Lake Chelan Research Institute
Clear into the Future

Keep it Blue
LAKE CHELAN

RESTORE THE SHORE III

A Community Shoreline Cleanup Report

LAKE CHELAN, WASHINGTON

2025

Prepared by
Anna Galipeau, LCRI

5 GYRES
SCIENCE TO SOLUTIONS

trashblitz

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Background

Lake Chelan, Washington USA

Lake Chelan is the third deepest lake in the United States. The lake level can drop up to 16 feet in the spring, exposing miles of shoreline and presenting an ideal opportunity for shoreline trash collection.

Restore the Shore III

"Restore the Shore" is an annual initiative that first began in 2023 when the Lake Chelan Research Institute (LCRI) and community members got together to create an organized cleanup event in Lake Chelan.

Lake Chelan Research Institute (LCRI)

LCRI is fiscally sponsored by the 501(c)(3) non-profit Lake Chelan Recreation Development Foundation. LCRI's goals are to promote lake stewardship through scientific exploration, long-term monitoring, and community involvement.

5 Gyres Institute

The 5 Gyres Institute is an international organization that provides scientific expertise to policymakers and organizations to help everyone work together for a planet that is free from plastic pollution.

TrashBlitz

The TrashBlitz app, created by 5 Gyres, allows people to track the trash that they collect. The app makes it easy to record data on brands, materials, and items found during cleanup events.

Partnership

In 2025, LCRI employee Anna Galipeau was the awardee of the TrashBlitz Ambassador Action Fund from the 5 Gyres Institute. The premise of Anna's project was to better understand the sources of trash in the Lake Chelan National Recreation Area and to develop strategies to prevent future pollution and ultimately preserve the area's health and beauty.

As LCRI's partnership with 5 Gyres grew, it was determined that Lake Chelan as a whole would benefit from being added as a designated TrashBlitz location. Restore the Shore III would become the first major collaborative effort between LCRI and 5 Gyres.

Cleanup Partners:

trashblitz POWERED BY 5GYRES

National Park Service

Fragnito Metals — We buy metal. We recycle metal.

