

Divert & Capture - The fight to keep microplastics out of our water

Summer 2021 - Shoreline Cleanup Summary and Review

Written 2021 by Georgian Bay Forever (GBF)

Authors: Brooke Harrison, Emma Christensen, Kerri Lynch, Sofie Ohrling,
and Bronwyn Kirby

PO Box 7537, Leslie Street Toronto, ON M4M 1B3 | 905-880-4945 | Georgian Bay

[Forever.org](https://www.forever.org)

Registered Charity #89531 1066 RR0001

Table of Contents

1. Partner Acknowledgment
2. Introduction
3. Overview
 - List of cleanups and locations + map
4. Top 5 trash items collected
 - Will probably be single use takeout containers, cig butts, foam, plastic food wrappers, little blurb on each
5. Breakdown (pie graph) of things we collected (sorted by categories? Eg. single-use take out containers, household garbage, smoking related, hygiene, micro, other)
6. Summer 2021 Shoreline Cleanups
 - Woods Bay
 - Collingwood
 - Wasaga Beach
 - Honey Harbor
7. Trash Tally Sheets and UofT Trash Team partnership
8. Next Steps: Winter 2021 and Summer 2022

Partner Acknowledgment

This project and many others are made possible by our amazing partners, who continue to support and fund our research and outreach.

This project was undertaken with the financial support of:
Ce projet a été réalisé avec l'appui financier de :



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada



The LeVan Family, Great Lakes Local Action Fund, Charles H. Ivey Foundation

And thank you to our valuable partners:

The Town of Collingwood, The Nottawasaga Valley Conservation Authority, Blue Mountain Watershed Trust, University of Toronto Trash Team, The Rochman Lab at University of Toronto, Rotary Club of Wasaga Beach

PO Box 7537, Leslie Street Toronto, ON M4M 1B3 | 905-880-4945 | Georgian Bay Forever.org

Registered Charity #895311066 RR0001

Thank you, Volunteers!

At GBF We are both dismayed and thankful for the amount of trash collected this summer. It would not have been possible without the generous time of volunteers from around the bay. Many families and students became regulars at cleanups, dedicating their time to helping our local environment. We are so grateful for the 176 volunteers that helped protect Georgian Bay this summer.

Everyone can make an impact and we thank you for creating one alongside us. Your support greatly enables our work.

Introduction

Georgian Bay is a globally unique ecosystem. With more than 30,000 islands and 2000 kilometers of shorelines it is the largest freshwater archipelago in the world. This region is an important transitional ecosystem that contains a wide diversity of habitats from rocky shorelines to coastal wetlands, and sandy beaches. These shorelines support an incredible array of organisms; more species of reptiles and amphibians live here than anywhere else in Canada. The area is also home to species at risk such as the Blanding's Turtle. Georgian Bay is classified as a UNESCO world biosphere.

These beautiful shorelines were shaped by glaciers in the most recent ice age, 11,000 years ago. Now, several areas are undergoing physical and chemical shifts due to pollution in various forms. Primary causes in this shift are due to the rise of consumer and convenience culture. Convenient single use plastic products that last mere minutes during use, are among the most littered items plaguing entire ecosystems. According to the Great Canadian Shoreline Cleanups, single-use plastics comprise more than a third of all plastic waste and are among the top twelve most collected items during shoreline cleanups.

Plastic litter on shorelines and in water can break into progressively smaller pieces known as microplastics. Concentrations of microplastics in the Great Lakes reach 1.25 million particles/km², which is equal and/or greater than the concentrations found in massive oceanic garbage gyres. Microplastics can enter the food web and even humans. It has been estimated that we are eating

approximately 5g of plastic per week through our diet.



Shoreline cleanups help reduce the amount of pollution reaching waterways while raising community awareness at the same time. During cleanups Trash Tally Sheets are used to gather data about collected waste. The information collected quantifies the amount of waste and can provide valuable insights about pollution trends. If the cause and sources of litter can be determined it is easier to create solutions to prevent it.

Shoreline cleanup data allows for better communication to occur between fellow citizens, the press, and the government about the severity of plastic pollution and advocate for change.

Overview

In the summer of 2021, we completed a total of 26 successful cleanups on the shorelines of Georgian Bay. Including weekly cleanups in Collingwood and biweekly cleanups in Wasaga Beach. In total we were able to divert 1025.69 pounds of litter. This report will contain information and highlights from cleanups, along with next steps to continue protecting Georgian Bay.

It has been an unprecedented past year with the COVID-19 pandemic, fortunately we were able to come together (6 feet apart) and clean up the shorelines of Georgian Bay.

