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## Contact Us

We love to receive your feedback and comments, drop us a line if you have a story suggestion or comments.

**Kelly Johnson, St. Clair RAP Coordinator**

**Ken Hall, FOSCR Webmaster**

## Help FOSCR delist the St. Clair River

Friends of the St. Clair River is a registered Canadian charitable organization. Your financial support for our programs will help FOSCR progress towards delisting the St. Clair River as an Area of Concern in the Great Lakes.

Contributions can be sent to:

**Mr. Terry Burrell**  
Friends of the St. Clair River  
514 Christina Street North  
Sarnia, ON N7T 5W4

All donations will receive a tax receipt.

Call Terry at 519-336-5545 for more information,

**PLEASE** join us.

## Marvelous Mussels of the North Sydenham

Freshwater Mussels. Unbeknown and often unnoticed to many, these animals play an extremely important role in the health of freshwater rivers and lakes. Buried beneath layers of sand; they filter and clean water, are a source of food for many different species and most importantly, act as a "bioindicator" as their health has direct links to the overall health of the aquatic ecosystem (Toronto Zoo). However, due to increased siltation, habitat loss and invasive species competition, many are endangered in Ontario.



SCRCA staff holds three Rainbow mussel specimens, listed as Special Concern

pollution, listed as

our own backyard, the Sydenham River supports the greatest freshwater mussels in all of Canada; with at least 34 of 41 species residing here. St. Clair Region Conservation has taken on a 2 year inventorying mussels along the North Sydenham including both Creek. The North Sydenham has few historic mussel surveys as most sampling efforts have occurred on the East branch where prime mussel habitat exists.

Flowing through diversity of found in Ontario project Bear and Black

With mussels being challenging to find to begin with, you must be wondering how this study is even completed. Over 4.5 hours, groups of 3 or more SCRCA staff and volunteers crawl throughout a segment of river, searching by hand for mussels within the top 5-10cm of sediment. Both live and dead mussels are collected, identified, recorded and then returned to the system where originally found.

2017 North Sydenham Species List	
Live	
Deertoe	Creek Heelsplitter
Fragile Papershell	Creeper
Giant Floater	Cylindrical Papershell
Lilliput	Fatmucket
Mapleleaf	Flutedshell
Paper Pondshell	White Heelsplitter
Wabash Pigtoe	Threeridge
Spike	Pink Heelsplitter
Round Pigtoe	Rainbow
Old Shells Only	
Slippershell	Salamander

Cue the drumroll for the 2017 results, please! The North Sydenham did not disappoint with almost 5000 live mussels surveyed and another 3500 observations of old shells. Although a few factors such as water depth, substrate type and density of mussels affected the crew's ability to sample at times, twenty-eight 4.5 hour searches were completed. Black Creek surveys produced 10 different species including two Species at Risk (SAR). SAR collected included Mapleleaf and Lilliput. The last recorded Lilliput on the North Sydenham was in 1967! Bear Creek produced 14 species with three being SAR. These species included Round Pigtoe, Rainbow and Salamander Mussels.

The inventory is scheduled to continue throughout the 2018 field season with 28 new sites. The project's funding was provided by Environment and Climate Change Canada (Habitat Stewardship Program) and the Ontario Trillium Foundation.

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## Bold Action Needed to Address Excess Phosphorus in Lake Erie

**Comprehensive assessment shows current and past agricultural fertilizer and manure applications are largest single source of excess phosphorus to western Lake Erie basin. Bold action is needed to identify and implement management approaches to restore health of Lake Erie**



In a report released early February by the International Joint Commission titled [Fertilizer Application Patterns and Trends and Their Implications for Water Quality in the Western Lake Erie Basin](#), an extensive analysis of existing data leaves little doubt that commercial fertilizer and manure applications are the largest sources of excess phosphorus into the western basin of Lake Erie. The IJC Science Advisory Board's Science Priority Committee completed the assessment to better understand the influence of past, current and possible future nonpoint agricultural runoff of phosphorus into western Lake Erie, and their potential to cause eutrophic conditions and nuisance and harmful algal blooms (HABs). The area studied included the lake's binational western basin as well as the St. Clair-Detroit River system, which feeds directly into Lake Erie.

