



coast watchers
COMMUNITY VOLUNTEER PROGRAM

COAST WATCHERS ANNUAL REPORT 2025





This program would not have been possible without generous financial support from sponsors, funders, and program partners. Thank you for continuing to support the Lake Huron Coastal Centre and its core mandates of educating coastal communities on the topics of water quality, biodiversity, climate change, and coastal processes.

The Coast Watchers program is generously supported by:



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About Coast Watchers

What is the Coast Watchers program?

Coast Watchers volunteers serve as the “eyes and ears” of Lake Huron’s coastline. By systematically and consistently collecting data along the shoreline, they make it possible to track long-term trends in shoreline conditions and contribute to both short-term sustainability efforts and long-term resiliency goals of the Lake Huron Coastal Centre (LHCC).

In recent years, concerns about Lake Huron’s water quality and shoreline health have grown, with plastic pollution, shoreline erosion, and climate change threatening the shoreline environment. While various agencies gather data related to environmental concerns, the information often provides only isolated ‘snapshots’ of conditions at a given time. Local conditions can change quickly, making it difficult to capture a complete picture. Given Lake Huron’s vast 6,170 km shoreline—the longest of any Great Lake—monitoring it in detail is a challenge for any single agency. This is where community scientists play a critical role in tracking and documenting changes along the coast.

The Coast Watchers program takes a grassroots approach to data collection, empowering local volunteers to monitor shoreline conditions. The Coast Watchers Program Coordinator analyzes and shares the collected data with environmental organizations, government agencies, corporate partners, and the public.

Designed to engage community members, the Coast Watchers program encourages volunteers to actively contribute to improving the quality of nearshore waters and beaches. Volunteers are trained to observe and record data on atmospheric conditions, wildlife, plastic pollution, algae blooms, erosion, storm damage, and human activity. In addition, they gain access to educational resources provided by the LHCC, covering a variety of coastal topics such as species at risk, invasive species, and plastic pollution.

The Role of a Coast Watcher

Coast Watchers are community scientists. These are members of the community that contribute to scientific research through data collection, with no required scientific background. Coast Watchers are provided online training and resources to prepare them to effectively observe environmental stressors when monitoring the shoreline. This includes providing knowledge and information on coastal conservation as well as training on the use of equipment.

Coast Watchers collect data on atmospheric conditions, wildlife, plastic pollution, human activity, algae wash-ups, and storm damage. Most of the data is collected through visual observation. Volunteers are provided with online resources to gain technical knowledge and background information required to make these visual observations effectively. To measure atmospheric conditions, some equipment and tools are used, including a kestrel anemometer to measure wind speed, a thermometer to measure temperature, a compass rose to determine wind and wave direction, and the Beaufort scale to measure wave height. Training for all these tools is provided through educational videos on our website. Data collected by Coast Watchers is submitted through our online web app. Training is also provided for effective use of this app. Despite detailed training provided to Coast Watchers, qualitative data may have variation from person to person.

Our Volunteers

Coast Watchers volunteers in 2025 spanned from Sarnia to Bruce Peninsula, with a handful on Georgian Bay and one on Manitoulin Island. There were 169 registered volunteers in 2025, the majority of which have volunteered for at least one year prior. 41% of volunteers were male, and 59% were female. Volunteers ranged in age, however the majority were Lake Huron residents older than 60 years of age.

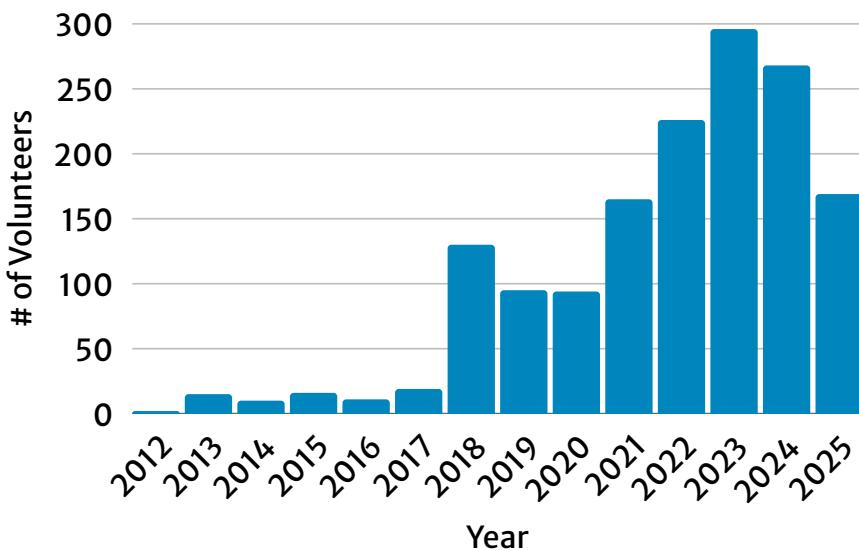


Figure 1. The number of Coast Watcher volunteers since 2012.