Georgian Bay Forever is combating pollution by having initiatives such as shoreline cleanups. We are also advancing our outreach by attending and hosting events to increase public education and

concern about ongoing pollution problems in Georgian Bay.

To learn more about the programs lead by Georgian Bay Forever please visit <https://georgianbayforever.org/>

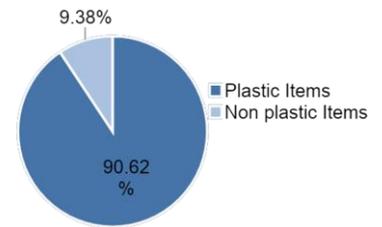
2021 Shoreline Cleanups

Cleanups in Chronological Order

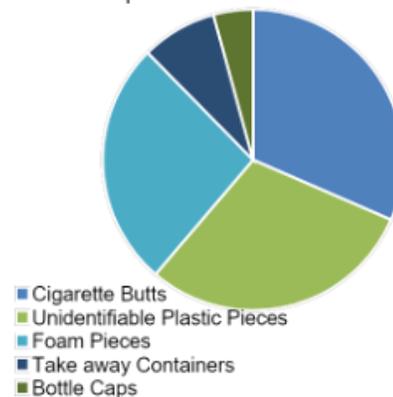
- April 24 - Honey Harbour
- May 15 - Woods Bay
- May 22 - Woods Bay
- June 15 - Harbourview Park, Collingwood
- June 22 - Harbourview Park, Collingwood
- June 29 - Harbourview Park, Collingwood
- July 5 - Wasaga Beach, Area 3
- July 6 - Harbourview Park, Collingwood
- July 6 - South Channel
- July 13 - Harbourview Park, Collingwood
- July 18 - Sunset Point Park, Collingwood
- July 19 - Wasaga Beach, Area 3
- July 20 - Harbourview Park, Collingwood
- August 3 - Harbourview Park, Collingwood
- August 9 - Wasaga Beach, Area 3
- August 10 - Harbourview Park, Collingwood
- August 17 - Harbourview Park, Collingwood
- August 23 - Wasaga Beach, Area 3
- August 23 - Balm Beach, Tiny Township
- August 24 - Harbourview Park, Collingwood
- August 24 - Sunset Park, Collingwood
- August 28 - Bayfield Inlet
- August 31 - Harbourview Park, Collingwood
- September 1 - Northwinds Beach, Blue Mountains
- September 2 – Big Tub Lighthouse, Tobermory

Plastic Contamination

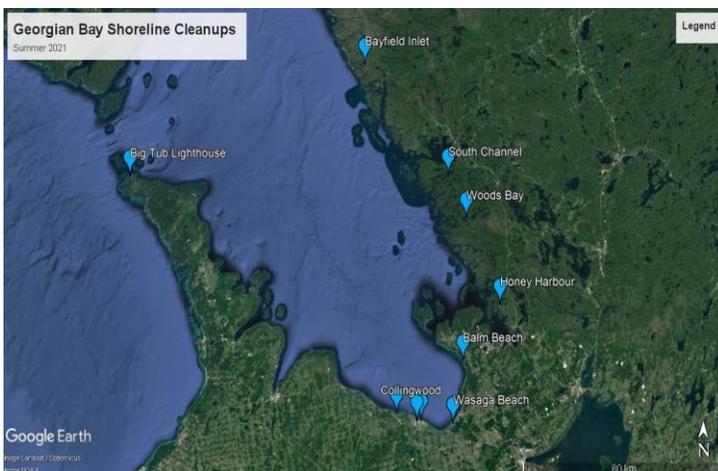
During shoreline cleanups there are many unexpected items that are collected, however there are also items that are unfortunately too common on shorelines. Most of the pollution found is plastic, most of it being some type of single use item. Reliance on plastics in so many of the products we use has created a pollution crisis.



Top 5 Plastic Items Collected



The data we collected in 2021 is very similar to the data we collected in 2019. These pollution trends can be found on shorelines across the Great Lakes and globally.



Honey Harbour, Woods Bay & Bayfield Inlet

On shorelines that are lined with cottages it is extremely common to find blue foam pieces.



Heather Sargent

During these cleanups more than 600 pieces were collected. This type of plastic polystyrene is used to support floating docks. It is harmful because over time with the friction of waves and other factors, it degrades into smaller and smaller pieces that can be hard to clean up. Fortunately, the new Bill 228 is being enforced to prevent this pollution. For more information on Bill 228 please visit <https://georgianbayforever.org/2020/12/09/bill-228/>

Wasaga Beach Cleanups

Thank you to our partners at the Rotary Club of



Wasaga Beach for partnering with GBF to host four successful bi-weekly shoreline cleanups at Beach Area 3 in Wasaga Beach. The Rotary Club brought in so many passionate members and volunteers to protect our shoreline.