Commercial fertilizer is the primary source of phosphorus from agricultural sources into the western basin overall and in the United States, while in Canada manure and commercial fertilizer are relatively equal sources. Given that the most recent comparable binational data are from 2006-2007 and that there are no well-established methods for distinguishing phosphorus loads from fertilizer versus manure in the laboratory, more specific fertilizer sales and application data as well as manure generation and application data are needed to advance our understanding of specific agricultural sources.

The analysis also showed that excess phosphorus from fertilizer application that is stored in agricultural soils and nearby ditches, buffer zones and wetlands has the potential to contribute the nutrients for years or even decades. "Even a small 'leakage' of excess phosphorus may be sufficient to contribute to algal blooms," the report says. Fortunately, the study found that following a period of phosphorus accumulation in soils, since the 1980s fertilizer application at a watershed scale is roughly balanced by phosphorus removal in harvested crops.

The expansion of conservation tillage, such as no-till, correlates with the rise of phosphorus entering the lake, because the nutrient accumulates in the soil's uppermost layer. The widespread use of subsurface artificial tile drains also may increase rates of phosphorus entering the lake. Thus, although both these practices have associated benefits, they may be important contributors to the development of HABs. Additional research and monitoring is needed to quantify both sources and to explore new approaches to these practices to reap the benefits intended without increasing nutrient inputs into Lake Erie.

Climate change is expected to influence the rate of phosphorus entering Lake Erie. Years of high precipitation and warmer water temperatures can result in larger discharges of phosphorus from agricultural lands and faster development of HABs, as well as longer recovery timeframes. Again, additional monitoring is needed to evaluate climate change impacts on nutrient inputs and to adapt management actions that will meet targets for nutrient reductions into the western lake basin.

Finally, the report notes that the management practices associated with phosphorus application – including timing, rates, and the equipment used – may have a bigger influence on phosphorus release from agricultural lands than the category of fertilizer (commercial fertilizer or manure). A review of the effectiveness of current management practices is needed, with the goal of developing new approaches to more effectively reduce the input of phosphorus into the lake from fertilizer and manure applications. The 4R nutrient management program for fertilizer application should be expanded and evaluated for its effectiveness in order to develop new approaches.

"Phosphorus control measures enacted in the 1970s demonstrated that Lake Erie eutrophication could be reversed," the report states. "The challenge this time is with agricultural non-point sources of nutrients, which will require a different set of responses. Lake Erie has benefited from bold action in the past and requires similar bold action today to ensure its health and value to the people of the basin into the future."

As a binational organization created by Canada and the United States under the [Boundary Waters Treaty of 1909](#), the [International Joint Commission](#) serves as an independent assessor of the progress made by the two governments to achieve the objectives of the [Great Lakes Water Quality Agreement](#).

For more information, see the [full report](#). For more information contact: Sally Cole-Misch in Windsor at [colemischs@windor.ijc.org](mailto:colemischs@windor.ijc.org)

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## Friends of the St. Clair River Rap Program Update

Friends of the St. Clair River and the St. Clair Region Conservation Authority (SCRCA) continue a long running education partnership.

"Thanks to sponsorship support from FOSCR, we are able to offer a curriculum-based program on the St. Clair River AOC to students (Gr 7-12)," said Melissa Gill, SCRCA Conservation Education & Community Partnership Technician. "The

### River Rap

*There's a lot of pollution,  
but we need a solution,  
To all this confusion.  
It's time to end the delusion,  
& stop the pollution.*

*The pollutants in the water.  
Ya don't want to slaughter,  
The animals that live there,  
So show that you care!*

*Don't pollute!*

*-Gr 7/8 student*



focus of this partnership is to provide local students with an opportunity to learn about the St. Clair River, the challenges it faces, and the efforts taken to improve this natural treasure."

During the past few years, SCRCA has developed a strong initiative to build greater opportunity to reach High School level students. This initiative has consisted of two main pathways: becoming involved at the school board level with Specialist High Skills Major (SHSM) programming & building stronger relationships with individual teachers.

"The River Rap program is a natural fit in many of the high school science programs & as a result, there has been an increased uptake from schools across the watershed." Said Melissa. "The number of students participating in the program in 2017 is nearly double the 2016 statistics."

To reach students of all learning styles & abilities a big piece of the 'River Rap' program is the culminating activity. Students write their own 'RAP' song & are encouraged to perform it for their peers. Some kids choose to sing, dance, beat-box, others choose a more poetic form. Creativity abounds, the learning becomes fun & the students use their personal voice to share what they have learned.

