GEORGIAN BAY FOREVER

PROTECTING WATER

2024 Shoreline Cleanup Report

About Us

Georgian Bay Forever (GBF) is a non-profit organization that has been dedicated to protecting water quality and restoring the aquatic ecosystem of Georgian Bay for 30 years. One of our key areas of focus is on the mitigation of plastic pollution, a significant concern for the Great Lakes[1]. Plastic is lightweight and durable, making it convenient, but also a persistent pollutant that can harm wildlife, leach chemicals, and impact human health.

Shoreline cleanups are an essential tool in combating plastic pollution. Removing waste beautifies our communities' coastline and leads to a direct reduction in microplastic contamination. A recent study from Norway found that intensive cleanups could reduce local microplastic levels by as much as 99% after just one year[2,3]

The distribution and types of trash collected provide valuable insights that help guide future cleanup efforts, prioritize key sites, and inform targeted campaigns to address the most problematic waste. We leverage this knowledge through our consistent presence in the community to educate the public and inform decisions about pollution prevention policies.

This report outlines the shoreline cleanups completed in 2024 and how this information will inform our future efforts.

Our Mission:

To protect and enhance Georgian Bay through science, research, education, and action.

Our Vision:

Georgian Bay will forever remain healthy and thriving.

Methodology

We hold as many shoreline cleanups as possible across the region throughout the spring and summer, and we're always excited to have more helping hands. Equipped with gloves, buckets, and grabbers, our staff and volunteers clean every nook and cranny of the shoreline, removing all anthropogenic waste. Our staff then categorize every piece of trash down to the tiniest scrap of foam, creating a detailed record of the weight, type, and quantity of garbage collected at the location before responsibly disposing of it. Finally, we analyze our findings. Having a robust and long-term dataset allows researchers, politicians, and members of the public to make informed decisions regarding the fate of plastics within our environment. It may shine light onto emerging issues that need to be addressed, or demonstrate the effectiveness of implemented policy decisions.

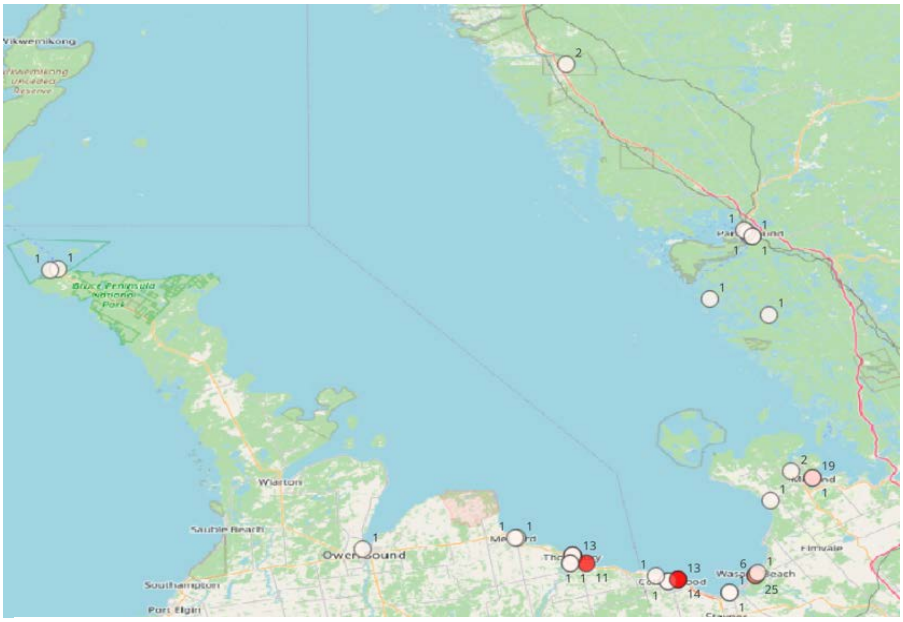

Figure1 . Locations of all shoreline cleanups conducted from 2022-2024.

Figure2 . Example of waste characterization to determine the types of trash collected during shoreline cleanup

We currently focus most of our efforts on higher-traffic urban areas. We host weekly cleanups at Sunset Park in Collingwood, Wasaga Beach, Midland's waterfront, and multiple locations in the Town of Blue Mountains. Our consistent presence at these locations serves as a long-term monitoring program, allowing us to track trends in trash accumulation, educate members of the public regularly, and provide an outlet for them to take action in preserving the bay they call home.