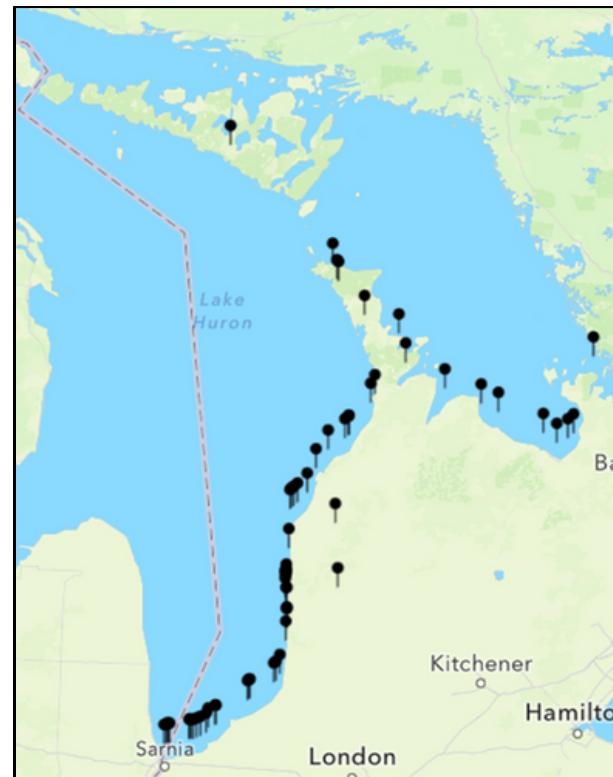


Figure 2. Registered Coast Watcher monitoring site locations.

2025 Coast Watchers Reports

Overall, we received 817 Coast Watchers reports. The most southern reports came from Sarnia. The most northern reports were from near Tobermory. Most of the shoreline in between was covered, however we received minimal reports from Lambton Shores area. A heat map to the right shows areas where LHCC received the most reports; this includes Point Clark, Oliphant, Goderich, and Plympton-Wyoming.

Atmospheric Conditions

368 reports were made, covering 147 days, which is approximately 80% of the Coast Watchers season. The most common time to report atmospheric conditions was in the morning (67%), then afternoon (23%), and lastly the evening was the least common (8%). 82% of reports found the horizon to be visible, and 18% found the horizon not visible.

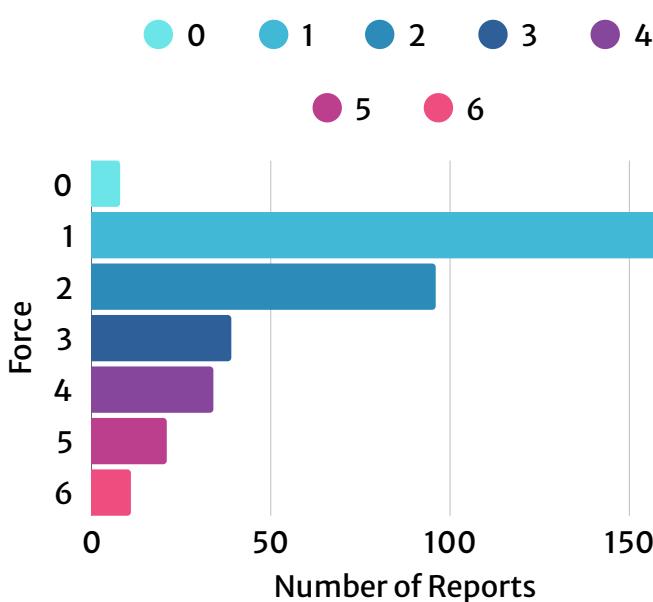


Figure 4. Wave height reports using the Beaufort Scale.

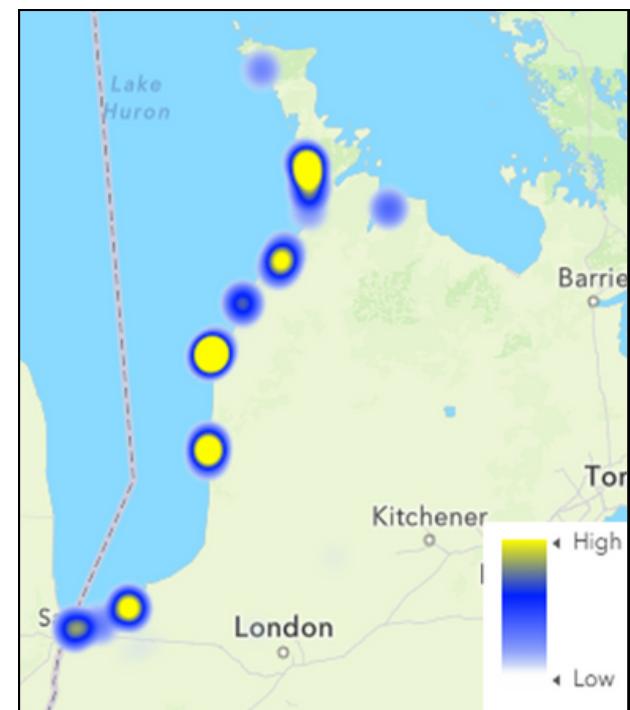


Figure 3. Coast Watcher reports submitted in 2025.

