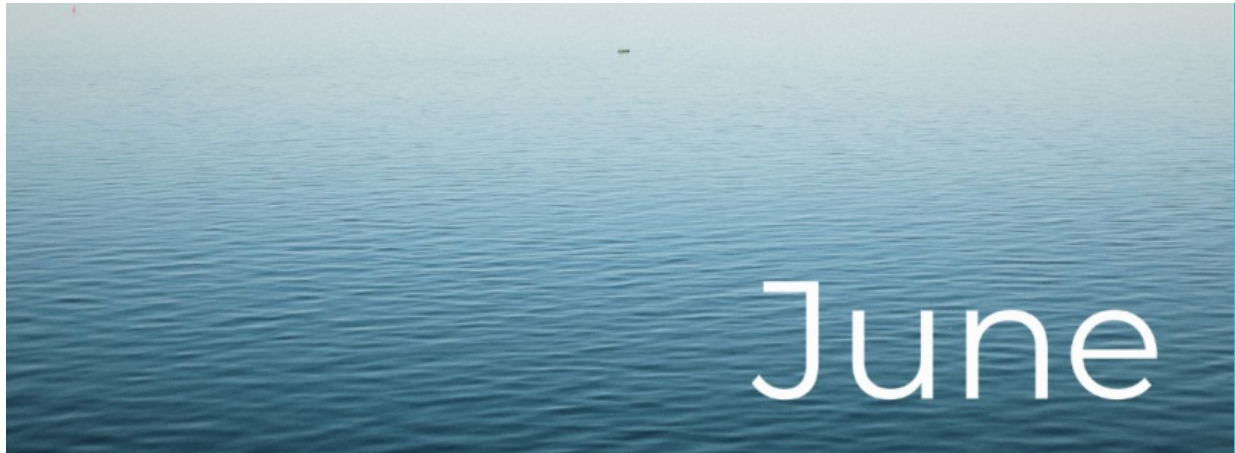




The Lake Huron Centre for Coastal Conservation



We have [two](#) exciting announcements for the summer of 2021! See below if you are interested in youth conservation or shoreline restoration!

Coastal Conservation Youth Corps

Register Now!



Check out our one- week immersive experience for youth aged 14-18. The Coastal Conservation Youth Corps (CCYC) program builds hands-on experience, teamwork and leadership skills- all while engaging in Lake Huron conservation topics! The program will be running in two locations: Goderich and the Saugeen Shores (following Ontario's COVID-19 protocols), working on shoreline projects such as dune restoration, invasive species removal, plant and animals identification, beach clean-ups and more!

CCYC Upcoming Dates

Max 9 students per group

Subject to change based on COVID-19 restrictions

Week Sessions

July 5-9 (Goderich)

July 12-16 (Saugeen Shores)

July 19-23 (Saugeen Shores)
August 9-13 (Saugeen Shores)

Weekend Sessions
September 11-12 & 25-26 (Goderich)

To learn more or **register** please go to: <https://www.lakehuron.ca/ccyc>.



**Green Ribbon
Champion**
Register Now!

Do **YOU** live on the shoreline in the **Township of Huron-Kinloss, Municipality of Kincardine, or Town of Saugeen Shores**? Do you want to learn more about the best ways to care for your beach? Well you are in luck! We are excited announce our 2021 season of the Green Ribbon Champion program. Property owners are offered a free beach assessment, health report with recommendations and are eligible for restoration within the capacity of the program.

For more information and to **register** please visit: <https://www.lakehuron.ca/grc> .



Eat the Invader!

Garlic Mustard Gourmet

Garlic Mustard (*Alliaria petiolate*) is a pesky plant that has invaded our forest floor. It arrived from Europe in the early 1800s and can displace native wildflowers such as Trilliums, the Trout Lily, and several species at risk like American Ginseng. This biennial herb can invade relatively undisturbed forests, and the tiny seeds are easily transferred on shoes, hooves and tires. But did you know it is also delicious? This invasive plant will invade your taste buds when used in pesto, salads, and more. Do your part in removing this invader from our forests and impress your friends by making a Garlic Mustard gourmet meal.



When harvesting Garlic Mustard be sure that you are at least 400 m (1/4 mile) from roads. Check for poison ivy nearby and any signs that the plant may have been contaminated with any pollutants. Pull the entire plant up by the roots and bag it until you are ready to begin cooking. When you are ready to begin your epicurean experience, tear off the leaves and dispose of the stalk and roots in a sealed bag. Do not compost, since this may aid the plant in spreading.

The smaller leaves are best to be used raw, in salads or pesto. The larger leaves can have more of a bitter taste, but can be used in soups or marinades. The leaves can be eaten in any season, but as the weather grows hotter, the leaves will become more bitter. Clean the leaves by soaking them in a bowl of water, and then rinsing them well.

