
Amy Finn – Municipality of Chatham-Kent
Jeannie Frawley – Municipality of Middlesex Centre
Mike Hentz – Municipality of Dutton Dunwich
Sandi Hipple – Municipality of Strathroy-Caradoc
Richard Leatham – Municipality of West Elgin
Paul Tiessen – Municipality of Leamington
John Wright – Municipality of Chatham-Kent

Ska-Nah-Doht Village Advisory Committee

Don Fairbairn – Chair
Willem Bruinink – Vice-chair
Gayle Bogart, Ron Doane, Sarah Emons, Darcy Fallon,
Jeannie Frawley, Mike Hentz, Mark Peacock

Budget

Mark Peacock – CAO Secretary–Treasurer, directed the administration and financial aspects of the LTVCA, with support from the Manager, Finance and Administrative Services – Todd Casier, and Finance and Administrative Assistant – Kally Casier.



The LTVCA's budget of \$3,205,524 received approval in February.

Full-time Staff

Mark Peacock – CAO Secretary-Treasurer

Daniel Bittman – Watershed Monitoring Specialist (started May)
Austin Pratt (to March)
Amanda Blain – Land Stewardship Technician (Western) /
ALUS Chatham-Kent Coordinator
Bonnie Carey – Manager, Communications, Outreach &
Education
Ryan Carlow – Soil & Water Quality Technician
Kally Casier – Finance & Administrative Assistant (returned June)
Chanel Barry (to June)
Alison Roland (to April)
Todd Casier – Manager, Finance & Administrative Services
Bruce Clark – Construction & Maintenance Technician
Jerry DeZwart – Community Conservation Educator
Jason Homewood – Water Resources & Regulations Technician
Carlyn Johnston – Community Educator (maternity leave September)
Paul Kominek – Western District Supervisor
Michael Latham – Eastern District Lead Hand
Colin Little – Agricultural Program Coordinator
Karen Mattila – Ska-Nah-Doht Village & Museum Curator
Vicki McKay – Species at Risk Biologist
Peter Moddle – Land Stewardship Technician (Eastern) /
ALUS Middlesex Coordinator (started February)
Dan Brinkman (to January)
Neil Pothier – GIS Technician
Sarah Rabideau – GIS Technical Assistant (started September)
Sarbjit Singh – Natural Hazards Program Assistant (started June)
Valerie Towsley – Resource Technician
Greg Van Every – Environmental Project Coordinator
Randall Van Wagner – Manager, Conservation Lands & Services
Agnes Friends – Clerk
Jason Wintermute – Manager, Watershed & Information Services

Seasonal / Part-time Staff

Chad Barry – Conservation Services Assistant (April – September)
Mei-Ling Bonato – Conservation Services Assistant (April – August)
Josh Crawford – Western District Labourer (April – November)
Melissa Davis – Longwoods Weekend Visitor Services (May – October)
Rachael DeZwart – Community Outreach Assistant (July – August)
Jumanah Khan – Conservation Lands Assistant (April – August)
Jordan Kuehl – Wilson Ranger (May – October)
Nick LeBoeuf – Wilson Ranger (May – October)
Cameron Nelson – Longwoods Weekend Maintenance (May – October)
Sarbjit Singh – Wilson Ranger (June – October)
Vance Stark – Eastern District Labourer (April – December)
Board Appointed Contractor
Bill Menzie – Municipal Enforcement Unit

Joint Health & Safety Committee (JHSC)

The JHSC met seven times. All conservation area properties were inspected to ensure safe conditions not only for employees, but the general public. Task, operating and safety procedures continued to be updated and new ones developed.

Protecting Life & Property

Water Management

The Water Management program provides science-based support for water resources management and includes activities that protect life and property such as flood forecasting, control and monitoring of flooding and erosion, as well as broader watershed monitoring. Staff overseeing this program are: Jason Wintermute – Manager, Watershed and Information Services; Jason Homewood – Water Resources and Regulations Technician; Daniel Bittman – Watershed Monitoring Specialist and Neil Pothier – GIS Technician. Additional support is provided by other Conservation Authority staff as needed.

Thames River & Watercourse Flooding

The Lower Thames watershed saw significant flooding in its downstream reaches again this year. An ice jam impacted communities from Jeannettes Creek up to Chatham, unlike last year which saw a significant winter melt event impacting most of the watershed.

A sudden freeze in late January created up to 25 cm of ice on the river. A fairly typical runoff event in early February combined with the ice and high water levels on Lake St. Clair, resulted in the LTVCA operating the 6th St. Backwater Dam and Pumping Station by February 6. On February 7, an ice jam occurred at Prairie Siding. This brought water levels up in Chatham, flooding some homes and businesses in the downtown area again. Shortly afterwards, the ice jam moved downstream and lodged just upstream of Lighthouse Cove. While this spared Lighthouse Cove, the flood protection works upstream were stressed to their limits. Dikes eventually failed on both the north and south side of the river on February 8, flooding approximately 6.9 km² in the Bradleyville and Jeannettes Creek areas. The peak flows for the event were only 428 m³/s, as measured at Thamesville on February 7; a flow which in most years, would have caused nothing more than low level flooding of the river flats.

Aside from the Thames River flood in February, there were numerous rainfall events which caused high water levels on local watercourses. However, the Indian-McGregor Creek Diversion Channel only had to be operated twice this year, once during the ice jam and again from April 20 - 22.

Twenty-eight advisories were issued for flooding concerns on the Thames River and local watercourses; six Safety Bulletins, seven Flood Outlooks, four Flood Watches and six Flood Warnings. There were also five joint advisories for the Thames River and Lake Erie shoreline; two Safety Bulletins and three Flood Outlooks.



This is drone footage of the Thames River looking west during the February river flood event which jeopardized municipal diking infrastructure. Multiple breaches and flooding occurred on both the north and south side of the river in the former Tilbury East and Dover townships. (photo by Rene Lapointe)



The Indian-McGregor Creek Diversion Channel operated from April 20 - 22. This inlet structure contains gates, which close under runoff conditions on McGregor Creek. Closing the gates forces runoff water from the McGregor Creek down the diversion channel to the Thames River, protecting south Chatham from flooding.

Great Lakes Levels & Shoreline Flooding

It was also a very difficult year for shoreline residents on both Lake Erie and Lake St. Clair. On Lake Erie, previous monthly record water levels were broken from May through September, and the all-time monthly average record set in June 1986 was surpassed from May through July. Similarly, on Lake St. Clair, previous monthly record water levels were exceeded from May through September, and the all-time monthly average record set in October of 1986 was beaten in both June and July.

These high lake levels led to many instances of flooding and erosion along both shorelines. In Lighthouse Cove on Lake St. Clair, there were areas underwater simply from the high lake levels, while other areas suffered recurring flooding from wave spray. On Lake Erie, there was significantly more shoreline erosion. Road closures were required along Rose Beach Line and Talbot Trail in Chatham-Kent. Flooding occurred in many low-lying areas including Port Glasgow in West Elgin, Erieau, Wheatley,

and especially Erie Shore Drive in Chatham-Kent. The most significant flooding event occurred on August 27 along Erie Shore Drive. Fifty properties were asked to evacuate, 12 homes suffered significant damaged, and the road had to be closed for an extended period of time.

High lake levels led to 75 Flood Messages being circulated for the shoreline areas. For events anticipated to impact both lakes, there were two Flood Warnings, 12 Flood Watches, three Flood Outlooks and three Safety Bulletins. For events on Lake Erie alone, there were nine Flood Warnings, 18 Flood Watches, 10 Flood Outlooks and six Safety Bulletins. For events only on Lake St. Clair, there was one Flood Watch and two Flood Outlooks. Five joint advisories for the Thames River and Lake Erie shoreline; one Flood Warning, three Flood Outlooks, and one Safety Bulletin were issued. Additionally, four monthly Standing Flood Outlooks were released for shoreline flooding and erosion.



The most significant flooding event took place on August 27 along Erie Shore Drive.



Extensive media coverage reflected the seriousness of the August 27 lakeshore flooding with 50 properties evacuated, 12 homes suffering significant damage and road closure.



In total, 98 flood bulletins were issued by the LTVCA over the 12 months, for river and lakeshore areas within our watershed, ranging from Water Safety to Flood Outlooks, Flood Watches and Flood Warnings. This is a significant increase from the 65 bulletins generated in 2018.

Water Quality Monitoring

The LTVCA partners with the Ministry of the Environment, Conservation and Parks on the Provincial Groundwater and the Provincial (Stream) Water Quality Monitoring Programs. This program assists in environmental reporting, decision-making, and program implementation by the LTVCA, member municipalities and the Province.

The groundwater monitoring is conducted at nine wells throughout the watershed, with the use of water level loggers and supplemental rain and barometric pressure loggers at some locations. Six of the wells were sampled in the late fall for water quality. The LTVCA maintains the instrumentation and samples the wells, while the Ministry provides equipment and lab analyses.