The Beaufort Scale is used by Coast Watchers to monitor and quantify wave height. Faster winds and subsequent increased wave heights are indicated by a larger number on the Beaufort Scale. Differences in wave height were not distributed by location and did not vary seasonally. The median wave height reported by Coast Watchers was 2, which corresponds to 6-11 km/hr winds, a light breeze, and small, short, wavelets. Atmospheric conditions were primarily measured in the morning, which may affect these results, as wind tends to increase through the day due to daily changes in atmospheric temperature.

Wind and wave direction was measured using a Compass Rose. Coast Watchers reports found that both wind and wave direction were most frequently from the west. This aligns with what we know about the prevailing winds along the southeastern coast of Lake Huron, which come from the west, moving across the lake, and proceeding across Southwestern Ontario.

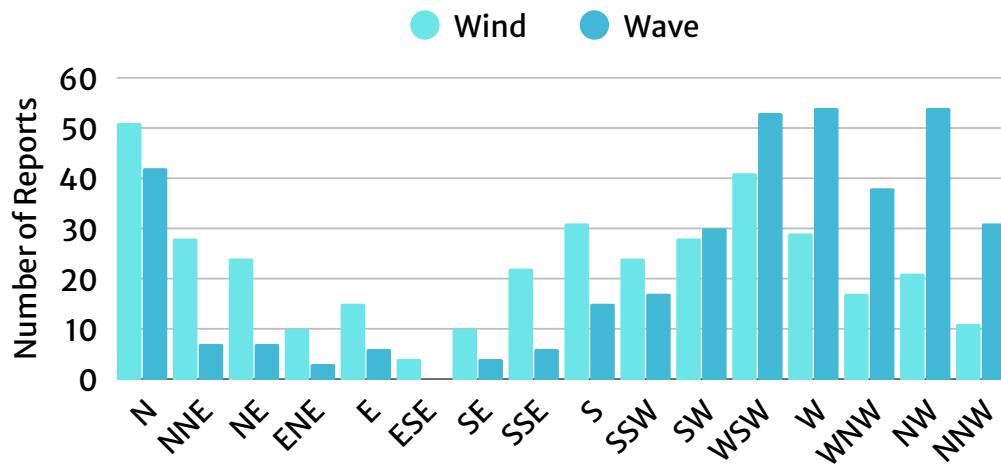


Figure 5. Wind and wave direction.

Coast Watchers monitor temperature of both air and water using a Kestrel or a pool thermometer. Using this data, we generated average air and water temperature for each month of the Coast Watcher season (May–October). This data can be compared to Lake Huron Climate Normals, which are generated by Environment and Climate Change Canada (ECCC) and United States National Oceanic Atmospheric Administration (NOAA). Climate Normals are developed through averaging of long-term data (>15 years) to describe the average conditions of climate in a specific location.¹ By comparing our 2025 values to the long-term averages, we can see how this years temperatures align with historical averages.

We can see that both air and water temperatures were warmer than the historical average. Due to the known effects of climate change, it is likely that we will continue to see summers with higher temperatures like what was observed in 2025. Increased temperatures may decrease air quality, increase drought potential, reduce survival rate of newly restored shoreline environments, and affect water quality, with warmer waters providing optimal conditions for algal blooms and waterborne pathogens in Lake Huron.

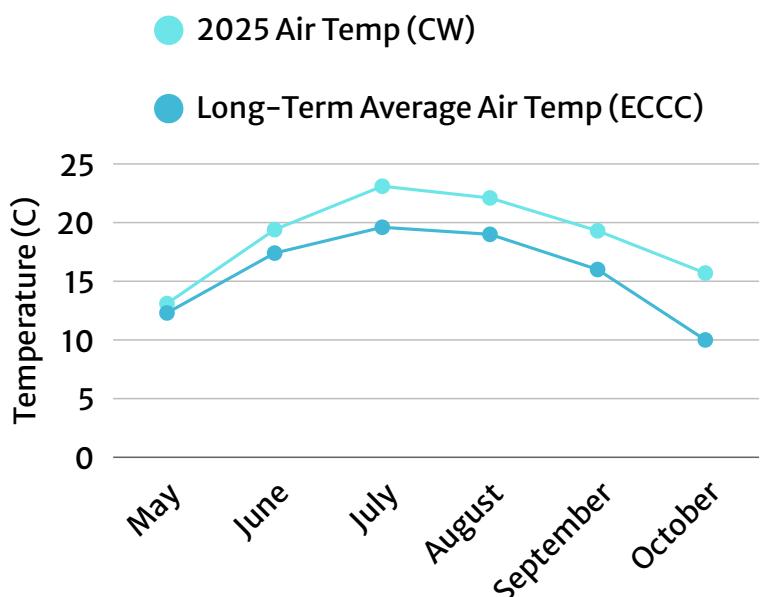


Figure 6. Air temperature. Long-term average air temperature data is from ECCC, measured from Goderich.²