Year in Review

Year	Shoreline Cleanups	Volunteers	Total Trash (kg)
2022	48	212	409
2023	66	460	552
2024	67	595	429

Summer 2024 marked another successful season of shoreline litter collection along Georgian Bay. We completed 67 cleanups and grew our volunteer base by 29% compared to last year's turnout. This growth is a testament to the community's enthusiasm for keeping Georgian Bay beautiful. In total, we cleaned 226ha of coastline, successfully preventing 429 kg of trash from entering Georgian Bay!

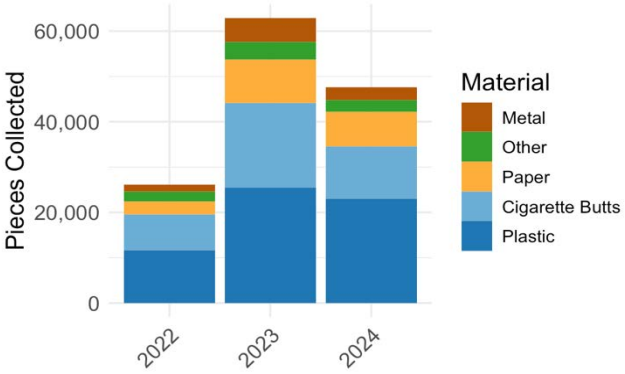

Figure 3 . Total amount of litter collected at all shoreline cleanups from 2022-2024 based on material. Cigarette Butts, while made of plastic, are displayed separately to demonstrate

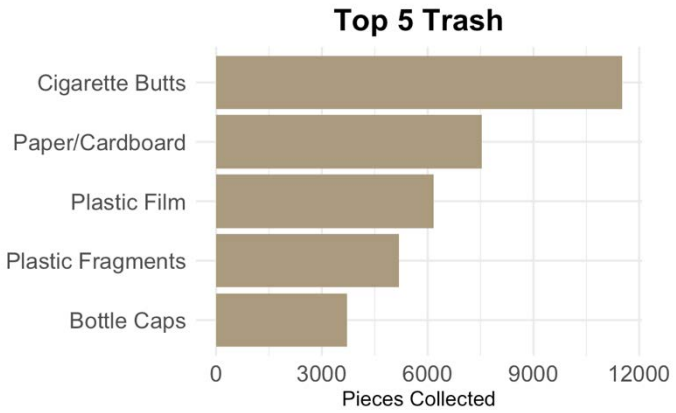

Figure 4 . Top 5 most common trash collected across all shoreline cleanups. Of these 4 are types of plastic waste.

In 2021, an estimated 4,594 kilotons of plastics were permanently disposed of by Canadians[4]. Given that less than 10% of this is recycled, it is unsurprising that four of the top five items found during our shoreline cleanups are types of plastic waste. Plastics

account for 71% of all the waste we collect, which closely tracks cleanup efforts by other groups throughout the Great Lakes.

Shoreline cleanups are just one small part of preserving Georgian Bay. We will continue to collaborate with municipalities, community members, businesses, and other stakeholders to expand our impact throughout the region.

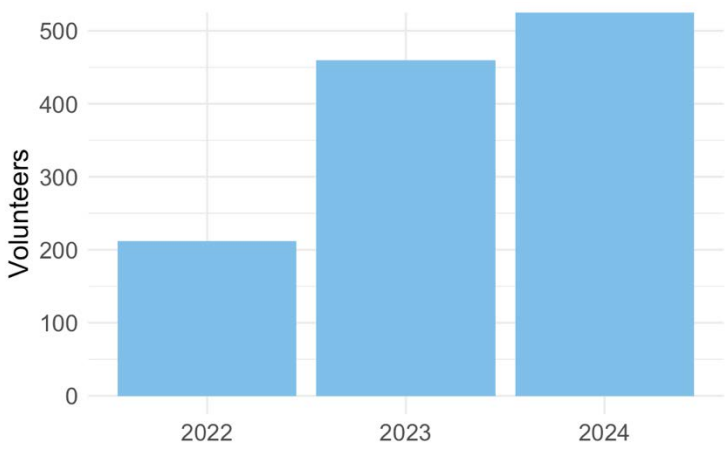

Figure 5 . Number of volunteers that have attended our shoreline cleanups.