The Chelan Project

5 GYRES SCIENCE TO SOLUTIONS

County Of Chelan

Chelan PRIDE

Forest Service U.S. Department of Agriculture

Lake Chelan Research Institute — Clear into the Future

Pinnacle Land Surveying

On Crystal Clear Lake Chelan — CAMPBELL'S — Est. 1901

Lake Chelan Valley Habitat for Humanity

Lake Chelan Recreation Development Foundation

Keep it Blue LAKE CHELAN

Project Goals

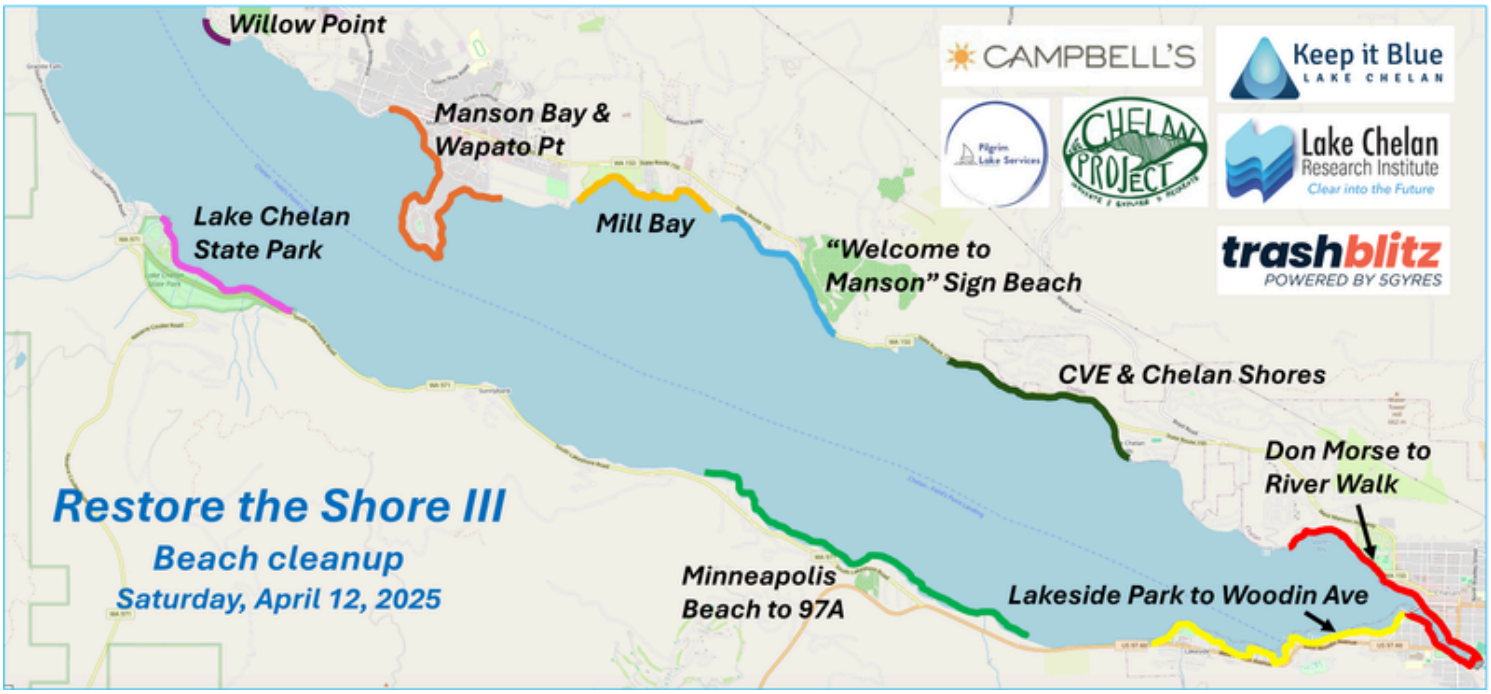
1. Organize community members to remove as much trash as possible from the shores of Lake Chelan at low water.
2. Determine the trash pollution level at the Lake Chelan National Recreation Area (Stehekin).
3. Log all of the trash collected from the lake into the TrashBlitz app.
4. Create a comprehensive Restore the Shore III report using the data collected in the TrashBlitz app (aka, the report you are currently reading)
5. Use the data to educate on future trash prevention efforts.


Volunteers gathered for RTS III

Stehekin Cleanup Crew


Truckload of trash collected

Sites



For Restore the Shore III, site selection was primarily based on locations used in previous years, with several smaller areas consolidated into larger, more cohesive sites. Additional site boundaries were established to expand overall coverage.

While the focus of the project remained on areas with high public use, volunteers were encouraged to clean up any accessible sections of the lakeshore, even if they weren't part of a designated site.

The Stehekin site map reflects the area that volunteers were able to access during their limited time at the location. We hope to cover more ground at Stehekin in the coming years.