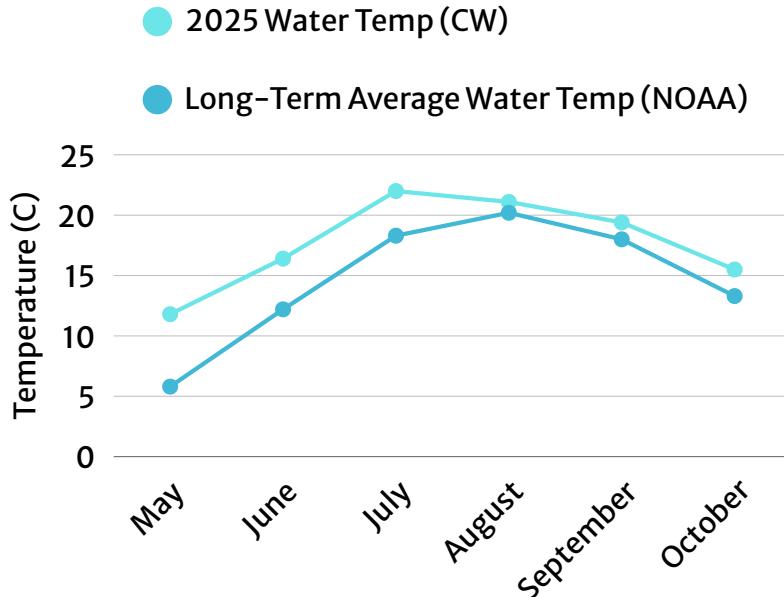


Figure 7. Water temperature. Long-term average water temperature data is from NOAA.³

Wildlife Report



Both plants and animals are integral parts of our Lake Huron ecosystem. Coast Watchers report on wildlife observed on the beach, both living and deceased. These reports can help record the presence of at-risk species or the occurrence of wildlife die-off events.

This year, the most common animal observed was a gull, followed by Canadian geese. Also observed were swans, buffleheads, gizzard shad fish, mergansers, turkey vultures, monarch butterflies, cormorants, egrets, minnows, and potentially a piping plover – an endangered species! Out of the 1355 animals observed by Coast Watchers, 96% were living, and only 4% were deceased. Interestingly, most of the wildlife observed was south of Huron-Kinloss. Only 21% of wildlife observed was in regions north of Goderich; the remaining wildlife reports came from within Goderich and further south.



Figure 8. Photo of seagulls submitted by CW170.

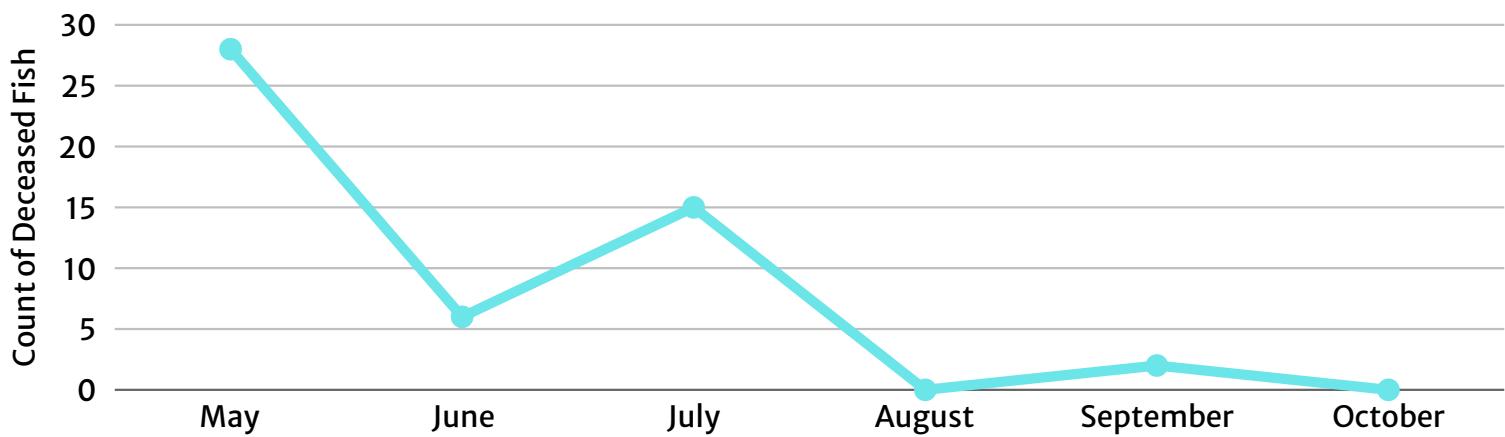


Figure 10. Count of deceased or decomposing fish along Lake Huron, by month.

CURRENT EVENT:

VHS Outbreak

In Spring 2025, news outlets reported that thousands of Gizzard Shad were washing up on the Lake Huron shoreline from Ipperwash to the Bruce Peninsula. Fisheries scientists have suggested it was due to an outbreak of viral hemorrhagic septicemia, or VHS, as the volume of deceased fish was higher than typical for a routine spring die-off.⁴

Coast Watchers reported 51 deceased or decomposing fish on the shoreline this year, which is over double what was reported by Coast Watchers last year. The majority of these reports were made on the early end of the Coast Watchers season, consistent with the timeline of the VHS outbreak.



Figure 9. Gizzard Shad photo by CW170.