The continued support of FOSCR allows SCRCA to provide local students with a LOCAL example. As part of the science curriculum, every student in Ontario must answer: 'what is the human impact (both negative & positive) on the environment?'

"The 'River Rap' program provides students with an overview of our collective negative impact & then as a group allows students to brainstorm ways to minimize &/or eliminate that impact, while increasing our positive impact" said Melissa.

"Students can relate to a local issue, it means something to them, their past, their current & their future lives in this area. This is why creating place-based learning opportunities is so valuable."

#### 2016 Statistics:

Date	School	Grade	# of participants
March 24 <sup>th</sup> , 2016	Queen Elizabeth - Sarnia	Gr 7-8	82
April 4 <sup>th</sup> , 2016	Lakeroad - Sarnia	Gr 7-8	81
April 6 <sup>th</sup> , 2016	Tecumseh - Chatham	Gr 7-8	31
April 12 <sup>th</sup> , 2016	Sir John Moore - Corunna	Gr 7-8	30
		<b>Total</b>	<b>224</b>

#### 2017 Statistics:

Date	School	Grade	# of participants
January 19 <sup>th</sup> , 2017	Our Lady Immaculate - Strathroy	Gr 7/8	26
February 28 <sup>th</sup> , 2017	Great Lakes Secondary School	Gr 11	8
March 22 <sup>nd</sup> , 2017	Sacred Heart - Sarnia	Gr 7/8	23
March 23 <sup>rd</sup> & 24 <sup>th</sup> , 2017	Chatham Kent Secondary School	Gr 9-11	161
March 31 <sup>st</sup> , 2017	Sir John Moore - Corunna	Gr 7/8	20
September 21 <sup>st</sup> , 2017	Chatham Kent Secondary School	Gr 9-11	52
November 23 <sup>rd</sup> , 2017	Sacred Heart - Sarnia	Gr 7/8	53
December 7 <sup>th</sup> , 2017	Ridgetown District Secondary School	Gr 7/8	68
		<b>Total</b>	<b>411</b>

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## Students Find Way to Spread the Word on Invasive Asian Carp



*From left, Kloe Ennett, Kane Purnell, Atley Richardson and Jaxon Hillman, all of P. E. McGibbon School, were part of a class project to create and share a video about invasive Asian carp and their threat to the Great Lakes. Photo taken by Troy Shantz*

A group of Sarnia Grade 1-2 students has turned to filmmaking to draw attention to invasive Asian carp.

Under the direction of teachers Chantima Oliveira and Greg Van Bunderen, the 45 kids at P. E. McGibbon School researched, wrote and directed a [two-minute video about the fish](#) and how they threaten the Great Lakes.

"We really wanted to talk about problems in our community. Then we started reading about Asian carp and everyone was just so interested, and we kind of ran with that," Oliveira said.

Asian carp is a collective word for four species that includes silver carp, bighead carp, grass carp, and black carp. Native to lakes and rivers in China and Russia, they were introduced as a novelty to backyard ponds in the '70s. The fish have spread northward through the Mississippi river system, where they crowd out native fish species. Individual Asian carp have reached the Great Lakes, and if reproducing populations become established they could do serious ecological, recreational and economic damage, experts say.

Are the carp here already?

"No, but they're coming," said eight-year-old Jaxon Hillman, one of the students behind the video.

"They're on their way," added classmate Kloe Ennett.

Oliveira and Van Bunderen guided the students by encouraging them to come up with their own questions. "They really planned out the whole script through ... without even knowing," Oliveira said.

The students also had the opportunity to interact with a Sault St. Marie-based environmental group via Twitter. "Silver carp jump from the boat motors," said classmate Kane Purnell, alluding to YouTube scenes of fish leaping from the water in response to boat motor sounds.

"They can grow up to the size of a Grade 8 (student)," added Hillman.

"Grass carp got past the electric fence," said first-grader Atley Richardson, referencing attempts by U.S. conservation officials to check their advance by placing electric fences in tributary rivers.

The students used class iPads to comb the Internet for facts. As they discussed how they might share their information with the wider community the project morphed into a video, said Van Bunderen.

"There were a few of them that said, 'Why don't we call everybody?'" he recalled with a laugh.

There are also plans to place QR codes around town, allowing passersby to take a photo with a smartphone and launch the student video.

"People are actually learning from our seven and eight-year-olds. That's the coolest thing for me," he said. The students spent a great deal of time using multiple iPad apps simultaneously, through research and video recording.