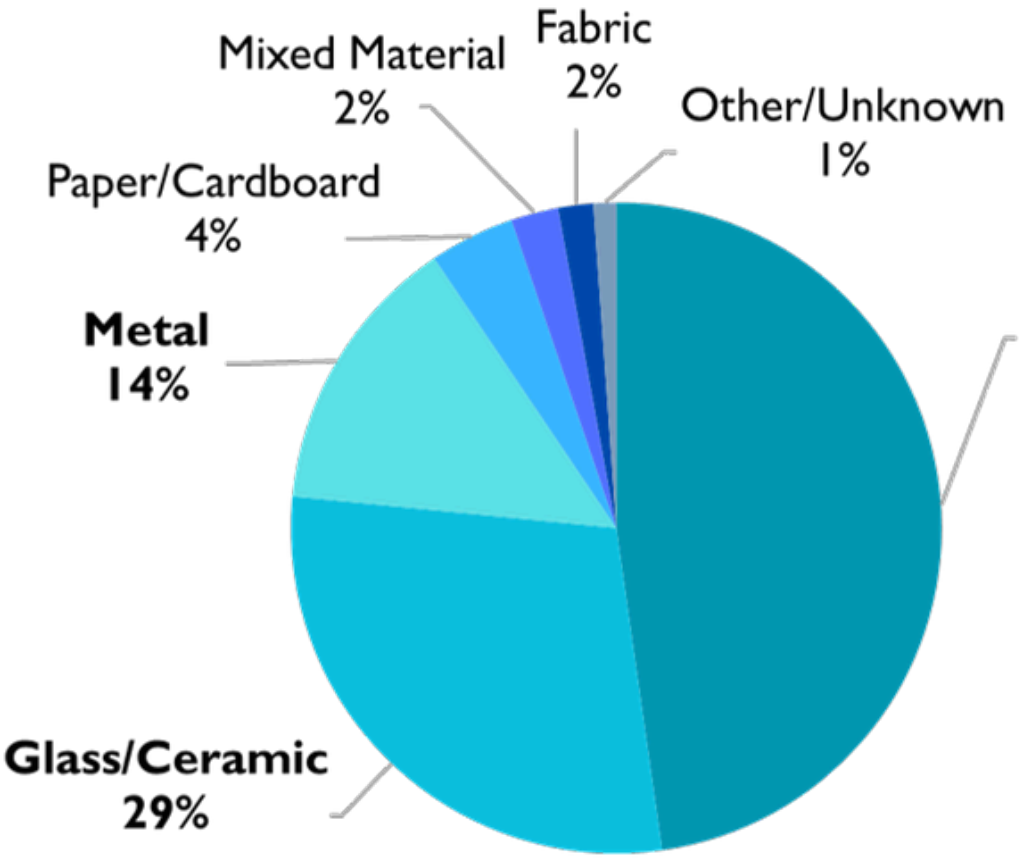
Results

15,672 pieces of trash were logged in the TrashBlitz app

7,376 fragments found

Estimated 780 gallons (105 cubic feet) of trash removed

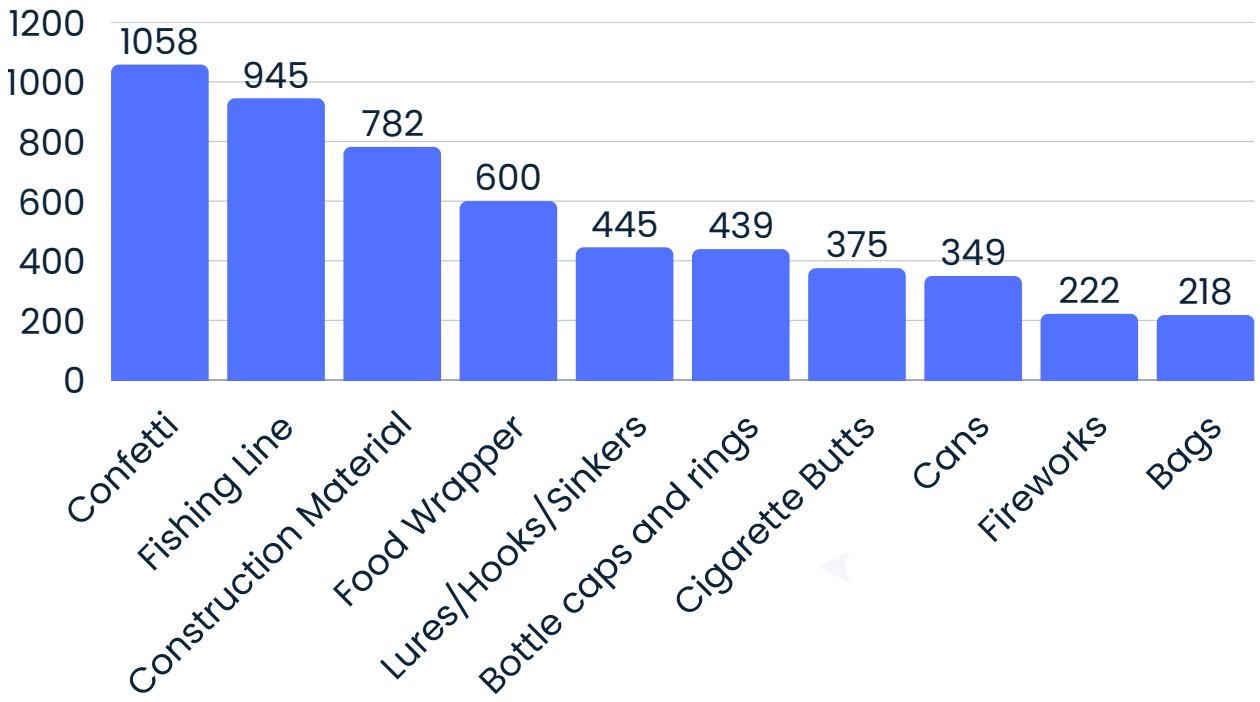
Over 100 hours of employee and volunteer time spent logging trash