Algae Washups



Algae is a regular occurrence along the Great Lakes, however, too much algae on our beaches or in nearshore waters usually indicates an ecological problem. *Cladophora*, or “green algae” is a filamentous, native algae to Lake Huron, and can provide shelter and a food source to various organisms such as mollusks, diatoms, and young crayfish.

Algae growth is caused by nutrients like phosphorus or nitrogen, and excessive amounts of *Cladophora* which may mean there are increased amounts of runoff entering the lake. Too much green algae can promote the growth of *E. coli* by providing a warm and moisture-rich environment.

Cyanobacteria, or blue-green algae, is another type of algae to monitor for. Blue-green algae is planktonic, and form “blooms” in the lake. This type of algae can produce toxins called “Microcystins”. Blue-green algae tends to be less prevalent across the Canadian side of Lake Huron.

Coast Watchers made 64 reports of algae in 2025, most often found along the shoreline (rather than in the water). Algae were typically filamentous, olive green in colour, and had no distinct smell. This detected algae is likely *Cladophora*, or green algae, as it is filamentous.

No reports were made that detected blue-green algae.

Algae in both water and along the shoreline was reported in South Bruce Peninsula, Kincardine, Huron-Kinloss, and Plympton-Wyoming, with the highest amounts reported in Huron-Kinloss and Plympton-Wyoming. Mat formation, which can be associated with *E. coli* growth, was observed 15 times, near Tiverton, Point Clark, Red Bay, and Plympton-Wyoming.



Figure 11. Photo of algae by CW142.

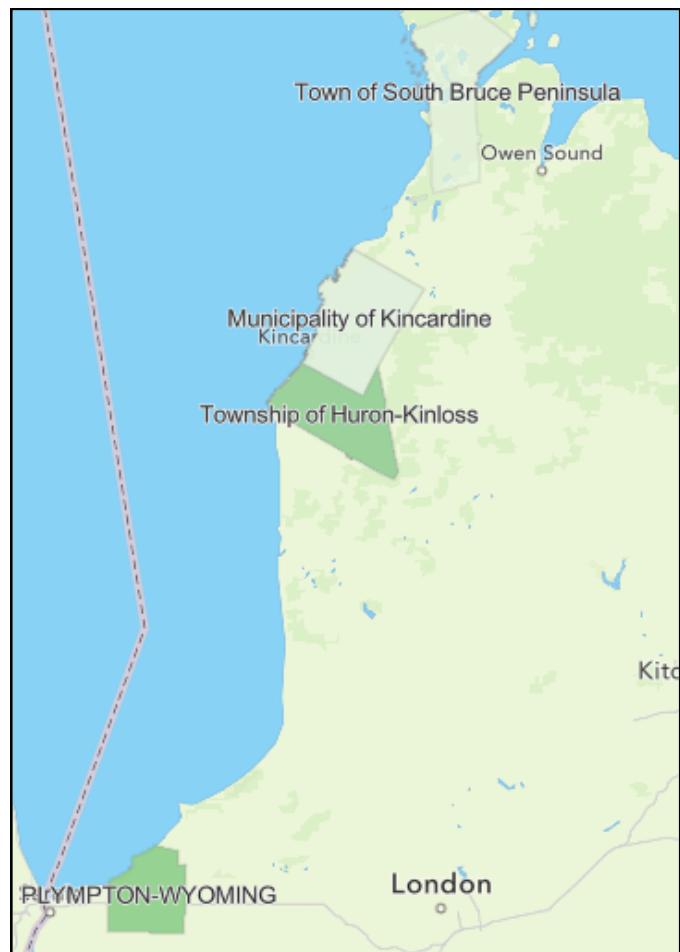


Figure 12. Frequency of algae reports.
Darker green represents more reports.



Figure 13. Algae mat on Bruce Beach in 2007.

Beach Litter



Plastic pollution is a big problem along the Lake Huron shoreline. Not only does beach litter take away from the aesthetic beauty of our beaches, it can be an entanglement or choking hazard for wildlife. Coast Watchers have an important role in conducting beach clean-ups in their own communities as they monitor the shoreline. Our beach clean-up program focuses on major public beaches, but litter ends up all across the Lake Huron shoreline. By reporting the presence of beach litter, Coast Watchers can inform LHCC staff of sites that are in need of a public beach clean-up event.

Surprisingly, only a total of 18 items of litter were found and removed by Coast Watchers in 2025, which is much less than previous years. The most common items removed were food wrappers. Slightly higher levels of plastic pollution were observed in Goderich and Huron Kinloss municipalities (5-6 items), compared to on the Bruce Peninsula, which had just 2 items in each South Bruce Peninsula and North Bruce Peninsula. No items were identified by Coast Watchers in other municipalities along the shoreline. This minimal amount of litter reported by Coast Watchers is encouraging as it suggests that areas with little public access may contain fewer sources of litter, or are regularly stewarded by home and property owners.