The provincial stream water quality sampling is conducted at 11 locations throughout the watershed. The LTVCA samples monthly in the spring, summer and fall for general water chemistry and the Ministry performs the lab analyses. Since biological analyses are not part of the provincial program, the LTVCA tests for e-coli at the same sites. Currently, the program is supplemented with pesticide monitoring at five sites. The LTVCA received a Canada Ontario Agreement grant from the Ministry to expand the surface water sampling network with an additional 11 locations across the watershed. By expanding the network to 22 locations and sampling during the winter months, a better understanding of water quality can be achieved since the winter and spring months have demonstrated to be the time period where most nutrients / contaminants are transported to the Great Lakes.

Sampling for benthic macroinvertebrates (insects, worms and crustaceans that live at the bottom of the stream) continued in partnership with the Biology Department at the University of Windsor. The research being conducted by Masters' students will assist the LTVCA in developing a monitoring program most suitable for the region's unique bio-geophysical environment (e.g. clay plains). Sampling took place in May of this year.



Groundwater monitoring provides baseline information about groundwater levels and quality across the Province. We do the fieldwork and the Province pays for equipment and analysis. Local landowners provide access to unused wells for sampling.

Ontario Low Water Response Program

The LTVCA participates in a provincial program that monitors watershed conditions to determine if the area is in a low water (drought) situation, and provides some means of responding to the issue. Local response is managed by a group of local stakeholders referred to as the Low Water Response Team. There was very little activity throughout the year with regards to the program, as there was adequate rainfall and river flows.

Provincial Grant Funding for Capital Maintenance & Flood Forecasting

Annual funding is received from the Province for the operation, routine minor and preventative maintenance of flood and erosion control projects, flood forecasting and warning, chronic ice management, legal costs for ongoing joint LTVCA / Provincial capital projects, watershed management and related administration. That funding was reduced by approximately 50 percent this year.

Land Use Planning & Regulations

The staff responsible for administering the land use planning and regulations program include: Jason Wintermute – Manager, Watershed and Information Services; Valerie Towsley – Resource Technician; Jason Homewood – Water Resources and Regulations Technician; and Sarbjit Singh – Natural Hazards Program Assistant.

Municipal Plan Input & Review Under the Conservation Authorities Act

The land use planning and regulations program directs development away from hazardous areas to reduce hardship, loss of property and / or possessions, and to aid in the protection of life. Additionally, reducing the impacts of humans along and / or within hazardous areas, allows for nature and natural processes to continue without interference. Education of the public and our member municipalities is key to helping maintain these areas in a natural state.

This year, staff dealt with 216 municipal planning submissions (OP's, ZBL's, OPA's, ZBLA's, Severances, Minor Variances, etc.) as it relates to Provincial Policy and Section 28 of the Conservation Authorities Act. These planning numbers are down from 2018.

Permits	Municipal Drain	70	4	9	0	0	2	5	1	0	12		103
	Private Property Owner	232	6	39	1	0	2	2	0	0	3		285
	Utility Company	41	0	31	0	0	0	0	1	0	0		73
	Municipal / County Infrastructure	21	0	0	0	0	0	0	2	0	1		24
	Habitat / Stewardship	5	2	1	0	0	0	0	1	0	0		9
	Wind Turbine	0	0	0	0	0	0	0	0	0	0		0
Plan Input and Review	Official Plans	0	1	0	0	0	0	0	0	0	0		1
	Official Plan Amendments	1	0	0	0	0	0	1	0	0	1		3
	Comprehensive Zoning Bylaws	0	1	0	0	0	0	0	0	0	0		1
	Zoning Bylaw Amendments	19	9	3	1	3	2	10	4	2	15		68
	Severances	48	12	3	2	0	1	6	3	3	11		89
	Minor Variances	22	4	1	0	0	1	4	1	3	6		42
	Plan of Subdivision	0	0	0	0	0	0	3	0	0	0		3
	SWM Ponds/Other Studies	2	0	1	1	2	0	1	1	0	1		9
	Legal Inquiries	49	0	5	2	0	1	2	1	3	5		68
	General Property Inquiries	1452	99	234	10	7	28	82	31	29	117	254	2343
TOTAL SERVICES PER MUNICIPALITY		1962	138	327	17	12	37	116	46	40	172	254	3121
SERVICES													
MUNICIPALITY		Chatham-Kent	Dutton Dunwich	Lakeshore	Leamington	London	Middlesex Centre	Southwest Middlesex	Southwold	Strathroy-Caradoc	West Elgin	General Inquiries	TOTALS

Above are the regulatory and municipal plan review summaries for the year. Plan input and review is one of the ways the Conservation Authority monitors development and achieves its objectives. The input the LTCA has on new development near or in natural hazard areas like floodplains and steep slopes, ensures identification of potential hazards before complications arise.

Municipal Plan Review & the Development, Interference with Wetlands & Alteration to Shorelines & Water Courses - Ontario Regulation 152/06

Staff reviewed 494 permit applications with respect to Section 28 of the Conservation Authorities Act and Ontario Regulation 152/06, which is 207 more than 2018 and 223 more than 2017. Of the 494 permit applications, 10 applications were withdrawn by the applicants, and two applications required hearings in front of the LTVCA Board of Directors' Executive Committee. The remainder of the applications were all approved by staff.

Private property landowners submitted 294 permit applications for a wide range of projects, some of which included the construction of new homes in floodplains, additions to existing development in hazardous lands, altering shorelines, and habitat / stewardship projects in LTVCA regulated areas. One hundred and three permit applications were related to municipal drainage works and the Drainage Act, 24 applications were related to municipal / county infrastructure, and 73 applications were related to utility companies (including gas, oil, and electricity generation / transmission). One hundred and eighty-nine private properties were surveyed for permit and official plan flood proofing requirements.

For the fourth consecutive year, the number of permit applications set a new record, far outpacing any previous year. Due to the increasing number of permit applications

received, supplemental revenue from permit application fees allowed for the hiring of a Natural Hazards Program Assistant to help with the processing of permits and responding to general inquiries.



LTVCA reviews permit applications for construction in floodplains, development in hazardous lands, and altering shorelines. The above photo highlights lakeshore erosion in Chatham-Kent along Rose Beach Line in June.

Complexity of Application	# of Days to Review Permit Applications in 2019		
	0 - 30 Days	31 - 90 Days	> 90 Days
Routine	75	1	0
Minor	301	100	0
Major	4	2	2

The above table compares the number of days to review a complete permit application to the Ministry of Natural Resources and Forestry's standards; 30 days for routine and minor applications, 90 days for major applications. 99% of routine applications were reviewed within the old delivery standard, 75% of minor applications were reviewed within the old delivery standard, and 75% of major applications were reviewed within the old delivery standard.

Complexity of Application	# of Days to Review Permit Applications in 2019				
	0 - 14 Days	15 - 21 Days	21 - 28 Days	29 - 90 Days	> 90 Days
Routine	54	11	10	1	0
Minor	184	65	29	123	0
Major	3	0	1	2	2

Using the recently developed 'best practice' service standards developed by Conservation Ontario (2019) for comparison, the above table indicates that delivery of 71% of routine applications met the new delivery standard, 62% of minor applications met the new delivery standard, and 50% of major applications met the new delivery standard. Staff are working to meet new delivery standards.



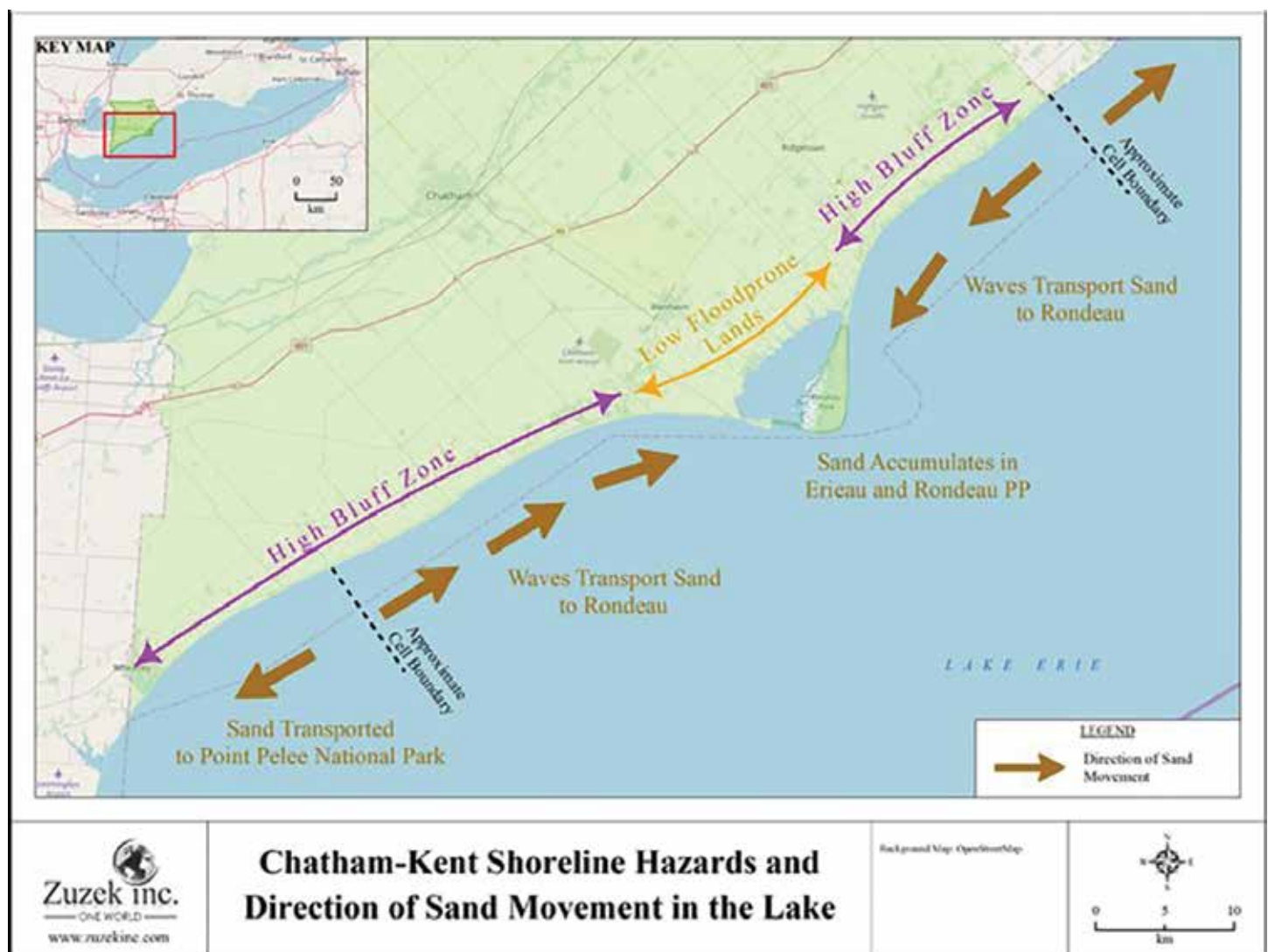
This is a view of a residential structure in close proximity to the top-of-bank of the Lake Erie bluff where the shoreline protection had recently failed.