#1 PET	210
#2 HDPE	12
#3 PVC	39
#4 LDPE	227
#5 PP	801
#6 PS	556
#7 BIO	6
#UNKNOWN	5,560

Results: By Item

Top 10



Many of the items that were found along the lakeshore were single-use. Food/drink products made up 23.6% of all items found, fishing gear came in at 16.9%, confetti at 12.7%, and project/construction materials at 12.3%.

Fragments represented 46% of all items logged, and the vast majority of the fragments were plastic. This is concerning, as it indicates that many of the larger items in our lake are breaking down. Even functional items, such as foam dock floats or tire bumpers, contribute to this issue.

Results: Items

RECYCLABLES

15.3% of all items were most likely recyclable at the time that they entered the lake. Due to contamination and degradation, an estimated 8% of all items ended up being deemed recyclable by LCRI after being recovered.

LARGEST ITEMS

The largest pieces of trash removed from the lake were tires, broken dock pieces, car parts, or large blocks of foam.

FIREWORKS

There are typically 3 major fireworks shows on the lake every year. While only 222 fireworks remnants were logged, it is likely that there are many more at the bottom of the lake.

OTHER ITEMS

Of the 1071 items that were logged as "Unknown", 699 of those items were actually identifiable. For RTS III, TrashBlitz did not have the capability to enter in items that were not included in the provided dropdown menu. In those cases, the item was logged as "Unknown" and the item was entered in the notes.

OLDER ITEMS

Many of the items collected from the lake appeared to have been there for quite some time. By removing as much trash as possible (both old and more recent) from the lake this year, we hope that future cleanups will be more indicative of the rate of accumulation of new trash in the lake.