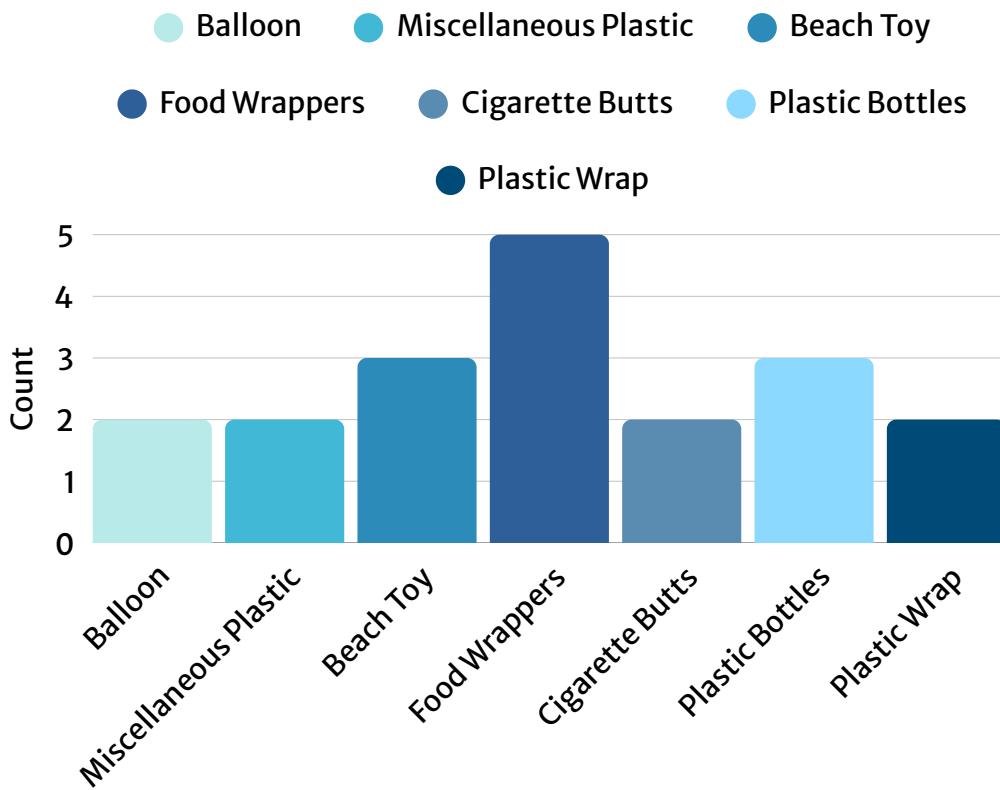


Figure 15. Types of litter removed from the beach by Coast Watchers.



Figure 14. Image of food wrapper reported by CW303.

DID YOU KNOW?

An estimated 600 metric tons of plastic enters Lake Huron every year.⁵

That's approximately 40 dump trucks!



Natural and Human Made Debris Wash Up



Storm events often cause powerful waves resulting in wash-ups of large natural debris. This can cause concern among shoreline residents when natural debris is hazardous or impedes recreational activities. While natural material is important to feed nutrients onto shorelines and provide habitats for wildlife, it is recognized that excessive amounts of natural debris are not typically compatible with human demands for recreation on shorelines.

26 reports were made in 2025 that identified debris on the shoreline. 14 of these reports identified excessive natural debris, including driftwood, logs, brush, tree stumps, roots, and rocks. 12 reports identified human debris, which included campfire remains, concrete blocks, wooden planks and posts.



Figure 16. Natural debris by CW142.



Figure 17. Human debris by CW265.



Figure 18. Natural debris by CW142.



Figure 19. Image of wrack line by CW170.

DID YOU KNOW?

The **strand line**, or **wrack line**, refers to organic, natural debris that has washed up on the beach. This washed up material releases nutrients into the beach to be used by native plants that grow on the shoreline. This is called “nutrient cycling”. Removing this organic material can disrupt this process and negatively affect the beach-dune system over the long term.⁶



Human Activity



Coast Watchers monitor the shoreline for human activity, tracking the number of people, cars, and pets on the beach or in the lake through the season. While we are fortunate to enjoy our Lake Huron beaches for recreation, too much use can negatively impact the coastal environment.

A total of 1538 people were observed on the beach in the 2025 season, and unsurprisingly, the busiest time was in July. The highest number observed was 200 people on July 12th at Saugeen (formerly Sauble) Beach. Cumulatively through the season, Coast Watchers observed the most people in South Bruce Peninsula (640 people), followed by Huron Kinloss (275 people), and then Saugeen Shores (185 people). These are three areas with popular public beaches for homeowners and visitors alike. Unfortunately, we have a lack of Coast Watchers in Lambton Shores, as it is likely we would observe high numbers of people on beaches in the Grand Bend area.