LTVCA Policies for the Chatham - Kent Lake Erie Shoreline

This year, the LTVCA undertook a comprehensive update of the Chatham-Kent Shoreline policies. These are used for the review of municipal planning applications and private submissions for development within regulated areas under O. Reg. 152/06 of the Conservation Authorities Act.

The policies outline the types of development activities for which the LTVCA will grant permissions along the Chatham-Kent Lake Erie shoreline until the larger Chatham-Kent shoreline planning study is completed. At

that time, the policies will be re-examined. The policy changes were in response to increasing damages being observed along the shoreline in the municipality, and preliminary results of the study which suggest that erosion rates along the shoreline are currently significantly underestimated. When the study is completed, it is anticipated that the regulated area will be considerably increased, and that the results of the study will require revisions to these policies again, as well as policies at the municipal level.



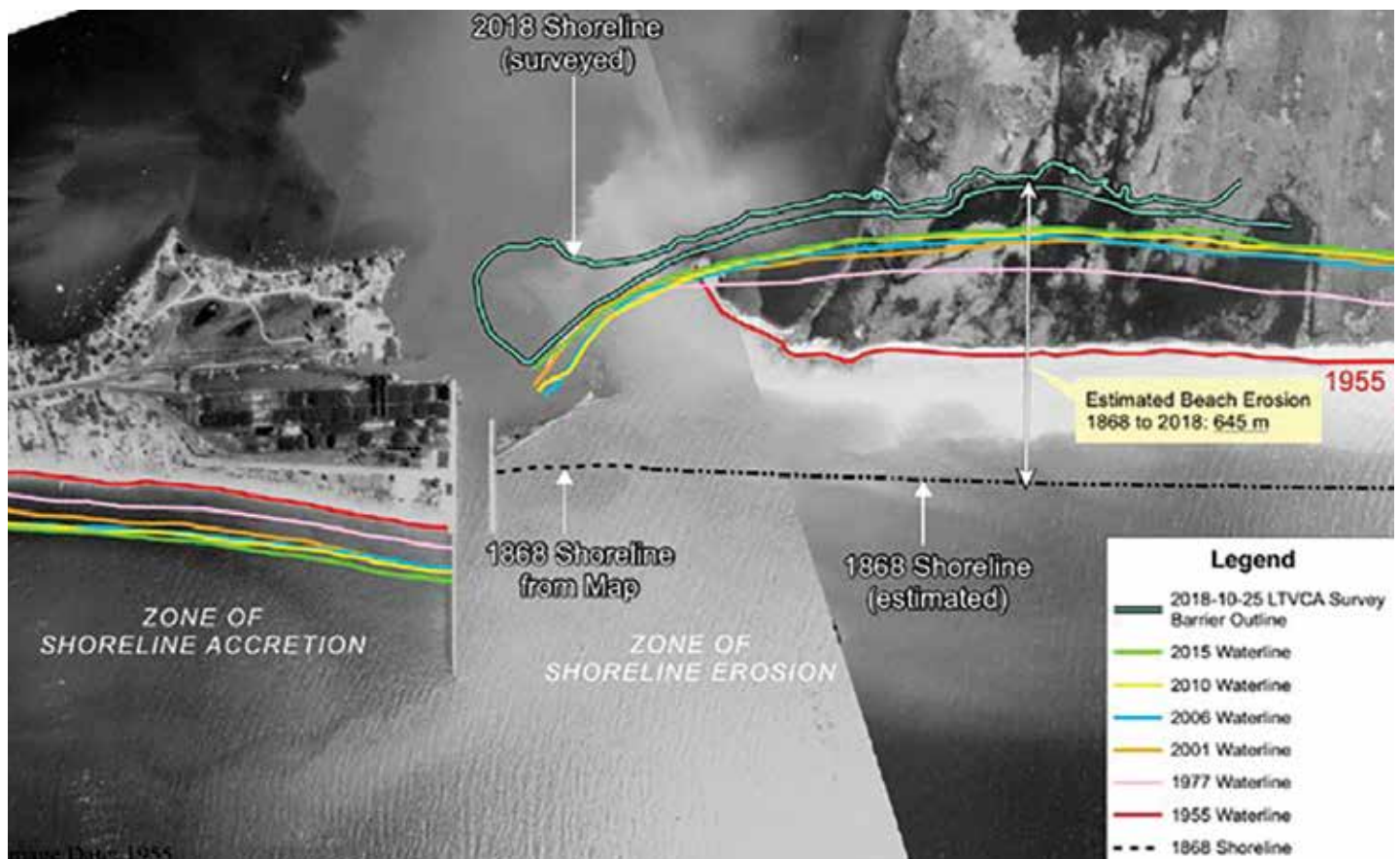
Chatham - Kent Lake Erie Shoreline Management Study

The Chatham-Kent Lake Erie Shoreline Study is supported by a very large collaboration of agencies and the public, and is produced through Canada's Climate Change Adaptation Platform, with support from Natural Resources Canada. Matching funds and in-kind support were also received from: Municipality of Chatham-Kent; Lower Thames Valley Conservation Authority; Province of Ontario; Federal Government; and International Joint Commission.

The study is investigating Climate Change impacts on Lake Erie, and examined whether the frequency of large coastal storms and peak wind speeds may be changing. It also

examined the impacts of warmer temperatures on winter ice cover (trends have already been documented). Less ice cover exposes the shoreline to more coastal storms and higher erosion rates.

The Chatham-Kent Lake Erie Shoreline Study Team held multiple rounds of public consultation meetings throughout the year, where staff helped facilitate with the consultant and Chatham-Kent staff. The study will be completed in March of 2020.



Sand is accumulating on the west side of the Erieau pier and as a result, is depleting the amount of sand available to be deposited on the Point Aux Pins (Rondeau Park) point.

Lighthouse Cove Secondary Plan

For the last few years, the Town of Lakeshore has been working on its Official Plan. As part of that work, it was recognized that the community of Lighthouse Cove was distinct enough to warrant its own Secondary Plan. One important planning issue is how ice jam flooding impacts the community.

With the assistance of the LTVCA, the Town of Lakeshore received a National Disaster Mitigation Program grant to

investigate how to address safe access to the community during an ice jam flood. The majority of the work on the Secondary Plan was completed in 2019, including the ice jam modelling and two very well attended public information sessions. A separate study examining shoreline flooding in Lakeshore is being conducted separately.



Staff monitored river levels around the clock during the February ice jam event. The historic Lighthouse marks the mouth of the Thames River in Lighthouse Cove.



A public information session was held on May 30 in Lighthouse Cove, Town of Lakeshore. (photo Town of Lakeshore)



Attending the Town of Lakeshore public meeting on May 30 left to right: Councillor Kirk Walstedt, LTVCA Manager, Watershed & Information Services Jason Wintermute, Deputy Mayor Tracey Bailey, LTVCA Chair and Councillor Linda McKinlay, LTVCA CAO Mark Peacock. (photo Town of Lakeshore)



The Thames River Clearwater Revival (TRCWR) is a multi-agency partnership with the objective of improving the Thames River. Partners include Environment and Climate Change Canada, First Nations communities, provincial ministries, the Upper Thames River and Lower Thames Valley Conservation Authorities, and the City of London.

The Thames River (Deshkan Zibi) Shared Waters Approach to Water Quality and Quantity is in its final draft form and the TRCWR is currently formalizing sign off of the Approach.

The TRCWR continues to be involved in other activities, such as supporting the Antler River Guardians from the 4 Directions: First Nation Youth Stewardship Program, and will continue to meet to determine the next project(s) needed to address the health of the watershed.