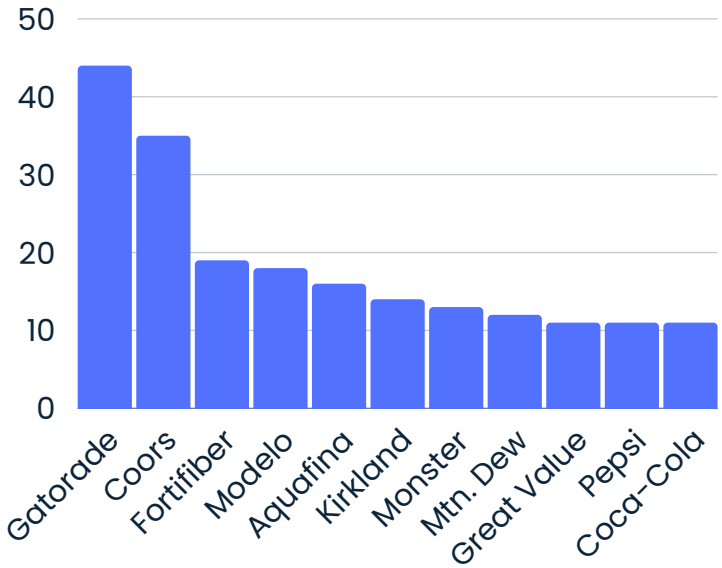
Results: By Brand

Top 10

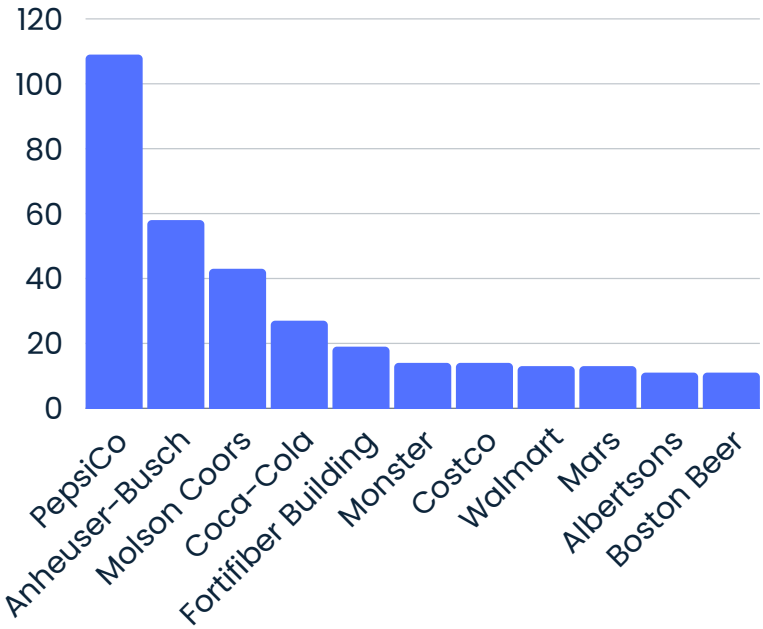
Just 56 companies are responsible for over half of all branded waste globally, according to research published by the 5 Gyres Institute.

93.82% of items did not have a visible brand. A lack of visible branding is usually due to degradation and weathering. Of the items that were branded, 28.9% belonged to soda/beverage brands, and 21.4% belonged to alcohol-based brands.

SUBSIDIARY BRANDS



PARENT CORPORATIONS



Recommendations

Food/Drink Waste

- Likely Sources: Littering and/or wind
- Recommendations:
  - More public waste receptacles
  - New “wind-proof” trash cans
  - Stronger enforcement for littering
  - Increased public education about littering

Fragments

- Likely Sources: Breakdown of larger items
- Recommendations:
  - Install mesh litter traps or floating booms at stormwater outfalls
  - Public education about microplastics & degradation

Confetti

- Likely Sources: Party activities, special events
- Recommendations:
  - Ban plastic confetti or require eco-friendly alternatives at events
  - Require cleanup plans for lakeside events on public land

Fishing Gear

- Likely Sources: Recreational fishing
- Recommendations:
  - Fishing line recycling bins at popular fishing spots
  - Promote responsible angling practices via local tackle shops/signage

Into the Future

It is estimated that there are hundreds of tires in Lake Chelan. By working with community partners and volunteers, the Lake Chelan Research Institute (LCRI) is attempting to remove as many of them as possible.

In a continuation of this year's efforts, all future Restore the Shore events will be logged in the TrashBlitz app. We hope to see a decrease in trash accumulation in future years as we continue to collect and log trash.

With support from 5 Gyres, private donations, and grants, LCRI aims to conduct a microplastics analysis and study of Lake Chelan through the use of sediment cores and water sampling.

Tire Removal Partners:

Pilgrim Lake Services

ROCKWELL
WATER SYSTEMS & PUMPS

COUNTY OF CHELAN

Methodology

METHODOLOGY

TrashBlitz uses a standardized approach to data collection, based on internationally recognized methods for assessing plastic pollution. The TrashBlitz data methodology is developed from guidelines established by the United Nations Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (UN GESAMP), which provides a structured framework for measuring plastic waste in natural environments.

LIMITATIONS

The findings in this report are based on self-reported data from volunteers and LCRI employees. The dataset represents a sample of plastic waste collected across Lake Chelan, rather than a comprehensive inventory. Because participation is volunteer-driven, certain brands and types of plastic waste may be underrepresented, and it is possible that some brands or materials significantly contributing to plastic pollution are not captured in this report. Additionally, the data collection process relies on participants' accurate identification and categorization of plastic waste, which can introduce some variability. Therefore, while the TrashBlitz mobile app provides valuable insights into trends in plastic pollution, it cannot claim to be fully representative of all plastic waste and other trash in these environments.

It should also be noted that not every participant of Restore the Shore III dropped off their trash at a collection point to be logged. Therefore, there is a certain amount of trash collected during Restore the Shore III that is not accounted for in this report.

Acknowledgements

Prepared by the Lake Chelan Research Institute:

Anna Galipeau, Environmental Scientist

Acknowledgements:

Thank you to the following donors, non-profit organizations, and companies who supported Restore the Shore III:
Lake Chelan Research Institute, Keep it Blue - Lake Chelan, 5 Gyres Institute, the Chelan Project at Chelan High School, Lake Chelan Valley Habitat for Humanity, Chelan Pride, Lake Chelan Recreation Development Foundation, the U.S. Forest Service, the National Parks Service, Campbell's Resort, the County of Chelan, and Fragnito Metals.