During two of the cleanups at Beach 3 we completed a full trash audit every item collected. This analysis allows for a better understanding of pollution trends and sources.



This sorting creates a disturbing visual of all the litter that can add up over a two-week period. Like

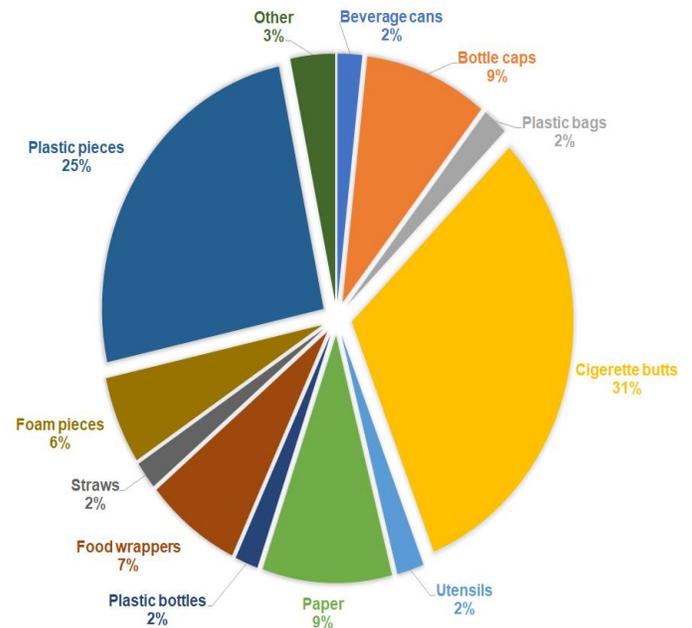


on other shorelines most of the items we collected were plastic and single use products such as plastic bottles and straws.

The number one item collected at Wasaga Beach cleanups and other Great Lakes Cleanups (GLPC) is cigarette butts. The filters of cigarettes are filled with microfibers and toxins that can break apart and contaminate water easily.



Summary of Items Collected at Wasaga Beach



Wasaga Beach Conclusion

With Wasaga Beach being a huge tourist area in the summer months we expected to find a lot of litter. Even with the Beach's Park staff coming to clean the area mere minutes before starting cleanups, we were able to amass a total 215.87 pounds of litter.

The types of items collected most were related to take away eating and drinking. Including utensils, bottle caps, straws, and bread tags. We hosted a cleanup the day after the Canada Day long weekend and were shocked at the extent of litter. We found evidence of the celebration as numerous balloons and fireworks. There are many plastics and litter free ways to enjoy the beach.

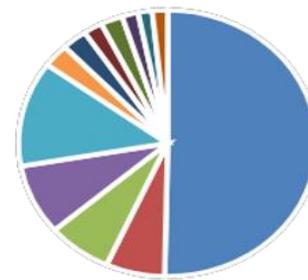


Harbourview Park, Collingwood Shoreline Cleanups

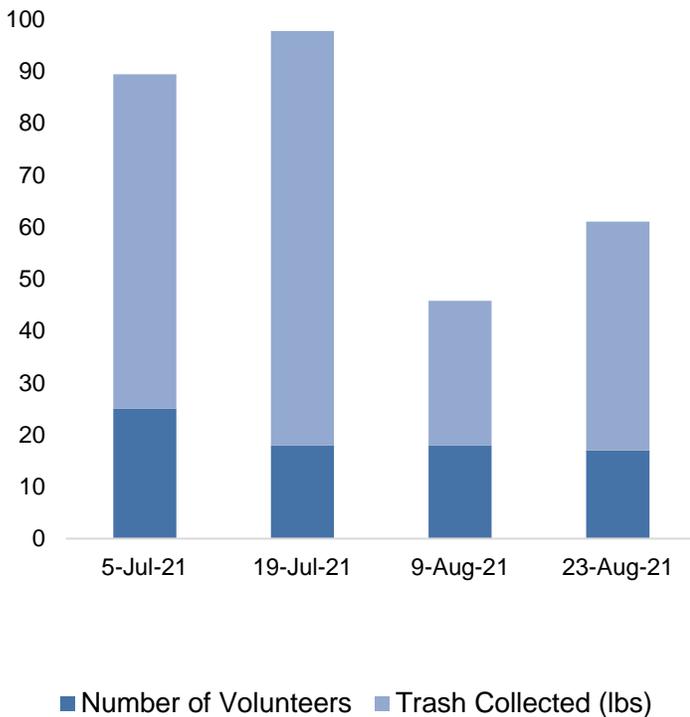
Behind the McDonald's and Tim Horton's on First street in Collingwood is Harbourview Park. The area is one of Collingwood's most popular locations for a walk with friends or to enjoy a quick meal. We were able to host weekly cleanups from June to August.