Enforcement Issues

Twenty four new complaints / tips were received this year and two notices of violation were issued with multiple ongoing investigations, with the goal being to obtain compliance or future compliance. Nineteen of the 24 complaints / tips were violations of the Conservation Authorities Act and six of those files have been closed without prosecution. Of the 24 complaints / violations received, 17 were in Chatham-Kent, six were in Lakeshore, and one was in Middlesex Centre. Ongoing enforcement issues from previous years were also monitored and continue to be investigated. Staff worked towards the rehabilitation of the wetland involved in the 2016 court case, attending meetings with the defendant's lawyer, agent, and consultants.

Drainage Superintendents Association

The LTVCA is a long-standing associate member of the Chatham-Kent-Essex Chapter of the Drainage Superintendents Association of Ontario. The watershed consists of highly drained agricultural lands and is managed under both the Drainage Act and the LTVCA's regulations. Cooperation and good relationships with our region's Drainage Superintendents are extremely important.

Thames River Blue-green Algae Bloom

LTVCA staff were involved in various aspects of algae bloom monitoring, updating the Ministry of the Environment, Conservation and Parks on bloom locations, and answering questions from the public and the media.



A Thames River water sample taken September 26 at Hwy. 40, contained blue green algae.

Enhancing Watershed Health

Tree Planting, Restoration, Stewardship

We would like to express gratitude to our 10 member municipalities who recognize the need for and contribute to the Land Stewardship department, giving us the opportunity to do the work we do. LTVCA acknowledges the financial support of our municipalities, our many granting partners, and dedicated volunteers. Above and beyond municipal funding, over \$1.3M was generated again this year from various sources to enhance watershed health.

Land Stewardship Project Summary

Randall Van Wagner – Manager, Conservation Lands and Services; Greg Van Every – Environmental Project Coordinator; and Peter Moddle and Amanda Blain – Land Stewardship Technicians; oversee the stewardship projects.

Environmental Restoration 213 acres / 85 ha:

- Reforestation – 93 acres / 37 ha
- Wetland – 60 acres / 24 ha
- Prairie – 60 acres / 24 ha
- Landowners involved – 209
- Seedlings Planted – 70,909 across watershed
- Large-stock trees planted – 370 across watershed

Partnership Funding for Stewardship

- **Project Learning Tree Canada** – paid 50% of stewardship seasonal staff costs.
- **Canada Summer Jobs** – paid 50% of stewardship seasonal staff costs.
- **Ducks Unlimited Canada (DUC)** – provided LTVCA wetland program with \$21,636 for cost share on wetland excavations for watershed landowners.
- **Elgin Stewardship Council** – offset costs to landowners for wetland restoration within Elgin County by partnering with LTVCA and contributing \$16,504.
- **Elgin Clean Water Program (ECWP)** – is a cooperative project between Catfish Creek, Kettle Creek, Long Point Region, and the Lower Thames Valley Conservation Authorities. It assists landowners with projects which improve and protect water quality in Elgin County. In total, the ECWP contributed \$30,152 to landowners in our watershed to assist with the implementation of clean water projects.
- **Forests Ontario** – LTVCA partnered with Forests Ontario and landowners on 23 tree planting projects, for a total of over \$60,336 in funding. Watershed-wide projects planted over 55,000 seedlings. Additionally, 16,000 seedlings were purchased and planted by landowners on their own.
- **ENGIE North America** (Erieau Wind Farm) – stepped in to support reforestation, buffers, prairies, and wetlands with an annual commitment of \$20,000 within the Chatham-Kent area.

RECOGNIZING OUR PARTNERS



Enbridge Gas and the Helping Hands Program in partnership with the Delaware First Nation tree planting.

Aamjiwnaang First Nation
ALUS Canada
Agricultural Adaptation Council
Canada Summer Jobs
Canadian Chestnut Council
Chatham-Kent Public Health
Chatham-Kent Retention & Attraction
Chatham-Kent Secondary School
Chatham Lions Club
Chippewas of the Thames First Nation
Delaware Nation at Moraviantown
Ducks Unlimited Canada
Elgin Clean Water Program
Elgin Stewardship Council
Enbridge Gas
Engie (Erieau Wind Farm)
Environment & Climate Change Canada
Fisheries and Oceans Canada (DFO)
Forest Gene Conservation Association
Forests Ontario
Kent Bridge Women's Association
Kiwanis Club of Chatham-Kent
LTVCA Foundation
Oneida Nation of the Thames
Ontario Federation of Agriculture
Ontario Native Scape
Ontario Ministry of Agriculture, Food & Rural Affairs
Ontario Ministry of Environment, Conservation & Parks
Ontario Ministry of Transportation
Ontario Soil & Crop Improvement Association
Project Learning Tree Canada Green Jobs
Ridge Landfill Community Trust
Rotary Club of Chatham Sunrise
Scouts Canada & Riparian Rangers
TD Bank
Thames River Phosphorus Reduction Collaborative
Tilbury District High School
Wildlife Habitat Canada
Neighbouring Conservation Authorities



Ridge Landfill Community Trust has come on board to support LTVCA stewardship efforts in South Kent with an endowment of \$1 million to leverage further funding for the coming decade. We are glad to receive this funding when challenges of a changing climate make this type of work even more important.

Stewardship Events & Partnerships

The Tomorrow's Greener Schools Today – Since 2013, this schoolyard tree planting initiative between **Chatham-Kent Public Health** and the LTVCA, has resulted in over 600 native trees planted (240 this year on school grounds in April). The program provides shade, protects from harmful effects of the sun, increases tree cover, and educates youth – addressing health and environment!

CK Retention and Attraction – Your Roots Are Always in CK tree plantings engaged 12 graduating high school classes and post-secondary institutions in April – May. *'Your Roots are Always in CK'* is a retention initiative through the **Municipality of Chatham-Kent**, with support from LTVCA and the Health Unit. Each class receives one congratulatory tree as a reminder that Chatham-Kent is home, and to return after graduation!

Free Tree Giveaway was hosted by LTVCA with the **Tilbury District High School (TDHS)** student council. TDHS hosted a bbq and gave out a maximum of five free native seedlings per household, for a total of 1,500 trees distributed May 4 in the school parking lot. This event was geared towards urban landowners who usually cannot access our funding opportunities to green their property.

On May 11, two tree planting events were held. One was at Clear Creek Forest with the **Chatham Lions Club**, to commemorate their 100th anniversary with the planting of 100 trees. A second was sponsored by **Enbridge Gas** and the *'helping hands program'* in partnership with **Delaware First Nation**. Two savannah habitats totalling 5 acres (2 ha), were planted in Moraviantown with White Oak and native tallgrass species.

On May 25, a presentation was given to the **Kent Bridge Women's Association** about the LTVCA, with 30 people in attendance.

On June 7, we held a planting event with the **Paternoster Club** at their wetland complex with the help of the **Chippewas of the Thames** and **Aamjiwnaang First Nations**.

Rotary Club of Chatham Sunrise sponsored a *'Greening Your Grounds'* workshop at the LTVCA Administration Building in June. This workshop showcased our low impact design parking area, and presented ideas for urban stewardship.

TD Tree Days held on September 22, was very successful with a high volunteer turnout of 40+. Employees from Wallaceburg and Chatham attended with their families, along with community volunteers. Seventy native Carolinian deciduous trees were planted.

LTVCA attended the **140th Oneida Fall Fair**, educating about watershed Species at Risk (SAR) and the programs we offer eligible landowners to help conserve SAR.

In November, LTVCA stewardship promoted some of their programs on the big screen at **Chatham Cineplex**. The 90 second clip played during the pre-show of all movies.

Carolinian Canada, with the help of LTVCA and the **Municipality of Chatham-Kent**, hosted an *'In the Zone'* workshop at the Chatham Cultural Centre. Approximately 50 people attended, learning about urban stewardship. Topics discussed were native plants, climate change and low impact development. This workshop helped connect residents with the resources to implement their own projects to help fight climate change.

Lower Thames Valley Conservation Foundation, McKinlay Funeral Homes Ltd., Tilbury & District Horticultural Society and private donors, provided support for over 380 memorial trees planted in four watershed memorial forests. Four dedication services were held in June and September.

Alternative Land Use Service ALUS

ALUS Chatham-Kent – The launch event was held at Countryview Golf Course on February 28 with over 50 people attending, including Mayor Darrin Canniff. After the first year of implementing projects, there are 17 farmer participants and 57 acres (23 ha) have been restored including 12.75 acres of wetland, 20.5 acres of grasslands, 15 acres of trees and nine acres of delayed hay. The Partnership Advisory Committee (PAC) approved all projects. The PAC consists of 11 members – eight of who are farmers. The funds to complete these projects came from ALUS Canada, The Weston Foundation, Great Lakes Protection Initiative, Ministry of the Environment, Conservation and Parks, Forest Ontario and Wildlife Habitat Canada. The first ALUS payments were mailed to participants in mid-December.