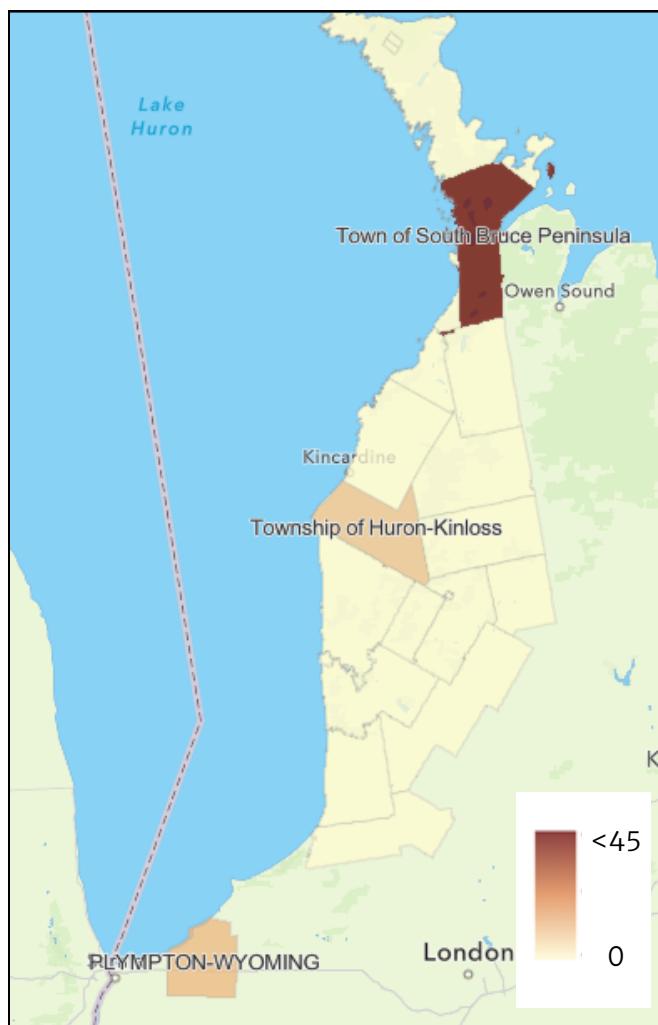


Figure 21. Number of vehicles observed on the beach by Coast Watchers.

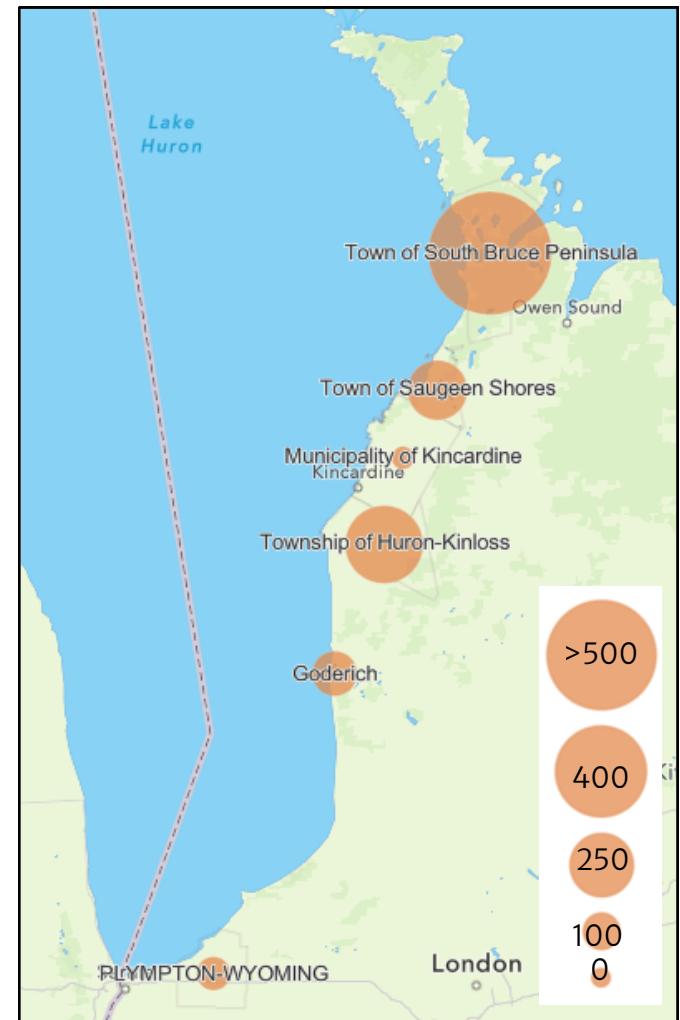


Figure 20. Number of people observed on the beach by Coast Watchers.

There were 71 motorized vehicles observed on the beach. Interestingly, 66% of these reports were made at Oliphant Beach, with 47 motorized vehicles observed on the beach through the summer. The remaining were observed in Huron Kinloss and Plympton-Wyoming. Oliphant has a unique, gently sloping beach, in which large areas of the lakebed are exposed during low water levels. Driving along the beach to access the Fishing Islands or waterfront is common.



Figure 22. Vehicles at Oliphant by CW111.

Motorized vehicles on the beach can damage native wildlife habitats and increase vulnerability to invasive species such as the Common Reed (*Phragmites australis*), which are already a major problem at Oliphant Beach.⁷

WHAT CAN WE TAKE AWAY FROM THE COAST WATCHERS PROGRAM IN 2025?

A better understanding of how people use the shoreline.

Coast Watcher data helped us understand areas of the shoreline that were most utilized for tourism and recreation (i.e., Saugeen Beach).

An assessment of how real world events impact Lake Huron.

Data collected by Coast Watchers reflected a known fish die-off of gizzard shad, and showed a hotter summer than historically typical, potentially as a result of climate change.

An ability to have early detection of invasive or at-risk species, algal blooms, or nurdle spills.