The sum of all the litter collected was 206.82 pounds. The contents followed the pollution trends that can be expected on shorelines. The pollution we found was also related to the location of the park. There were increased amounts of fast-food packaging, the source was obvious. The proximity to McDonalds and Tim Hortons results in the park being a common lunch spot for those who work and live in the area.

Top 12 Items Collected from Harbourview Park



- Cigarette Butts
- Food Wrappers
- Paper
- Foam Pieces
- Plastic Pieces
- Bottle caps
- Coffe cups
- Beverage Cans
- Plastic bags
- Straws



Collingwood Summary

We also completed full trash audits of all items collected from Harbourview Park. In comparison with Wasaga Beach there were some noticeable differences.



Plastic while contaminating the environment has detrimental effects on animal health, and plant health and well as water, soil, and air quality. Shorelines host a variety of wildlife, some of these organisms can mistake plastic for food, or become entangled. This leads to loss of life as well as plastics entering the food chain.



Additional Cleanups

We completed cleanups around the bay at popular beaches for tourists and locals. Including Sunset Point Park and Collingwood Terminals in Collingwood, Balm Beach in Tiny Township and Northwinds Beach in The Blue Mountains. These

locations are heavily visited in the summer months and experience increases in litter.



Even with proper waste disposal for garbage, recycling, and even cigarette butts, we still collected multiple full bags of litter in the span of just a few hours. A lot of the items collected were



found stuffed into rock break walls or hidden in the trees surrounding the beach. It was in those areas that items like beverage cans, plates and utensils, and other food containers were most commonly found.



Big Tub Lighthouse, Tobermory



Locations in Tobermory are also large tourist spots throughout the summer months. Our findings in Tobermory reflected the general patterns we had been seeing all summer. The primary pollution collected was unsurprisingly cigarette butts.

COVID-19 Impacts

The COVID-19 pandemic has resulted in an increase of single use plastic to prevent the spread of the virus. Personal protective equipment such as disposable masks and gloves have become a part of our everyday lives. The increase in masks was evident as we found masks at almost every single shoreline cleanup hosted this summer. As we continue in the pandemic it is important to try to use reusable alternatives such as a cloth mask and to make sure single use PPE is disposed of properly.

Reducing your Impact on Shorelines

There are many ways to reduce your impact on the shoreline while visiting beaches, parks, and cottages.

- Pack a picnic from home with reusable containers.
- Reuse items, yogurt containers and other recyclables can make great tools for sandcastles at the beach.
- Do not leave items behind.

- Bring a small container to collect litter visible on shorelines and trails while spending time outside.

Conclusion

Georgian Bay Forever had a record-breaking summer with 26 official shoreline cleanups hosted this summer. Diverting a total of 1856.86 pounds of litter from the shorelines of Georgian Bay with 144 volunteers. Our most collected items include 4371 cigarette butts, 3500 foam pieces, and 1941 plastic pieces.



In the past couple decades as plastic has become more versatile the growing plastic pollution problem has emerged. Plastic is used in almost everything from the food packaging we eat out of to the clothing we wear. With plastic being such a large part of our everyday lives, it is important to acknowledge the impact it also has on our environments and our health.

Overconsumption is a huge problem today. Since the mass production of cheap products, the act of buying for the sake of buying has become normalized in our culture. As we witnessed firsthand it is now commonplace to buy a brand-new mini barbecue for an afternoon at the beach only to leave it there at the end of the day. It is important to strive to reduce the creation of new litter in addition to cleaning up the shorelines. The easiest way to keep the shoreline clean is to make sure you and the people around you do not litter, it is as simple as making sure you pack out and dispose of all the garbage you bring. Another way to stop litter is by taking a stand and educating people around you on the harmful effects of littering. Efforts such as these will make a huge difference in the amount of garbage littered, helping future generations to continue to enjoy beaches and shorelines!

We would like to give another huge thank you to all volunteers who participated in one of our hosted cleanups or submitted their tally sheets this summer. Without you 1025.69 pounds of trash could still be in the open environment contaminating Georgian Bay. We would also like to thank our funders who make hosting shoreline cleanups possible! This summer has been spectacular for cleaning up our shorelines and educating the public!