ALUS Middlesex – The launch event was held at Sunningdale Golf Course on September 18, with over 40 people attending. ALUS Middlesex received many expressions of interests and worked with all five partner Conservation Authorities in implementing these projects. The second field season for ALUS Middlesex saw considerable growth, with 12 new farmer participants and enrolling 30 acres (12 ha) consisting of: 15 acres

of grassland, 14 acres of trees and 1 acre of wetland habitat. The PAC consists of 10 members and eight of those are farmers. The funds to complete these projects came from ALUS Canada, The Weston Foundation, Great Lakes Protection Initiative, Ministry of the Environment, Conservation and Parks, Forest Ontario and Wildlife Habitat Canada. ALUS annual acre payments were mailed to participants in mid – December.

Species at Risk

Vicki McKay is our Species at Risk Biologist and works with Sarah Rabideau who is the GIS Technical Assistant. A Section 11 Conservation Agreement under the Species at Risk Act (SARA) was signed with Fisheries and Oceans Canada (DFO) to ensure a coordinated and focused approach to the implementation of measures for fish and freshwater mussel Species At Risk (SAR) conservation, survival and recovery in the LTVCA.

Habitat Stewardship Program (HSP) and Canada Nature Fund for Aquatic SAR funding was approved by DFO for two and four years respectively, starting in 2019. Funding will be used to help landowners plant riparian corridors and install wetland restoration projects in priority areas to reduce the quantity of sediment, nutrients and contaminants reaching watercourses that are home to, or upstream of,

aquatic SAR. Stewardship flyers, raising awareness of aquatic SAR and funding available for these stewardship initiatives, were distributed to mailboxes in areas around Rondeau Bay and the main channels of the lower Thames River, McGregor Creek and Baptiste Creek, as well as to local First Nations communities to promote these initiatives.

Work continued on a threat assessment within the LTVCA watershed as it relates to aquatic SAR. Watershed characteristics; soil types and erodibility; land cover, agricultural land use and ecosystem modifications; SAR distribution past and present; invasive species distribution; population density and human use; drainage and barriers to connectivity; surface and groundwater quality and quantity; restoration efforts and anticipated climate change impacts have been summarized.



'Mussel Mondays' and 'Fish Fridays' Facebook postings introduced readers to fish and mussel SAR in the LTVCA, threats to these species, and encouraged readers to take specific steps to help conserve and recover aquatic SAR.



Sixteen staff from nine member municipalities, one First Nations staff and five LTVCA staff attended an HSP funded 'Smart About Salt' training hosted by the LTVCA on Tuesday, October 22. Attendees learned how to meet winter safety requirements and reduce liability and maintenance costs while protecting the environment.

Phosphorus Reduction Initiatives

Colin Little – Agricultural Program Coordinator oversees the phosphorus reduction program along with assistance from Ryan Carlow – Soil and Water Quality Technician, and Dan Bittman – Watershed Monitoring Specialist.

Binational Phosphorus Reduction Targets for Lake Erie

The 2012 Great Lakes Water Quality Agreement recognized the need to reduce phosphorus loadings to Lake Erie. In December 2014, the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health was signed and in June 2015, Ontario signed the Western Basin of Lake Erie Collaborative Agreement. The consensus is that the annual total phosphorus loadings to the western and central basin of Lake Erie should be reduced by 40%. The Thames River has been identified as a priority watershed that requires a 40% reduction in dissolved phosphorus and total spring loadings. If this reduction is achieved, it is anticipated that the lake will maintain algal species consistent with healthy aquatic ecosystems and minimize the extent of hypoxic zones in the lake. In February 2018, the Canada Ontario Lake Erie Action Plan was released. The LTVCA continued to engage watershed stakeholders in 2019 through the delivery of phosphorus reduction initiatives, with the goal of reducing the Thames River's load contribution to Lake Erie.

McGregor & Jeannettes Creek Phosphorus Reduction Program

The LTVCA continued to deliver the McGregor and Jeannettes Creek Phosphorus Reduction Program this year. The main goal of the project is to improve soil health and reduce the amount of agriculturally sourced phosphorus entering the Thames River, Lake St. Clair and ultimately the western basin of Lake Erie. The LTVCA launched the subwatershed Best Management Practice (BMP) incentive program as well, which provided \$50,000 to agricultural producers to implement agronomic BMPs in McGregor and Jeannettes Creek. This resulted in the planting of 2,100 acres (850 ha) of cover crops, grid or zone soil sampling of 2,400 acres (971 ha) to develop fertilizer prescriptions, 1,350 acres (546 ha) of alternative phosphorus application practices, and the completion of two erosion control projects. Furthermore, the LTVCA sustained and expanded environmental monitoring operations in both subwatersheds. This was to collect the data required to assess how effective the implemented BMPs are at reducing nutrient loads. The project will continue until 2022, funded in part by the Environment and Climate Change Canada Great Lakes Protection Initiative and the Canadian Agricultural Partnership.

On-Farm Applied Research & Monitoring (ONFARM) Program

The LTVCA was successful in raising \$648,748 to support the regional objectives of the ONFARM Program, to be delivered 2019 - 2023. The project is administered by the Ontario Soil & Crop Improvement Association and is funded by Canadian Agricultural Partnership. The goal of the project is to support the agricultural sector to strengthen environmental stewardship, enhance water quality, and improve soil health. The LTVCA is one of five Conservation Authorities that will conduct high intensity environmental monitoring in the former Great Lakes Agricultural Stewardship Initiative (GLASI) priority subwatersheds. The LTVCA project will occur in a 20km² area of the Jeannettes Creek subwatershed, where we have been collecting water quality, water quantity, soil health, climate, and crop management data since 2016. The ONFARM project will build on environmental stewardship achievements in the agricultural sector by:

- *Developing a comprehensive, science-based method to measure soil health in Ontario.*
- *Measuring the effectiveness and impact of agricultural best management practices aimed at reducing nutrient run-off on farms.*
- *Working with farmers to gain evidence and awareness of how to improve productivity, soil health and water quality.*
- *Establishing applied research and monitoring sites to facilitate peer-to-peer knowledge transfer and capacity-building among industry professionals.*



LTVCA staff collected flow data at the McGregor Creek upstream monitoring site, located at the Walter Devereux Conservation Area.

Awards & Sponsorships

LTVCA Environmental Award Winners

- *Landowner Category*



Raechelle Chatterton was presented an Environmental Award for 'landowners' for a 10 acre (4 ha) reforestation site by LTVCA's Environmental Project Coordinator — Greg Van Every.



Dan McKillop and his wife Janet were presented an Environmental Award for 'landowners' for their stewardship efforts by LTVCA's Environmental Project Coordinator — Greg Van Every, November 13 at a Stewardship Information Breakfast in partnership with ALUS Middlesex.

- *Organizational Category*



'Chatham TD Bank' — Chad Holmes, was a big LTVCA 'organization' partner and elected for the Stewardship Award for TD Tree Days.

Graduation Award Sponsorship



A \$500 award was presented to Abby Gualtieri, a graduating student from the Academic Proficiency, Associates Diploma in Environmental Management Program at the University of Guelph — Ridgetown Campus by Mark Peacock — CAO (LTVCA).

LTVCA Volunteer Heroes Award



Rick Taves — 25+ years dedicated service at Two Creeks Conservation Area was a deserving recipient of the Volunteer Heroes Award! It was presented by Randall Van Wagner — Manager, Conservation Lands & Services.



Ron Watts (posthumously) — 40+ years dedicated service as a Founding Member of the Ska-Nah-Doht Village Advisory Committee was a deserving recipient of the Volunteer Heroes Award! It was presented by Karen Mattila — Curator of Ska-Nah-Doht Village and Museum to Glenn Stott.



John Cofell — 10+ years dedicated service to tree planting and reforestation was a deserving recipient of Volunteer Heroes Award! It was presented by Greg Van Every — Environmental Project Coordinator.



John Lawrence — 20+ years dedicated service to educating about clean water was a deserving recipient of Volunteer Heroes Award! It was presented by Randall Van Wagner — Manager, Conservation Lands & Services.

Thames – Sydenham and Region Source Protection Region

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

The Upper Thames River, Lower Thames Valley and St. Clair Region Conservation Authorities partnered together to form the Thames – Sydenham and Region Source Protection Region and worked with municipalities, stakeholders and the public to develop a Source Protection Plan to protect drinking water, while taking into account the needs of our communities. The Source Protection Committee is appointed under the Clean Water Act, 2006, representing municipal, business, general public and interest group sectors in the region. The Committee is responsible for guiding the development of the Source Protection Plan. Jenna Allain is the Source Protection Coordinator.

Highlights of the Year

On May 1st, the Thames – Sydenham and Region submitted their second Annual Progress Report on the implementation progress of the Source Protection Plan. This report reflected implementation efforts made in 2018 and showed that the majority of the source protection plan policies have been implemented and are progressing well. A few highlights include the fact that 84% of on-site sewage systems that require inspection due to their close proximity to a drinking water source, have been inspected. Additionally, a total of 54 risk management plans have been established to regulate significant threats since the Plan took effect.

In July, the Thames – Sydenham and Region received an amended Order from the Minister of the Environment, Conservation and Parks to move forward with updates to the Source Protection Plan and Assessment Reports. Following receipt of the Minister's order, work began on the amendments which includes updating mapping to reflect changes to drinking water systems, change certain plan policies to address implementation challenges and update the documents to include new scientific information and technical changes. Work to update the Plan and Assessment reports will continue in 2020 and broad consultation on the changes will be undertaken.