Collingwood

Year	Shoreline Cleanups	Volunteers	Total Trash (kg)
2022	15	75	101.2
2023	14	147	64.2
2024	14	83	20.0

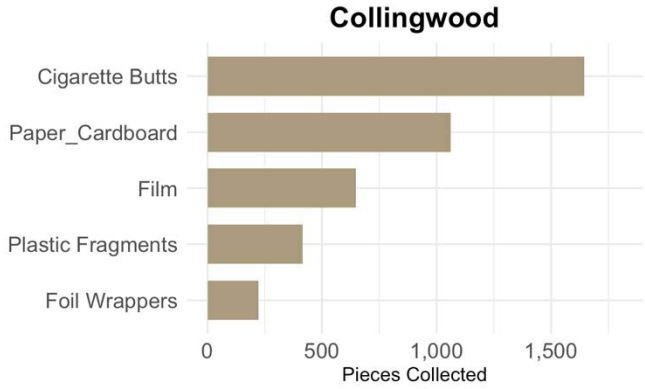

Figure 6. Top 5 most commonly collected trash at Collingwood's Sunset Park.

Sunset Park is one of our most consistent and well-attended locations across the region, and this year, we collected less trash by weight there than ever. Regardless of the cause, this is a positive sign, but it raises some interesting questions about how we interpret the data we collect from our shoreline cleanups.

We evaluated the implications of returning frequently to the same locations, in order to determine possible inefficiencies. Our analysis, however, showed no indication that returning to the same locations was a misuse of time. Litter levels remained consistent, regardless of the time since the last cleanup, alluding to the speed at which trash reaccumulates in these areas.

However, we also recognize that some areas are still underserved. With numerous communities in need of support, we prioritize broad coverage and a consistent presence while maximizing the amount of litter removed across the region. We encourage individuals to take initiative in their region to organize local cleanups, and we will offer our expertise and support for such projects to help get them started. However, cleanups are only one aspect of reducing trash. Through education and partnerships with municipalities and local groups, we're also striving to prevent litter from entering the environment in the first place.

Town of Blue Mountains

Year	Shoreline Cleanups	Volunteers	Total Trash (kg)
2022	9	40	52.1
2023	20	56	58.6
2024	22	99	96.0

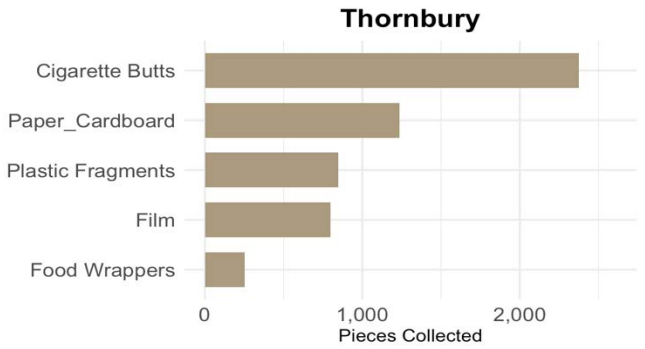

Figure 7. Top 5 most commonly collected trash at Thornbury's Little River Park, The Fishway and Peasemarsh Conservation

Little River Beach Park, The Fishway, and Peasemarsh are all publicly accessible green spaces within close proximity to one another, though their use by the public varies greatly. The Fishway and Little River Beach Park are both near urban development, located within the town of Thornbury, and are heavily used by locals and tourists alike. Peasemarsh is a conservation area less than 3 km east of the town. These locations have offered us an interesting case study to compare how the public use of space affects the type and amount of litter found (fig. 8).

At Little River Beach Park, we see a similar trash composition to other municipal parks, such as Sunset Park in Collingwood, which are dominated by cigarette butts and paper litter. The Fishway has an abundance of anglers along the river's shores; as a result, we find more fishing weights, lines, and lures than in any other location along the bay. Finally, Peasemarsh contains very little trash compared to nearby areas (Little River Beach Park and The Fishway) or other beach (Wasaga) locations.