Oliveira said it gave them the chance to explore something beyond their own block.

"A lot of our kids haven't been outside of this neighbourhood at all," she said.

"I think with what's available to them it makes an impact on their understanding,"

The video the students produced can be viewed by clicking [this link](#)

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## Future of Sombra Ferry at Risk



Bluewater Ferry owner Morgan Dalgety said a passing Canadian Coast Guard icebreaker pushed an ice shelf into his company's causeway, causing it to collapse.

The federal government must act quickly to pay up or the Bluewater Ferry in Sombra, Ont. could be permanently closed, according to Sarnia-Lambton Conservative MP Marilyn Gladu.

### Shifting ice from icebreaker crushes ferry causeway south of Sarnia, threatening family business

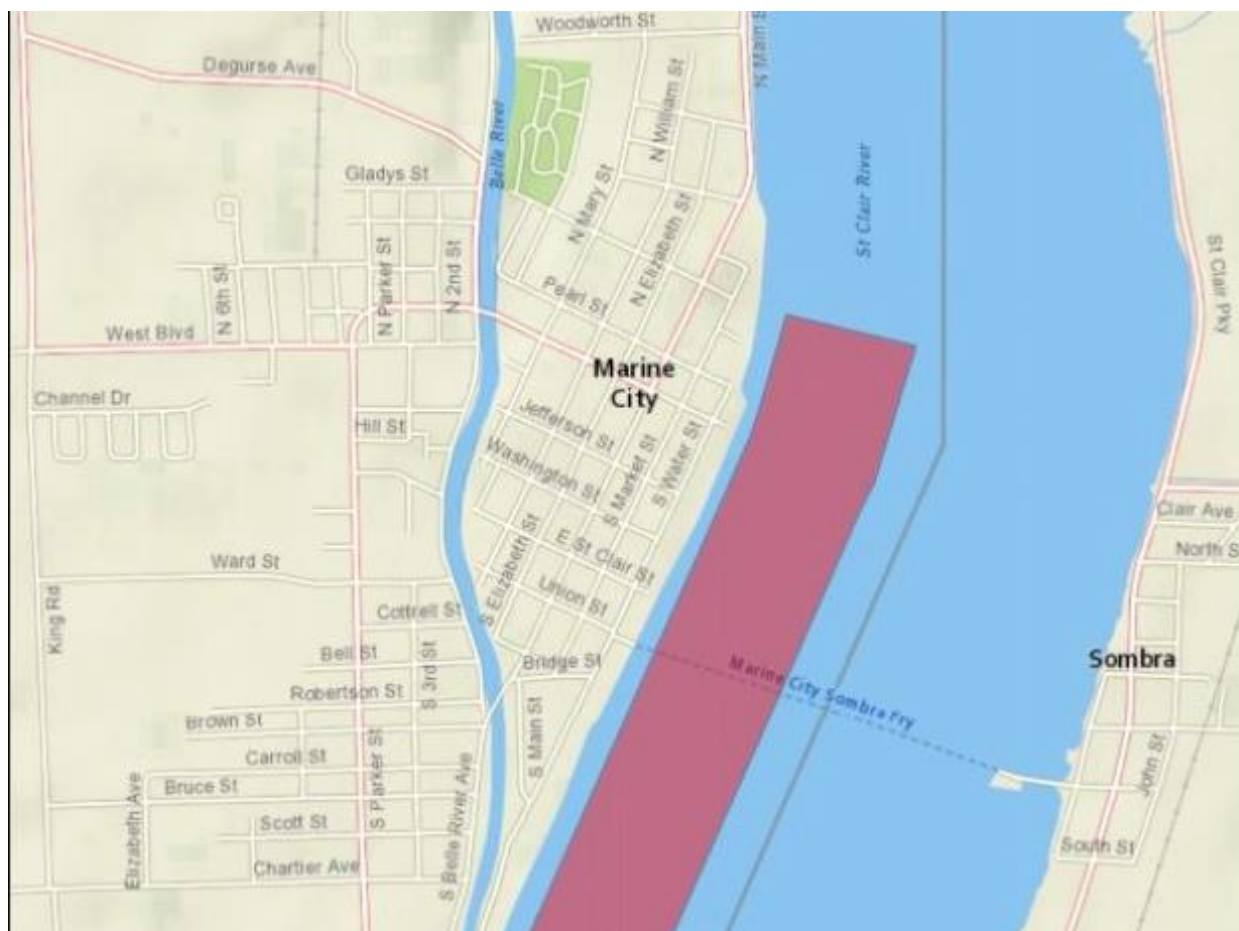
The fifth-generation family business has been frozen for weeks after the causeway leading up to its dock was crushed by a massive sheet of ice.