As was done in 2018, a refresh of the source protection committee (SPC) was required in 2019 for SPC member positions that expired in June. After a successful selection process, Christine Sawyer was appointed as the new representative for Lambton County, Cassandra Banting for Oxford County, Carlos Reyes for London and Middlesex County and Gary Eagleson as the a representative for the public. Mike Mortimer (representative for Huron, Perth, Stratford and St. Marys), Patrick Feryn (Agriculture), Carl Kennes (Industry), George Marr (Public) and John

Trudgen (Public) were all reappointed to the Committee. The Committee also welcomed Joe Salter and Andrew Powell as new liaisons for the Source Protection Authority (SPA) and Middlesex London Health Unit respectively. The following members who left the committee are thanked for their time and efforts to protect sources of drinking water: Darrell Randall (Lambton), David Mayberry (Oxford) and Murray Blackie (SPA Liaison).



Stepping Into Nature

Conservation Areas

The LTVCA has protected 1,712 acres (693 ha) of environmentally sensitive lands, wetlands, culturally unique features and significant biological, ecological and scenic qualities through its conservation areas program. Out of the 31 LTVCA owned lands, 1,144 acres (463 ha) have been preserved at 18 conservation areas for public use in the watershed. The remaining are set aside as Nature Reserves.

We promote our objectives through recreational and educational opportunities in the conservation areas, providing places to actively experience the natural world and increase environmental awareness through interpretive signage and special events.

Randall Van Wagner – Manager, Conservation Lands and Services along with Paul Kominek – Western District Supervisor; Michael Latham – Eastern District Lead Hand; and Bruce Clark – Construction and Maintenance Technician, are responsible for the development and maintenance of these sites. Our Safety Committee tours the properties regularly to assess their safety for public use. Additionally, it is the Conservation Authority's policy to ensure conservation area facilities and programs are as accessible as possible for everyone's enjoyment. Conservation Areas are enhanced by annual donations of funds and volunteer time from local individuals, companies, conservation clubs and organizations.

Conservation Area Updates

Big Bend Conservation Area

Staff implemented a new 'Let's Camp' online camping reservation software this year. This system worked very well as we saw many new campers at Big Bend. New river access campsites were also created. The Ontario Ministry of Natural Resources and Forestry's 'Learn to Fish' event was held here in August, as well as at Sharon Creek and C.M. Wilson Conservation Areas.



Michigan Lily found at Big Bend Conservation Area

E.M. Warwick Conservation Area

New steel roofs and all new windows were installed on the four cabins, as well as the community hall. Many regular returning campers expressed their gratitude for the upgrades to this popular family retreat.

Situated on the north shore of Lake Erie, the cabins and community hall have taken on names of the Great Lakes!



A new roof and windows enhance the look and campers' visits. A well equipped kitchen, washrooms, shower, bunk beds and sitting area warmed by a wood stove are enjoyed by thousands annually at E.M. Warwick.

Sharon Creek Conservation Area

With its close proximity to the City of London, this property continues to be a popular year round destination. Upgraded signage around the morning glory spillway, and new fencing on the dam outlet are the result of an \$11,000 grant from Water Erosion Control Infrastructure (WECI).

The Springer Lake reservoir is well used. Non-power boating like kayaking, canoeing and stand up paddle boarding are summer activities. Fishing is enjoyed all year, while on land, visitors engage in birding, hiking and cross-country skiing.



For public safety the old fencing surrounding the dam outlet was removed and new fencing was installed, funded by a grant from WECI.

Conservation Area Events

Conservation Areas are full of adventure and are just waiting to be explored! Public events encourage us to ‘*Step into Nature*’. We partner with many community members and organizations in order to offer a variety of activities for everyone! Many of these experiences have been noted throughout this Annual Report in various sections.

Conservation Area events of special note not mentioned elsewhere are the **Big ‘O’ Birding** in May, and at Longwoods Road - **Artifact Day** in July, **Spirit of the Harvest** in September, and **Season’s Greetings** in November.



‘Season’s Greetings’ is an annual event at Longwoods Road Conservation Area held at the end of November — complete with roving carolers, hot food, craft vendors, guided nature walks and horse drawn wagon rides.

Land Donation

Elva Gray Tallgrass Prairie

This year, owners Steve Rankin and Robert Stover, graciously donated a 12 acre (4.9 ha) ecologically significant site, located just east of Ridgetown along the former CASO rail line.

Many species at risk have been documented here, along with other tallgrass prairie plants. The donors put a great deal of effort into this property financially and physically, with their dream to protect this rare habitat for future generations.



The Compass Plant is a tallgrass prairie species growing at this site.

Partnering with the Community

Communications, Outreach & Education – A Part of All Programs

Communication, outreach and education efforts enhance awareness and an understanding of the goals and programs of the LTVCA for our target audiences, enabling them to support and enjoy our facilities and services. Through accurate, consistent and clear messaging, staff expand the range of the target audiences whenever possible. Bonnie Carey – Manager, Communications, Outreach and Education is assisted by Agnes Vriends – Clerk with communications and education projects. Education staff include Karen Mattila – Ska-Nah-Doht Village and Museum Curator, Jerry DeZwart – Community Conservation Educator and Carlyn Johnston – Community Educator. Additional support is provided by other Conservation Authority staff as needed.

Programs inform our primary audiences – LTVCA Board and Committee members, Councillors and staff from member municipalities, Government agencies and our own staff about Conservation Authority programs and services. Watershed

residents and visitors, media, users of LTVCA facilities and services, partners including the LTVCA Foundation and potential partners, are additional vital audiences.

Through regular updates of social media and the production of literature, our goals and objectives are broadcast across the watershed. Education programs, public events and tours are hosted, and staff initiate and assist with local environmental projects such as children's festivals. As well, displays are designed, arranged and created for fairs and conferences.

Fostering partnerships and collaboration with organizations, volunteers and other stakeholders are priority, and help to further the conservation of our watershed resources. Meeting facilitation, fund-raising with the Lower Thames Valley Conservation Foundation, supervising employment programs and contributing on conservation committees and working groups, all support the LTVCA's vision and mission.

Communications & Outreach Highlights

It was a busy and rewarding year, beginning with the creation of the LTVCA's annual report and its presentation to the Board of Directors at the Annual General Meeting. Daily updates were posted to our website and Facebook page (1,862 followers) and Twitter (1,011 followers) and 27 media releases were issued. Special events were planned, six reports for Directors' meetings were prepared, registrations for area farm shows were completed, and publications were reviewed and produced. A Director's bus tour of the

eastern half of the watershed was also hosted on June 27. In London, we attended the April 'Go Wild Grow Wild Expo' – our display booth well attended by over 600 people. Staff attended meetings of the steering committee for the 'Longwoods Resource Centre Feasibility Study'. Funded by the LTVCA Foundation through a \$71,900 Trillium grant, this study examined key outcomes of a public 'Visioning Project' that took place in 2017, including an examination of a rebuild of the Resource Centre.



LTVCA appreciates the 1,282 volunteers who dedicated 7,853 hours of time this year to our programs and services for activities like the Water Festival and tree planting! All helped to create a balanced, healthy watershed and region.

LTVCA Flood Control Structures

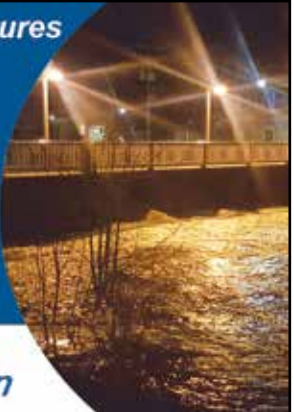
Protect Us During Floods

- The Backwater Control Dam & Pumping Station has 4 gates located near mouth of McGregor Creek in Chatham
- The Diversion Channel is 3.3 km in length, located along the eastern boundary of Chatham
- Federal-Provincial Diking - 56 km of dikes to protect low lying farmland
- For details on these structures go to <https://www.lowerthames-conservation.on.ca/flood-forecasting/water-control-structures/water-control-structures/water-control-structures/>

"Managing the flood control infrastructure provides protection for community members."

519-354-7310
info@ltvca.ca
ltvca.ca

 Lower Thames Conservation



New were 189 social media posts that daily reflected current activities of each LTVCA department and their mission throughout the year - Monday water management, Tuesday land stewardship, Wednesday conservation areas, Thursday outreach and education and Friday agriculture and water quality. Our Directors and municipalities received these regular updates.

Education Programs

Education programs provide field trip and in-class presentations to students and our community. Education staff enable and enhance the efforts of stewardship partners, service clubs, schools, volunteers and public to foster an understanding and appreciation of our renewable natural resources.

This past year's blending of conservation and Ska-Nah-Doht programs has proven very successful and we have formed a great *'Education Team'* to deliver all educational programs.

Field Trips to Longwoods Road & Ska-Nah-Doht

There were 37 half day and 124 full day classes that took part in field trips to Longwoods Road. This equates to 762 half day students and 2,514 full day students. 690 teachers and adult chaperones came along with the students. The beautiful outdoor experience at Longwoods Road Conservation Area, along with Ska-Nah-Doht Village provides the perfect setting for school group visits. Teachers are very positive about our new programming direction which definitely impacts students' need for outdoor education experiences. Direct links between stewardship and healthy living exemplified by First Nations' relationships with nature are instilled, along with their importance to children in today's challenging world. Climate Change unfortunately reared its ugly head again and only a few groups could take advantage of our snowshoeing program this year, with some having to opt for alternate programs.