In 2024, we suspended cleanup activity at the Peasemarsh location due to historically low litter collection. However, it is unclear whether this lack of litter is due simply to fewer people using the area or its status as a conservation area. Such a designation may impact an individual's behaviour and reduce their likeliness to litter. It may be worth investigating to learn strategies that could be applied to all areas.

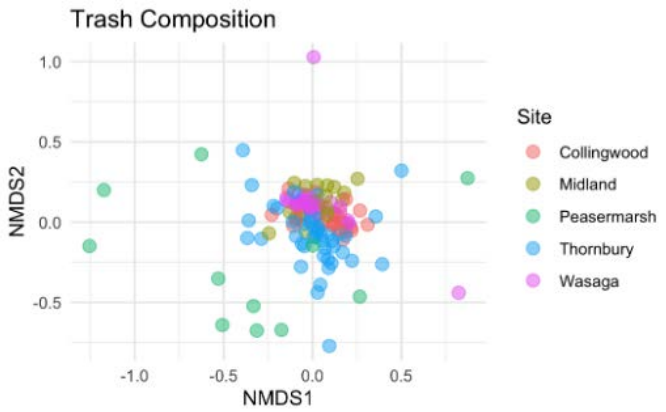

Figure 8. This analysis visually represents the similarity of trash collected at different locations. Each point represents a single shoreline cleanup and the closer together two points are to each other the more similar the types of trash were. Most

Midland

Year	Shoreline Cleanups	Volunteers	Total Trash (kg)
2023	7	15	13.8
2024	13	49	16.1

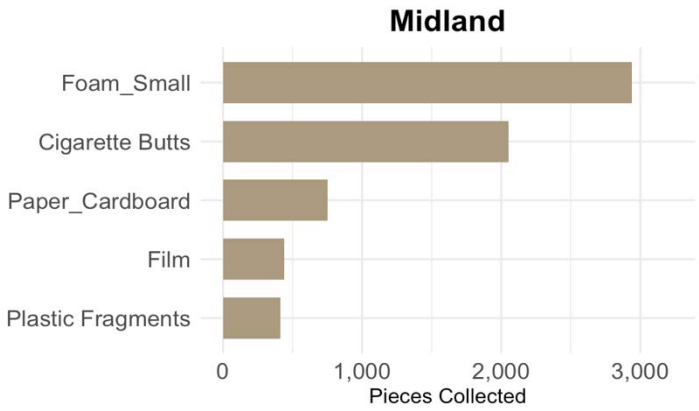

Figure 9 . Top 5 most commonly collected trash at Midland Harbour

This site was identified in 2023 as a problem area, with the amount of cigarette butts being of particular concern. In response, we nearly doubled the number of shoreline cleanups at this location in 2024. This year, Midland was the only location where cigarette butts were not our most common type of trash. We collected an extraordinary amount of small foam pieces; however, these findings were isolated to a very short window of time, leading us to believe that it was likely the result of an isolated event rather than a broader representation of what is expected from this location in the future.

In 2024, the number of cigarette butts collected at this site was significantly lower than in 2023, dropping from 969 to 158, a reduction of nearly 83% (fig.10). This brings the total much more in line with what we typically observe at our other locations, where cigarette litter tends to be relatively low. This reduction reflects a positive shift in behaviour. One contributing factor may be increased public awareness about the environmental impacts of cigarette waste, including the release of toxic chemicals and microplastics. This awareness could be the result of increased outreach campaigns, municipal signage or changing smoking behaviours. Additionally, efforts to improve access to proper disposal options such as the installation of more Unsmoke cigarette receptacles in key areas, may have made it easier for smokers to dispose of their cigarette butts responsibly.