Thank you to the individuals who supported Restore the Shore III by lending guidance and support both during Restore the Shore and during the creation of this report:
Lake Chelan Research Institute Director Phil Long, 5 Gyres employees Hannah Tizedes (Senior Communications Manager), Andra Janieks (Director of Marketing), and Nick Kemble (Programs Manager).

Special thanks to the Forner Family for funding the printing of this report.

As part of a 501(c)(3) non-profit, these projects are not possible without your support. Please scan the QR code to make a direct donation to the Lake Chelan Research Institute.

Community

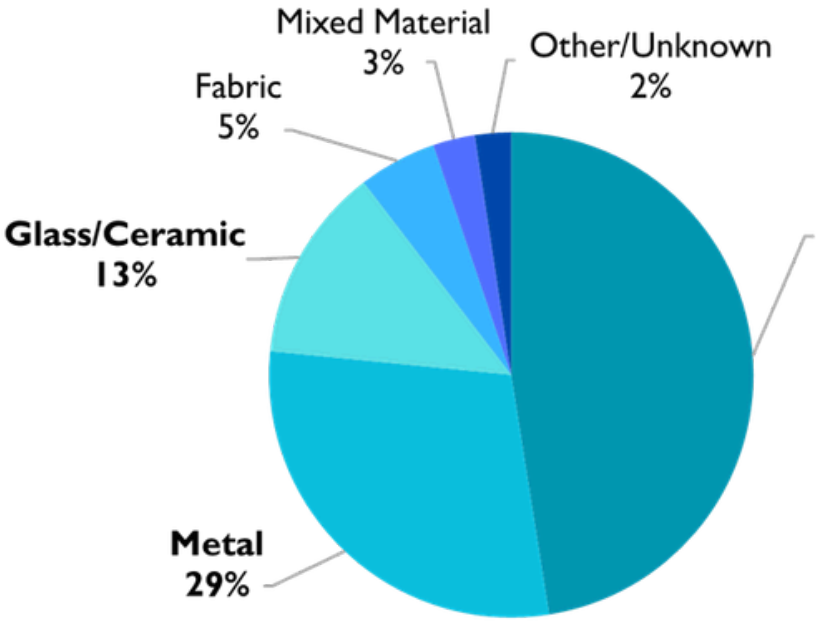
"I learned so many people litter in lake Chelan! It was fun to pick up trash with my friends from school and we were surprised how much glass there is on the sand and how many beer bottles were on the shore at Riverwalk Park."

"I love doing Restore the Shore because 1) We spend time with the people we love. 2) We're outside in nature. 3) We're doing actionable good deeds."

"It was great to see people of all ages coming out to pick up trash. Not only were there lots of young people, but even my 84 and 85 year-old parents were able to participate!"

Appendix A
Stehekin Results

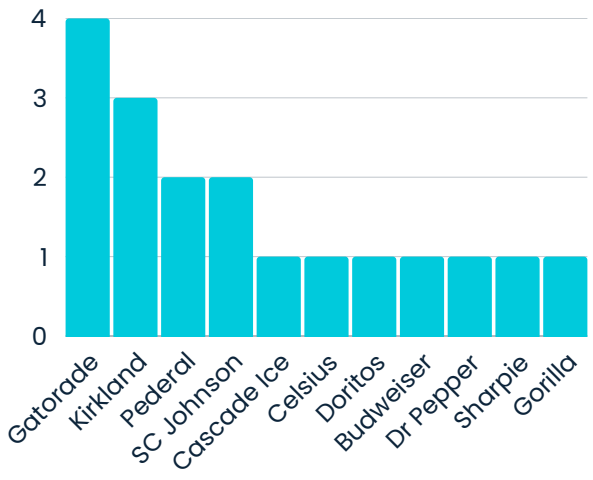
510 pieces of trash were logged in the TrashBlitz app from the Lake Chelan National Recreation Area (Stehekin)