Public Education Events at Longwoods

- *Moonlight Winter Family Hike* – 96 participants enjoyed a great February evening of owl viewing along moonlit trails, indoor live raptor presentations, chili, bonfire, and crafts.
- *March Break Hikes and Tours* – Staff provided guided hiking and learning opportunities to over 100 adults and their children along the trails and Ska-Nah-Doht Village.
- *Native Plants Workshop* – In April, over 40 visitors discovered wildflowers and pollinators of our fields and forests during this workshop.
- *Longwoods Heritage Weekend* in early May attracted over 1,000 visitors to a War of 1812 Re-enactment, soldier camps, and sutler villages.
- *Twilight Tuesdays* – These summer evenings were very popular, engaging 227 adult and youth participants in outdoor activities including bee-box visits, owl calling, bug-hunting, and awesome guitar-picking skills with sing-alongs. A tour of Ska-Nah-Doht featuring Anishinaabe and Haudenosaunee stories around the fire in the longhouse were highlights.

River & Creek Safety Program

Supported by area service clubs, the LTVCA delivered the River & Creek Safety Program to 12 classes, 229 watershed grade two students and 20 educators. The Glencoe District Lions Club, Rodney Lions Club, Optimist Club of West Lorne, Royal Canadian Legion Branch 251, and Delaware Lioness are greatly appreciated for funding this valuable safety program for over 17 years. We also wish to thank West Elgin Mutual Insurance Company, who funded three presentations. These contributions go far in protecting our children.



River and creek safety — Does it fit? Trying on PFD's at Our Lady of Lourdes School in Delaware.

Chatham-Kent & Lambton Children's Water Festival - 10th Annual!

Held at C.M. Wilson Conservation Area, this event achieved record attendance with 1,930 elementary students from 41 schools (four local school boards), 77 teachers, 275 adult chaperones, 305 high school volunteers from seven schools, and 162 adult volunteers, for a total of 2,749 attendees! Volunteer Festival Coordinator Don Hector (*pictured far left in red*) is thanked for his 900+ hours of annual dedication to this event!

Community Education

Girl Guide groups enjoyed evening owl prowls at Longwoods Road Conservation Area, where they heard and observed Eastern Screech Owls.

The Thames Valley District School Board held a Farm Safety Day at Caradoc Public School. Ways to remain safe and help oneself out of dangerous river, flood, or ice water situations were learned and enacted by approximately 265 participants.



New pollinator panels for the Kiosk and Native Gardens at Longwoods were funded by the Lower Thames Valley Conservation Foundation.

Student Coop Placement

The LTVCA Administration office and Longwoods Road Conservation Area provide both high school and college student placements.

This year Arius Ransome from Strathroy District Collegiate Institute was a great addition to our Longwoods team, assisting in public events, school field trip programs, trail maintenance, tree pruning, invasive plant 'management', construction of native bee nesting posts and Southern Flying Squirrel nest box monitoring.

Arius also learned hands-on about the difficulties of dealing with donated arrowhead collections, having to remove the glued cloth-backing from them then trying to place them in the appropriate time-frame in which they were made. Arius has a great future

as he plans on pursuing a course in natural resource stewardship.



Our fall co-op student Arius, is sizing up an ash log to convert into a bee nesting post. Recycling at its finest!

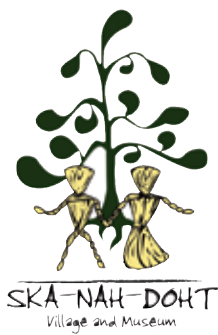
A Species At Risk (SAR) event was held at C.M. Wilson Conservation Area in July that introduced local 'at risk' reptiles, and steps people can take to reduce the impact humans have on them. Participants viewed a PowerPoint highlighting certain species, life-sized species models and found out how they can help them. At Ridgetown Public Library, we held another SAR event for youth, to inspire their participation in this effort.

New Carey Carolinian Arboretum & Trail Native Garden signage was produced. These signs will be placed inside the kiosk and outline the importance and diversity of our native pollinators. The signs contain QR codes that allow visitors to access more information on these pollinators.

At the Thames Valley Science and Engineering Fair, LTVCA joined the Upper Thames River and Kettle Creek Conservation Authorities to judge and present the Conservation Award in April. Students at the Junior age level receive this award for projects that best address the themes of natural resource stewardship and conservation. *Bloom Be Gone* – a project outlining the impact of algae blooms and steps to mitigate the problem, won this year's award for Orchard Park Public School.



Marianne Levogiannis of Kettle Creek Conservation Authority presents the 2019 Conservation Award for the Thames Valley Science & Engineering Fair to these happy young ladies for their project outlining ways to decrease algae blooms.



Ska-Nah-Doht Village & Museum

OUR MISSION

Ska-Nah-Doht Village and Museum continues to be a community leader, to educate about the past, collect and preserve local history and faithfully interpret the Haudenosaunee - People of the Longhouse.

OUR VISION

Ska-Nah-Doht Village and Museum is an interactive museum that engages the public in the preservation and presentation of the past through experiences on-site and in the community.

Village Curator – Karen Mattila managed the \$206,991.00 Ska-Nah-Doht Village and Museum budget. Carlyn Johnston – Community Educator conducted programs and events and assisted in the everyday running of the museum including the Turtle Trail Gift Shop which brought in revenues of \$11,550. We graciously acknowledge the \$22,992 in financial support from the Ministry of Culture through the Community Museum Operating Grant. The Museum also accepted two private artifact collections to be used for educational purposes as per our Mission.

New Community Educator Position

We welcomed Carlyn Johnston to a newly created position as Community Educator in January. Carlyn is Anishinaabe from the Chippewas of the Thames First Nation. She brings an amazing energy and passion for the environment, Traditional Ecological Knowledge and outdoor recreation. Carlyn is also a competitive marathon canoeist, a Safe Hiker certifier and Mood Walk leader, as well as a honey bee keeper!

Carlyn ran two new camps for Indigenous youth in March and July. ‘*Standing Bear Camp*’ offered youth an opportunity to re-connect with nature through cultural teachings. Special guests were invited to share traditional knowledge on medicines and painting as well as providing the opening and closing addresses for the camps. Carlyn was able to provide Safe Hiking Certification at Longwoods and Canoe Safety at Sharon Creek Conservation Area. Some activities like corn husk doll making have been added to educational programming. Other activities will become a template for future programming which will be offered to a wider audience.

Inaugural Indigenous Language Day

Education staff assisted in the first ‘*Oneida Language Day*’ held June 5 at Longwoods Road Conservation Area with the Thames Valley District School Board. The goal was to bring Oneida language speakers together for a day of sharing, learning, food and fun. The target audience was elementary school students, but also participating were secondary school volunteers, teachers and elders from the community. The rain did not dampen their spirits, with activities held all day. Indigenous Sport and Wellness Ontario participated with a lacrosse station, the hit of the day! Organizers are already talking about next year’s event at Longwoods.



‘*Twilight Tuesdays!*’ – a special summertime event at Longwoods Road.

Ska-Nah-Doht Prepping for 2020

Curatorial and maintenance staff are working together to prepare the site ready for the future! Clean up of the existing palisade facing the ravine, will make way for a new lookout platform to view the marsh. The challenge is to create a structure using new construction materials without losing the traditional rustic look visitors expect.

Bark was also purchased for future use on the longhouses. The material available is basswood. The small amount of elm bark that was available for the past few years is no longer on the market due to the return of the Dutch elm disease. This disease almost devastated the species in the 1960's. Hopefully with our efforts in conservation surrounding seed banks and greenhouses, the elm will rebound again.



A new section of Ska-Nah-Doht Village palisade was completed.

What a Summer Resume!

It was a summer filled with very unique opportunities for the Longwoods students. With a grant of \$4,430 from Canada Summer Jobs, Rachael De Zwart (Strathroy) was hired as a Community Outreach Assistant for eight weeks. Rachael was essential to the *'Twilight Tuesday'* events and also assisted with watershed presentations for Species at Risk.

We worked with Chippewas of the Thames to place four students for eight weeks this summer. Two went to Longwoods Road maintenance, while Alyssa and Jaianna worked with Rachael in visitor services.

The *'team'* researched and created Species at Risk crafts with fact sheets for species found at Longwoods Road. For the Turtle Trail Gift Shop, they created the *'Thames River Dreamcatcher'* to raise awareness of the importance of water. They enjoyed the added experience of being a part of an Indigenous youth canoe flotilla to open Toronto's CNE and spent the day at the CNE as special guests! In addition, they tended the honey bee hives at Longwoods Road over the summer!

All these experiences are great additions for their college applications.



Summer students are dressed for bee keeping at Longwoods Road Conservation Area!

Lower Thames Valley Conservation Foundation

Highlights of the Year



The Lower Thames Valley Conservation Foundation (LTVCF) works in partnership with the Lower Thames Valley Conservation Authority, to raise funds towards the wise management of our renewable natural resources. Since 1995, the Foundation has raised nearly \$900,000 for natural and cultural heritage conservation. Thousands of dollars were raised this year for watershed conservation projects.