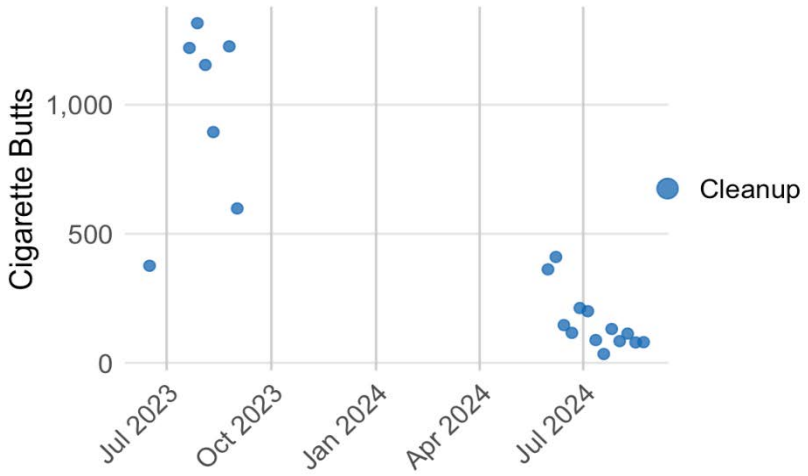

Figure 10 . Number of cigarette butts collected during each shoreline cleanup at Midland Harbour. Unsmoke receptacles were installed following the sumer of

This is the beginning of a great success story, and we will continue to monitor this location and provide updates in the future. It is a testament to the importance of public education and appropriate infrastructure in tackling shoreline litter.

Wasaga

Year	Shoreline Cleanups	Volunteers	Total Trash (kg)
2022	8	31	54.0
2023	12	64	132.3
2024	13	248	273.2

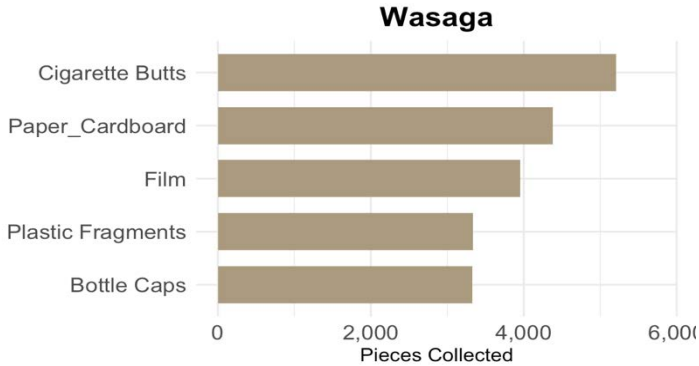

Figure 11. Top 5 most commonly collected trash at Wasaga

This year, Wasaga Beach was the site of our most attended cleanup to date, with 136 volunteers joining us on Earth Day to kick off the season's first cleanup. We removed 155.5 kg of trash from the beach.

As a popular tourist destination, we see more straws, utensils, and food wrappers along the beach than in any other location. Many restaurants and shops cater to those spending the day in the sun and water. While individuals are ultimately responsible for the litter strewn across the beach, these businesses have a tremendous opportunity to reduce that impact by providing plastic-free alternatives to everyday items and making accessible receptacles for waste disposal. We partner with some of these business leaders through our Plastic Free Georgian Bay initiative. By uplifting and promoting businesses that have taken it upon themselves to reduce their plastic footprint we hope other businesses in the area will be inspired to take their own positive steps towards a greener future.

Wasaga Beach saw nearly 2 million visitors throughout the 2023 season[6] – a number that continues to grow yearly. More people do mean more garbage, but it also means more volunteers to help clean it up.

Wasaga Beach is our only location where we see a positive correlation between the number of volunteers who attend a cleanup, and the amount of litter collected (fig. 12). This is likely due to both the larger area and the higher volume of litter compared to other sites. In this context, each additional volunteer at Wasaga cleanups increases our collected trash by an estimated 50 pieces.

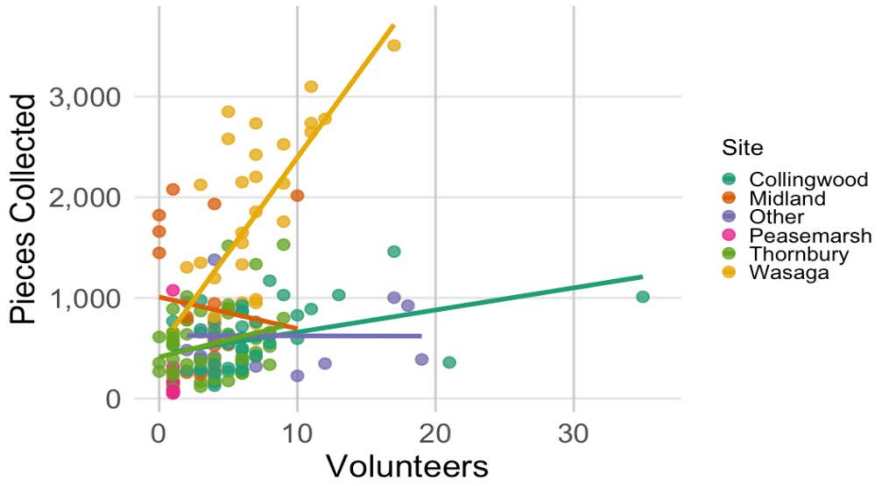

Figure 12. Relationship between number of volunteers in attendance and number of pieces of trash collected from 2022-2024. Each point represents and individual