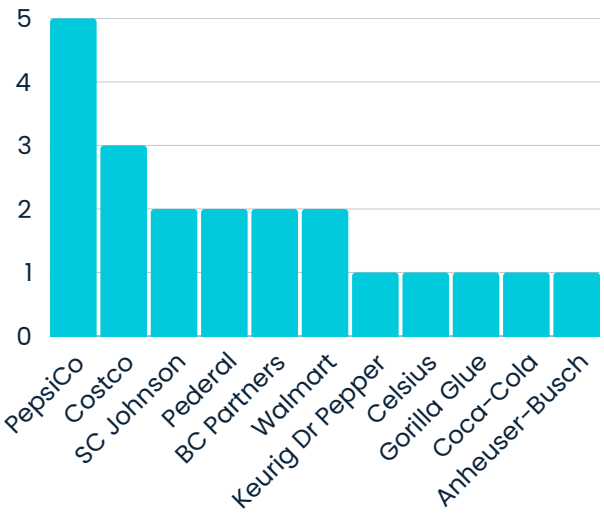
#1 PET	6
#2 HDPE	1
#3 PVC	1
#4 LDPE	26
#5 PP	23
#6 PS	11
#7 BIO	0
#UNKNOWN	163

93.73% Unbranded Items

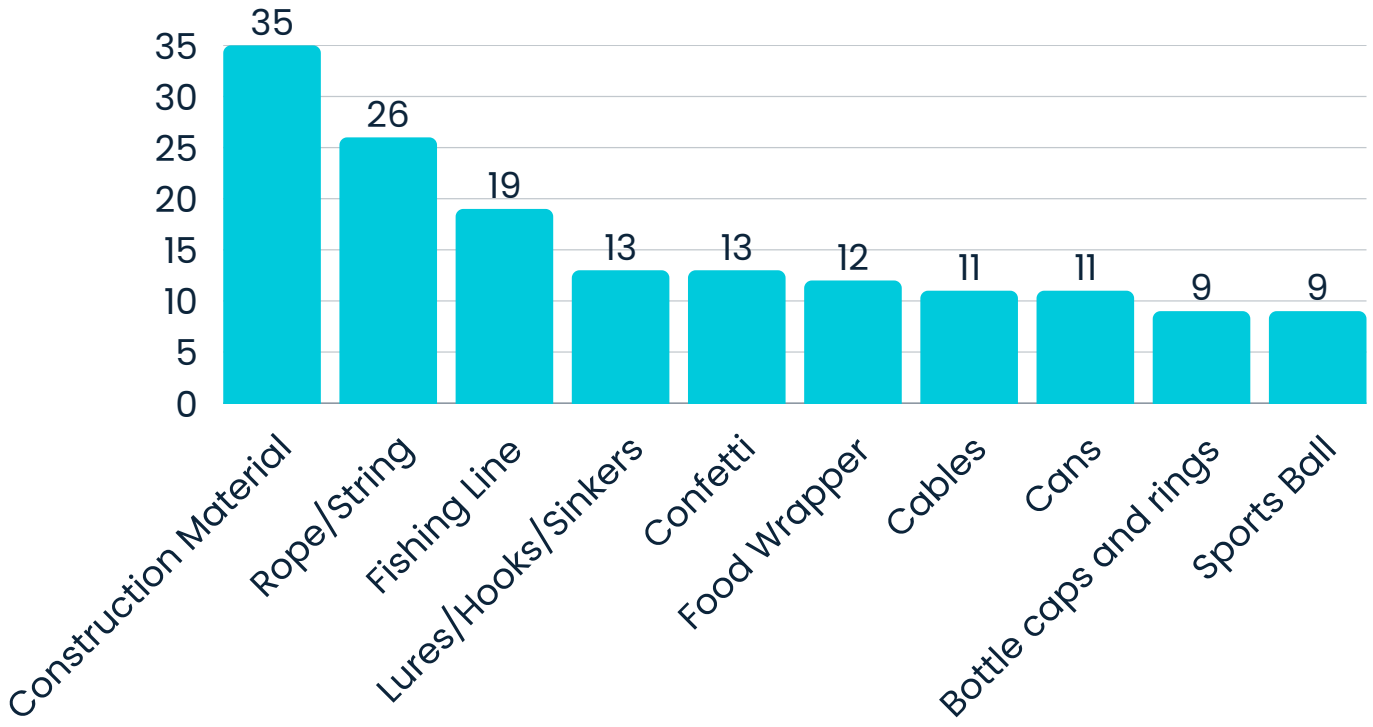
SUBSIDIARY BRANDS



PARENT CORPORATIONS



Appendix B
Stehekin Results Cont.