Next Steps: Winter 2021 and Summer 2022

Summer 2022 will mark the fourth year for shoreline cleanups hosted by Georgian Bay Forever. The #GBFTrashTeam will continue to recruit volunteers all throughout the bay towards a cleaner Georgian Bay for all to enjoy.

We will continue to use trash tally sheets to characterize and study the most common items found on our shorelines. The information collected from trash tally sheets is shared with other organizations to help create a database of resources. This allows GBF, its partners, and volunteers to work towards tackling littered items at their source – so in the future, we won't have to clean them up from our shorelines.

We have recently made a few changes to the Trash Tally sheet that is handed out at cleanups and used by us to characterize the collected waste. Items on the updated tally sheet reflect the findings of primarily found items over shoreline cleanups in 2021.

In 2021 due to COVID concerns we also were handing out individual plastic garbage bags to be used for collection. This summer we have buckets to be handed out to prevent the generation of more plastic waste and make characterizations easier.

Lacking in our shoreline cleanups for 2021 were full waste characterizations for each cleanup. Although we knew the primary culprits and approximations of materials collected, data could not be properly shared or analyzed. This summer we plan to characterize each of the shoreline cleanups. This will be done with the help of volunteers and will be

We will continue to educate the public throughout the winter months. When the warm weather returns in summer 2022, we plan to continue to host shoreline cleanups around the bay and recruit volunteers to help keep Georgian Bay clean and beautiful. We continue to use trash tally sheets to categorize and track our findings along the shoreline and encourage others to fill out their own tally sheets and submit them back to us! This data is important because we use it to target source of the litter found and provide information for action plans to stop plastic pollution

staggered throughout the cleanup as full buckets come back in from collection.

We are also ramping up our social media campaigns in regard to shoreline cleanup posts. This will include a post before the cleanup as a callout to join us, as well as after the cleanup a small summary and thank you to our volunteers. With the help of this advertising to our followers as well as encouraging reposting by other organizations and individuals will help grow the scope of our volunteer base. With increased locations we are also excited to see how many people will join us.

In Summer 2022, we are also looking to expand our volunteer base by recruiting local businesses, clubs, and camps to come out and join our weekly and sporadic shoreline cleanups around Georgian Bay. Advertising in both elementary schools for family friendly fun and high schools for students to acquire their mandatory volunteer hours.

Future Improvements for Cleanups

In our 4th year of completing shoreline cleanups throughout Georgian Bay we have discovered improvements and changes to allow our shoreline cleanups to succeed and grow in our possible outreach.

In 2022, we will be trialing different locations and times, in effort to engage a larger audience and demographic. We had found that performing cleanups in locations where people were enjoying leisure time such as sitting by the beach or eating lunches were more prone to join us or inquire about our projects. Using data from 2021, we found we had higher turnout and engagement at the popular

PO Box 7537, Leslie Street Toronto, ON M4M 1B3 | [905-880-4945](tel:905-880-4945) | Georgian Bay Forever.org

Registered Charity #895311066 RR0001

beach, Sunset Point. In 2022, we will be holding our shoreline at Sunset Point Park in Collingwood and trialing afternoon time slots in hopes of

engaging a larger audience at a more accessible and populated area.

Georgian Bay Forever Programs

GBF has many programs to mitigate waste and plastic pollution in the environment. Join us volunteering or attending our hosted events.

- Arrange for your community to do a shoreline cleanup. Contact ashley.morrison@gbf.org for additional information.
- Education: We do workshops and presentations on reducing plastic waste. Contact ashley.morrison@gbf.org if you would like more information.
- Our Families For Change program engages families to take on simple to hard tasks in order to reduce their GHG, plastic, and other litter waste that is getting into the environment. Contact sean.mullin@gbf.org to have your family join other families around Georgian Bay tasking to make a difference for the future.
- Divert and Capture studies in Parry Sound: Find out how we are testing filters on washing machines to reduce thousands of plastic and other fibers from getting into Georgian Bay.
<https://georgianbayforever.org/microplastics-impacts/>
- Plastic Free Georgian Bay: GBF partners with local businesses to create an action plan to eliminate, reduce, and replace plastics in their business. It was created with the intent to reduce plastic waste by expanding public awareness about plastic pollution and demonstrating how everyone can take action in supporting a circular economy. Contact sean.mullin@gbf.org to take the pledge today.
<https://georgianbayforever.org/plastic-free-members/>