This summer our Coast Watchers potentially detected Piping Plovers further south than usual.

Valuable data that can be shared with partners to dive deeper on issues facing Lake Huron.

Our Coast Watchers contributed to a large data set that is available to our partners, including researchers, government bodies, private companies, and other non-profit organizations.

Knowledge that will inform Lake Huron Coastal Centre programming.

Knowing areas with more frequent visitors (i.e., Saugeen Beach, Kincardine, Port Elgin) can help us identify locations for our beach clean-up events in 2026.

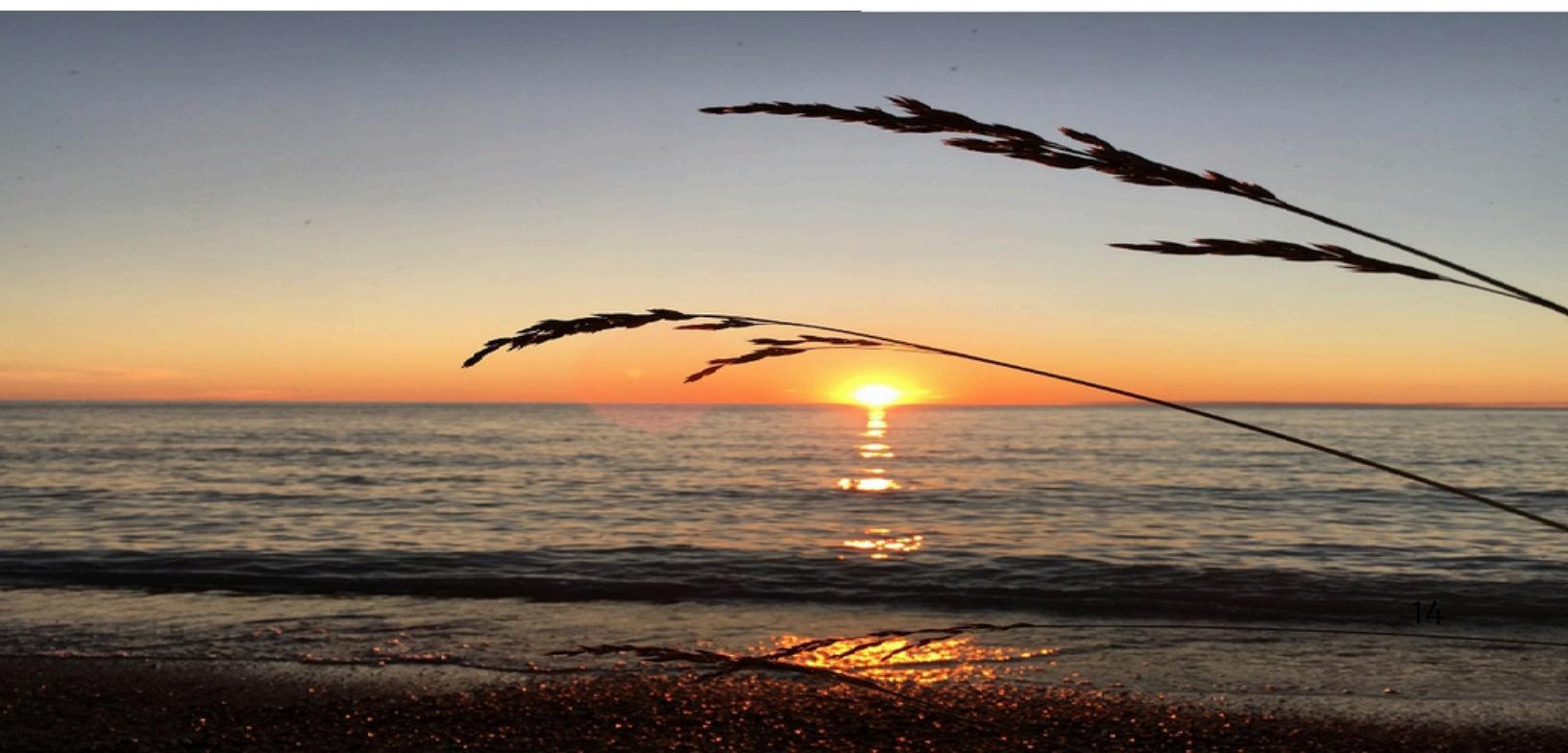
Continued empowerment of volunteers to take environmental action in their community regardless of their experience and ability.

Most of our volunteers help protect Lake Huron with minimal experience, and 100% of Coast Watchers surveyed agreed that this role helps them to feel more connected to nature.



Get Involved!

- **Sign up to be a Coast Watcher for the 2026 season!**
 - To register, fill out the form at lakehuron.ca/coastwatchersregistration, or send us an email at coastwatchers@lakehuron.ca!
- **Become a data sharing partner.** If you are a researcher or stakeholder who is interested in accessing our Coast Watchers data set, please get in touch!
- **Donate to support our work!** Head to lakehuron.ca/donate to contribute to coastal conservation projects at the Lake Huron Coastal Centre.
- **Follow our social media (@coastalcentre) or subscribe to our newsletter** at lakehuron.ca/newsletter.



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