Morgan Delgaty, whose family has been working the stretch of water South of Sarnia for 55 years said the damage was caused by passing Canadian Coast Guard icebreaker, the Samuel Risley, which was escorting four freighters.

The coast guard began reviewing information about the mangled causeway after calls from Delgaty, and issued a statement Friday explaining their ice breaker was working in the shipping lane on the American side.

"Icebreakers do not operate near the Sombra Ferry Dock," the statement read. "There were many vessels on the water at the time damage was reported to the coast guard, including a Canadian Coast Guard icebreaker, the CCGS Samuel Risley, and a United States Coast Guard ice cutter."

The coast guard added its icebreaking service helps ships move safely through the ice along "one of the busiest trans-border shipping lanes in North America, the St. Clair River."



The Canadian Coast Guard included this graphic in its statement to CBC News. The red portion shows the shipping lane on the St. Clair River near Sombra, Ont., which the coast guard were working in when the ferry was damaged.

Fish spawning sets

### construction deadline

Gladu said construction must begin by the end of January, or it won't be completed before the fish spawning season begins in March and ends all work in St. Clair River.

"If we miss the March 15 deadline for construction the next time you can start doing construction in the river is July so for sure if the government doesn't get on this in the next 10 days we're going to miss this opportunity," she said.

The cost to replace the causeway was initially estimated at \$4 million, an impossible sum for the ferry business which had not insured the roadway. But Gladu said she and other officials have worked out a more affordable option — all they need now is government support.

"The answer to that is to put in some pre-engineered culverts with a road on top that will allow the ice flow and the water flow to go under the road and if there's further ice coming it wouldn't damage the structure," she explained. "The government needs to come with \$2.5 million or this border crossing will be closed permanently."

The Bluewater Ferry service crosses the St. Clair River, connecting Sombra, Ont. on the eastern bank with Marine City, Mich. in the U.S. on the western bank.

In peak season during the spring or summer, the company's two, 12-car ferries cross the river about 40 times a day. In the winter months business is slower but "if the ice is moving we're running," said Dalgety.

"Local businesses on both sides are dependant on the traffic," said Gladu, describing the crossing as "critical" for thousands of people who rely on it to cross between the U.S. and Canada.

"If there is no federal funding coming I'm sure there's an opportunity for litigation because the coast guard is the one who should have shut the shipping channel," she said. "The damage is a direct result of the four tankers that came down."

A Go Fund me page has been set up to help the Dalgety Family raise funds to repair the damage.

<https://www.gofundme.com/savebluewaterferry>

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## Lake Huron Centre Coastal Speaker Series March 8th

The public is invited to attend the Coastal Speaker Series on March 8th in Port Franks at the Port Franks Community Centre from 6:30-8:30pm! (see attached poster)

This evening will be an opportunity to discover diverse topics from across Lambton and Huron County regarding Lake Huron's unique coastal habitats. This is a chance to share experiences across Lake Huron, learn a bit from guest speakers, and hear an update on the Coastal Action Plan for Lake Huron.

Speakers will include:

**Tanya Berkers** (Pinery Provincial Park) LIGHT POLLUTION AND SMART SOLUTIONS

**Hope Brock** (Ausable Bayfield Conservation Authority) TURTLE AND SPECIES AT RISK CONSERVATION

**Hannah Cann** (Coastal Centre) COASTAL WOODLANDS & THEIR DEMISE

This event is meant to be a fun opportunity for learning, sharing and experiencing more around Lake Huron.

This event is **FREE**, family-friendly, and open to all. Please share widely!

RSVP to [coastalcentre@lakehuron.ca](mailto:coastalcentre@lakehuron.ca)

<http://www.friendsofstclair.ca/>

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*BPAC is a community-based partnership including governments, industry, first nations, academia, as well as environmental organizations and private citizens that work collectively in helping to improve the health of the St. Clair River. Our key goal is to implement the Canadian Remedial Action Plan (RAP) in order to restore the beneficial uses and remove the River from the list of Great Lakes Areas of Concern.*



This E-Newsletter is produced with support from the Ontario Ministry of the Environment