The Critical Catch 2024

Monofilament fishing line made from a single durable plastic fibre does not biodegrade naturally, which leads to its persistent presence in the environment. It's thin and nearly invisible, and can easily entangle and become lost within vegetation, rocks, and other structures, posing a major threat to fish, wildlife, and ecosystems. Monofilament fishing line cannot be recycled through municipal waste programs. Berkley Fishing has a specialized fishing line recycling program: they collect fishing line through The Critical Catch and ship it back to Berkley Fishing for processing and safe recycling. The Critical Catch aims to reduce and remove lost, abandoned, and discarded fishing gear through shoreline cleanups, by installing and distributing monofilament recycling receptacles throughout Georgian Bay, and by educating the next generation with classroom fish hatcheries that allow a connection between students and aquatic ecosystems.

Large Monofilament Receptacles

Georgian Bay Forever sponsored 15 monofilament recycling receptacles from Clear Your Gear in 2023, and increased the total number installed to 26 in 2024 with plans to increase to a minimum of 31 by the end of 2025. These receptacles were installed across Georgian Bay and are monitored monthly by dedicated volunteers. Upon emptying the receptacles each month, we consistently found waste fishing line dropped off for recycling. Throughout our shoreline cleanups, we collected all the fishing line we found to return for recycling.

Personal Recycling Containers

An element of this program focuses on promoting responsible recycling and storage of fishing line during fishing excursions, both on boats and along the shore. This summer, we distributed hundreds of personal monofilament containers to anglers to encourage proper disposal and storage of their fishing line. By providing anglers with the means to conveniently manage their monofilament fishing line, we work towards safeguarding aquatic ecosystems and promoting environmentally friendly angling practices. Since the program started, we have distributed 853 personal containers to anglers across Georgian Bay.

Collected Fishing Line Findings

As part of The Critical Catch program, GBF, in collaboration with dedicated volunteers, undertook the collection of approximately 30,778 meters of fishing line. This calculation is based on both the total weight and the average weight per meter, which was

established through a systematic sampling method involving 10 samples of 10 meters each.

Total weight of collected fishing line: 1,658.67

Sampling method: 10 samples of 10 meters each

Total length of fishing line sampled: 100 meters

Total weight of the sampled fishing line: 5.389g

Average weight of 1 meter of fishing line sampled: 5.389g/100m = 0.05389g/m

2025 and Beyond

Building on our success from last year, GBF is poised to expand its impact. Our cleanups accounted for significant amounts of litter removed from our shorelines, we educated hundreds of people about the dangers of plastic waste and provided valuable data on pollution trends to local municipalities. This upcoming season, we aim to increase the number of cleanups across the region and expand into a broader range of locations, involving more communities while continuing to target high-impact areas strategically.

All upcoming events and shoreline cleanups are on our website, GBF.org or on our social media channels. If you or those in your community are interested in hosting a shoreline cleanup in your area, please contact us for details on how we can help to facilitate it and work together to keep Georgian Bay healthy and beautiful forever.

We have also partnered with an innovative new app called LitterLotto, and are the first to launch in North America. This app encourages people to do the right thing by offering participants the opportunity to win cash for properly disposing of their trash.

Acknowledgments

We at GBF would not be able to do our work without the help of our generous donors, hard-working summer students, and dedicated volunteers. We recognized the time, effort, and funds these individuals and organizations contributed to achieve our shared goals. For their continued effort and support, we extend our heartfelt gratitude.

- Canada Summer Jobs
- Town of Blue Mountains

- Town of Collingwood
- Hodgsons Family Foundation
- Catherine and Maxwell Meghan Foundation
- FK Morrow
- Bruce Power
- RBC
- Ontario Parks

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