Project/construction materials made up 26.7% of items, food/drink products came in at 21.4%, and recreational items at 16.5%

Fragments represented 44% of all items logged, and the vast majority of the fragments were plastic.

It should be noted that the plastic confetti found in Stehekin was the exact same type of confetti that was found at the lower part of the lake in Chelan.

Appendix C
Site-Specific Results

Please note that the number of items displayed at each site is a reflection of the amount of trash that was turned in for logging. Some sites may have had more trash collected (or uncollected) that went unlogged.

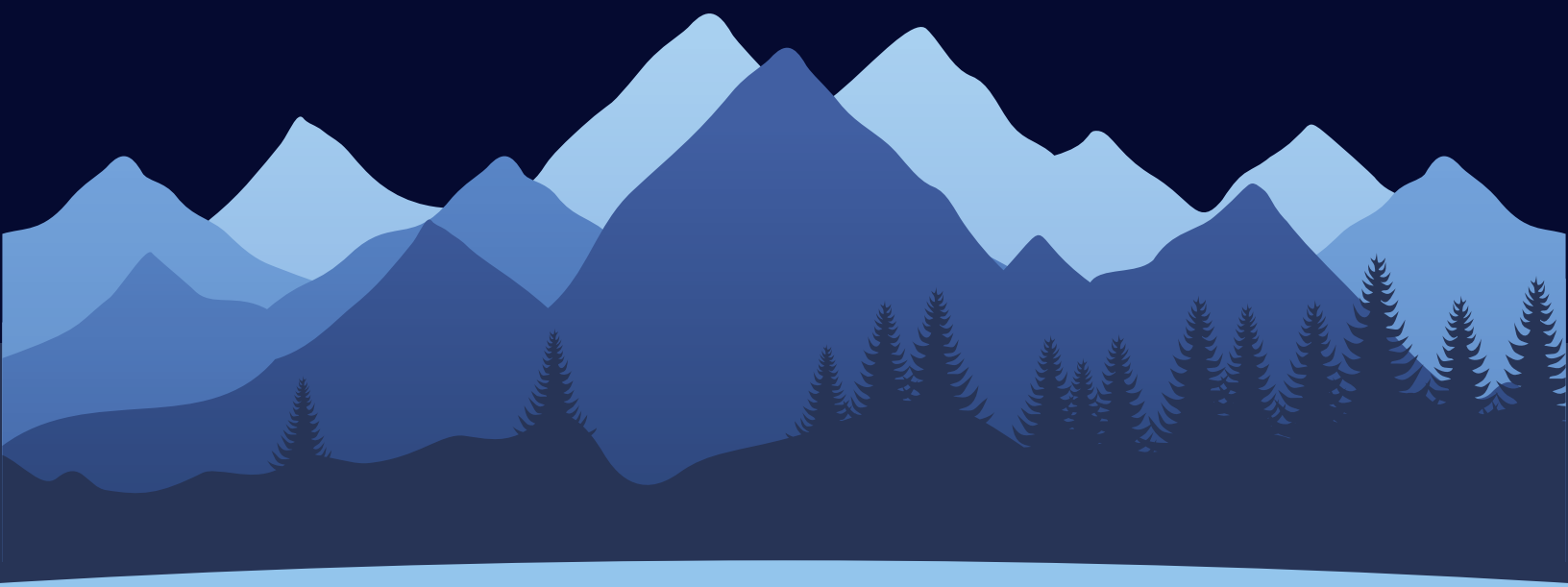
Appendix D
Raw Data

To access the complete dataset for the Restore the Shore III report, segmented by item type, parent corporation, subsidiary brand, and material composition, please refer to the link below or scan the QR code.

https://lakechelanresearchinstitute.com/wp-content/uploads/2025/09/Appendix-Total.pdf

To access the complete dataset for the Stehekin report, segmented by item type, parent corporation, subsidiary brand, and material composition, please refer to the link below or scan the QR code.

https://lakechelanresearchinstitute.com/wp-content/uploads/2025/09/Appendix-Stehekin.pdf



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