How to identify Garlic Mustard:

- 10 cm to 1 m in height
- Alternate, broad, kidney-shaped leaves up to 10 cm, with coarse, rounded teeth
- Small white flowers in May, with four petals
- Slender pods 2.5 cm to 6 cm long, containing tiny black seeds
- Young leaves release a strong garlic odour when crushed



Garlic Mustard Pesto

Ingredients

- 8 cups fresh garlic mustard, washed
- 6 cloves garlic
- 1 cup pine nuts (can substitute for walnuts or hemp seeds)
- 1 1/2 cups parmesan cheese, grated
- 2 1/2 cups olive oil
- 3/4 cup maple syrup (can substitute for 1/4 cup of honey)

Cooking Instructions

1. Place all ingredients in a food processor except the olive oil.
2. Slowly add the olive oil and blend until combined.

Tips and Tricks

- The pesto can be used for cooked pasta or spaghetti squash, combining 1 to 1.5 Tablespoons per serving.
 - You may add cooked chicken, mushrooms and tomatoes.
 - The pesto can be stored in the refrigerator for 1 week or in the freezer for several months.
 - Try freezing the pesto in an ice cube tray first for easy portioning.
-

Maple Roasted Tomato Crostini with Garlic Mustard Pesto and Goat Cheese

Ingredients

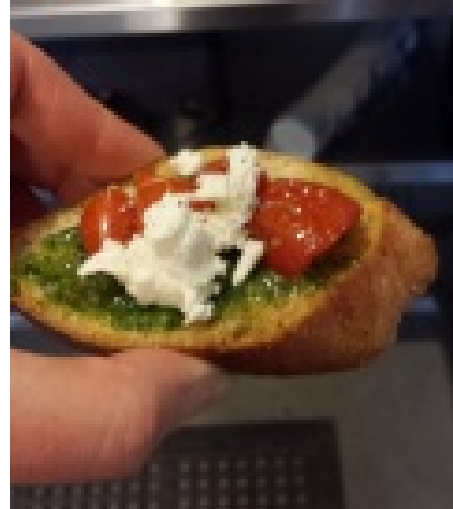
- Baguette 1 lb cherry tomatoes
- 3 Tbsp. maple syrup Garlic mustard pesto
- 2 Tbsp. olive oil Salt and pepper to taste
- 4 oz. goat cheese

Cooking Instructions

1. Preheat oven to 350°.
2. Slice the baguette, and arrange slices on a baking sheet, brushing both sides

with olive oil.

3. Season to taste with salt and pepper.
4. Bake until golden, 15 to 20 minutes, turning over once while baking.
5. Toss tomatoes, maple syrup, and olive oil in a bowl, and arrange on a baking sheet.
6. Season with salt and pepper, and roast for 20 to 25 minutes until caramelized and tender.
7. Spread garlic mustard pesto on toasted baguette slices, and top with roasted tomatoes and crumbled goat cheese.



The History of Infamous Invasive Mussels in the Great Lakes

Zebra Mussels and Quagga Mussels

Common invasive species found on land, like Garlic Mustard or Phragmites, are often recognizable to many of us. We see these plants on the way to work, while hiking, or enjoying the beach. We notice when these species overtake our favorite natural spaces. But what about invasive species just below the water. Have you ever wondered what invasive species might be lurking in the Great Lakes? This article will outline some of the Great Lakes most infamous, destructive and interesting invasive mussel species. Find out what they look like, how they got here, and how they have changed the Great Lake ecosystem.

The Great Lakes is home to 150+ fish species species. This incredibly large body of water with intricate river, creek, and wetland ecosystems creates a suitable home for many different kinds of species. Some have adapted to freshwater life over millions of years, and some were placed in this system within a matter of hours.

It's difficult to talk about invasive species of Lake Huron without considering the Great Lake systems in its entirety. For thousands of years the Great Lakes were essentially as secluded as a large pond. Native species have adapted through ice age events to develop characteristics that increase their chance of survival.

Since the shipping industry boom in the mid 1850's locks and channels were created to connect The Great Lakes to the international shipping industry. This major development put this precious and balanced ecosystem that took millions of years to evolve at risk. Large cargo carriers from all over the

world expel millions of liters in ballast water that holds life foreign to our Lakes. Other invasive species, such as sea lamprey, simply navigated up the St. Lawrence River and slowly gained access to the entire Great Lakes system. Here they found a home with plentiful food and shelter. This is the story of invasive Zebra and Quagga Mussels.