The Foundation assists volunteer organizations with their fund raising efforts and manages the **Sharon Creek Trust Fund**, initiated by the Friends of Sharon Creek. LTVCF supports special projects and events like the annual **Moonlight Winter Family Hike**, the **Carey Carolinian Arboretum and Trail** and the Lower Thames Valley Conservation **Foundation Bursary**. Since the beginning of the Foundation's **Memorial Forest Program**, 8,703 trees have been planted in partnership with the Conservation Authority, local funeral homes and horticultural societies across the lower Thames region – funded by private and funeral home donations. The Foundation submits funding applications to corporations, government agencies, service clubs and other philanthropic organizations to

undertake projects and programs, which assist the LTVCA and watershed region. The Conservation Foundation is a not-for-profit, federally registered charity, governed by a volunteer Board of six Directors. Tax receipts are issued for all donations. The Executive – President Grant Jones, Vice-president Ken Brooks and Secretary-Treasurer Dan McKillop are recognized for their dedication and support in 2019.

At year-end, LTVCF was successfully awarded \$94,000 through the **Ontario Trillium Foundation** for a 12 month Capital grant to complete an accessible boardwalk replacement at Longwoods Road Conservation Area in 2020.

The Foundation also helped fund and support several other Conservation Authority and watershed initiatives in 2019:

- \$71,900 Ontario Trillium Foundation grant for Longwoods Road Feasibility Study and volunteers on its Steering Committee
- 382 memorial trees \$5,409
- Carey Carolinian Arboretum and Trail Native Pollinator Project \$911 and new arboretum tree signage \$249
- Volunteers for Moonlight Winter Family Hike event and four memorial forest dedication services



As a requirement of the **Longwoods Road Feasibility Study Trillium Grant** (funded in 2018), Conservation Foundation President Grant Jones spoke on September 29 at a recognition ceremony at 'Spirit of the Harvest' event. Tracy McQueen with Fred Galloway Associates, presented the study results in a final report at the LTVCA's Directors meeting on December 12. LTVCA Board of Directors supported the Foundation in moving forward with expanding its scope to undertake the Longwoods Road Resource Centre redevelopment fund-raising campaign.

Over 700 family and friends of loved ones attended four **Memorial Forest Dedication Services** held across the watershed. The Conservation Foundation recognizes the support of the McKinlay Funeral Home, the Tilbury and District Horticultural Society and the LTVCA as partners in this reforestation program.

Wishing you the best!

Staff Retirements



*Bruce Clark 1977 – 2019
Construction & Maintenance Technician*

Bruce Clark retired from the LTVCA after 42 years of service as the Construction and Maintenance Technician. Bruce built and maintained most facilities and services in our conservation areas over his tenure with the Conservation Authority! Precise, inventive and handy, with the ability to make things work on a slim budget, were characteristics of Bruce! Quiet but mischievous, his sense of humour touched us all! Bruce's patient demeanor and 'easy goingness' made him a joy to work with for our team. He learned much from his father Merlin in his early years with us – and became a man of many talents from electrical, to plumbing to carpentry and construction. His generous personality was reflected on and off the job, as he mentored young workers and his own family. He will be sorely missed by staff and Directors. Best wishes on your retirement Bruce!



*Michael Latham 2006 – 2019
Eastern District Lead Hand*

Michael Latham, employed by the LTVCA for 13 years, began his journey on a job creation program to rebuild a longhouse at Ska-Nah-Doht Village. As a result, he oversaw many rebuilds of the village in the following years. Michael's energy and determination landed him experience in forestry and working on construction and maintenance projects in the conservation areas of the eastern watershed. Always on the move, Michael enjoyed a cross-country run on the trails, with an eye to their maintenance and safety for visitors. His soft spoken manner and hard work ethic were always evident. He was able to complete 'jobs well done' while patiently working alongside students and contract workers. By 2019, Michael became the proud owner of the title 'Eastern District Lead Hand'. Happy trails Michael! Enjoy your retirement!

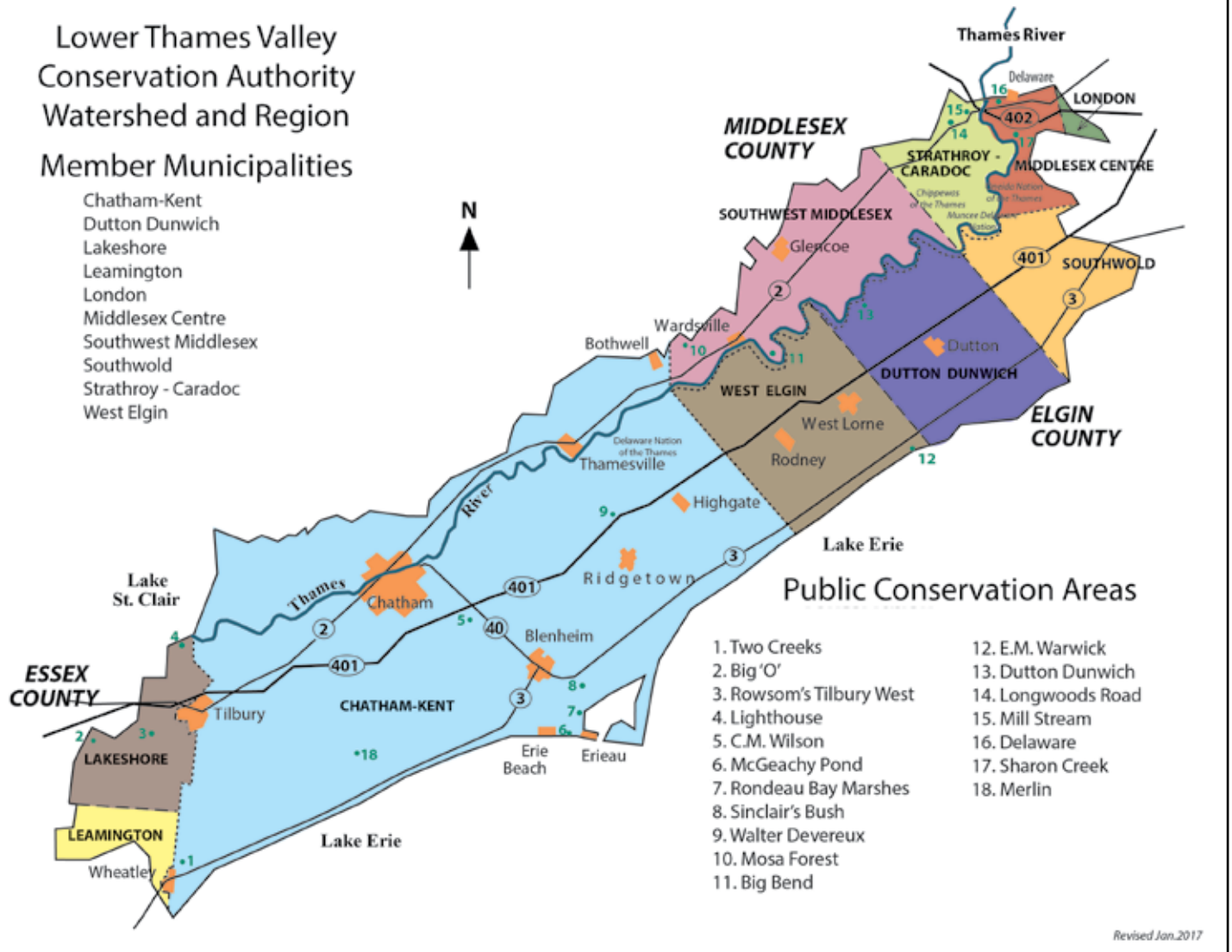


LTVCA's CAO Mark Peacock and Chair Linda McKinlay presented Bruce and Michael with gifts of appreciation from the Board of Directors on December 12. Custom made Adirondack chairs hand crafted by Vance Stark were staff gifts. We more formally thanked them at a December 13 function with presentations and cake!



Lower Thames Valley Conservation Authority Watershed and Region Member Municipalities

Chatham-Kent
Dutton Dunwich
Lakeshore
Leamington
London
Middlesex Centre
Southwest Middlesex
Southwold
Strathroy - Caradoc
West Elgin



Revised Jan. 2017

Lower Thames Valley Conservation Authority (LTVCA) watershed means those lands draining into the Thames River from the community of Delaware to Lake St. Clair, those lands draining into Lake Erie south of the lower Thames River watershed from the Two Creeks watershed in the west to the Talbot Creek watershed in the east and the lands draining into Lake St. Clair north of the Thames River watershed north to and including the Boyle Drain watershed. The area covers approximately 3,274 square kilometres (1,264 square miles) and is home to nearly 100,000 people.



LOWER THAMES VALLEY CONSERVATION AUTHORITY

100 Thames Street,
Chatham, ON N7L 2Y8
Tel: 519-354-7310
Fax: 519-352-3435
Email: info@ltvca.ca

www.ltvca.ca



The LTVCA is one of 36 Conservation
Authorities in the Province of Ontario.
Member of Conservation Ontario.



The Thames River celebrated its 19th year
as a Canadian Heritage River. Thousands of
volunteers cleaned up hundreds of kilometres
along the river during the 20th Annual Thames
River Clean-up in April.