Zebra Mussels



The first invasive Zebra Mussel found in the Great Lakes system was discovered in the St. Clair River by a newly graduated biology student named Soyna Santavy. What she thought was a funny looking rock in 1998 turned out to be one of the Great Lakes most infamous predators to its natural balance. Researchers were stumped while trying to understand how a Zebra Mussel, a species native to the Black Sea, ended up thousands of kilometres away in the St. Clair River. Ship ballast water was the culprit. Zebra Mussels had already

colonized rivers and lakes in Western Europe, but with no natural predators in the Great Lakes, their numbers skyrocketed to the hundreds of millions. In some areas the infestation was so large that you could find 100,000 Zebra Mussels clustered together per square meter. They attach themselves to hard surfaces and prefer areas with water current, making water intake pipes from cities and industries an ideal breeding ground. Zebra Mussel infestation is an expensive problem to have. Numbers became so critical that Canada and the United States have had to pay billions of dollars in removal. Even with the ongoing fight against Zebra Mussels, we were not ready for their even more destructive cousin, the Quagga Mussel.

Quagga Mussels

While Zebra mussels only feed during the warmer months and can be found at a maximum depth of 60 feet. Whereas the Quagga Mussel

can feed all year round can survive at a 540 foot depth. In 2005 Zebra Mussels made up 98 percent of the lakes total invasive mussel population. That number quickly flipped with 97.7 percent of the lakes invasive mussels populated by the Quagga Mussel. They spread faster and became more deadly to the precious Great Lake ecosystem than any researchers could have predicted. Quagga Mussels filter phytoplankton from the water that are vital to the survival of species low on the food chain. There are enough Quagga Mussels on the floor of Lake Michigan to filter the ENTIRE Lake in four weeks. FOUR WEEKS! As a result we are left with crystal clear water. This is a clear sign of an unhealthy lake restricted of food from the bottom of the food chain up.

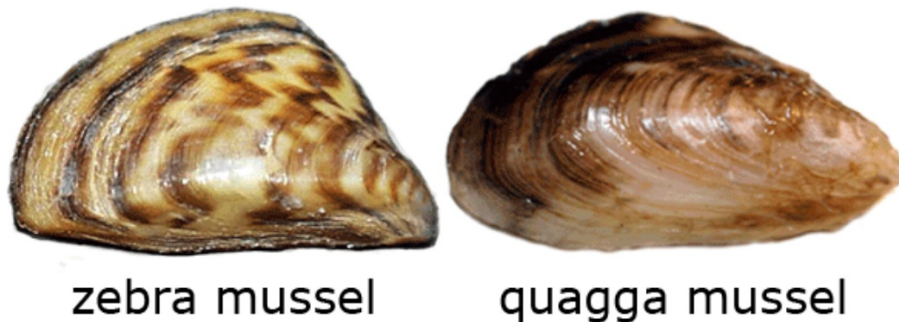


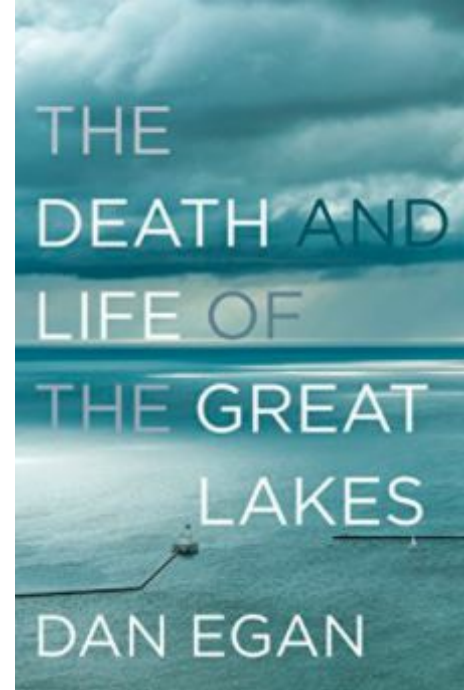
Photo Credit: Simcoe Region Conservation Authority

Positive Changes

Don't worry, this is not all doom and gloom. In 1990 the United States congress tasked the U.S Coast Guards with regulating ballast water entering the Great Lakes. In 1993 it became mandatory to replace ballast water with mid-ocean salt water during their voyage. Even with these new changes, they still found invasive species finding their way into the Great Lakes, just at a slower rate. It turned out that even "empty" ballast tanks left a thick sludge that was teeming with life. In 2008 the United States Seaway Operators mandated that all Great Lake bound vessels flush their ballast tanks even if they were "empty". Since then no new invasive species have been discovered in the Great Lakes.

Yet it is important to remember that it can take years, even decades, for invasive species to grow large enough to be noticed by us.

If you would like to learn more on this issue “The Death and Life of the Great Lakes” by Dan Egan is very informative book that tells the story of invasive species in the Great Lakes over time.



Sources Cited

Egan, D. (2017). *The Death and Life of the Great Lakes*. New York: W.W Norton & Company.

The Lake Huron Centre for Coastal Conservation is a registered charity founded in 1998 with the goals of protecting and restoring Lake Huron's coastal environment. We are the voice for Lake Huron.

DONATE TODAY!



www.lakehuron.ca