

# PUGET SOUND COASTAL CLEANUP 2021



PUBLISHED BY:



PUGET  
SOUNDKEEPER®





**Puget Soundkeeper acknowledges that we are on the lands of the Coast Salish peoples who have always been, and will continue to be, stewards of these lands and waters.**





## WHAT IS THE ICC?

Ocean Conservancy's International Coastal Cleanup (ICC) is the largest volunteer project in service to our oceans, bringing together organizations and individuals around the globe. Volunteers remove trash from the world's beaches and waterways, document debris sources, and promote behavior and policy changes to prevent marine litter in the first place.

The Ocean Conservancy reports that over [16 million volunteers](#) have kept more than [340 million pounds of trash](#) out of our waterways since ICC began in 1986.

At each ICC cleanup, participants collect data on the amount and types of debris they find using data cards or the Ocean Conservancy's Clean Swell app. This information is compiled into a global report that shows marine debris trends and can inform specific solutions to protect our waterways. Visualizing cleanup data also helps educate the public about the problem of marine trash.

Puget Soundkeeper is the regional coordinator for ICC cleanups within the Puget Sound watershed. This report details the work of the many groups who participated in the Puget Sound Coastal Cleanup effort in the fall of 2021.

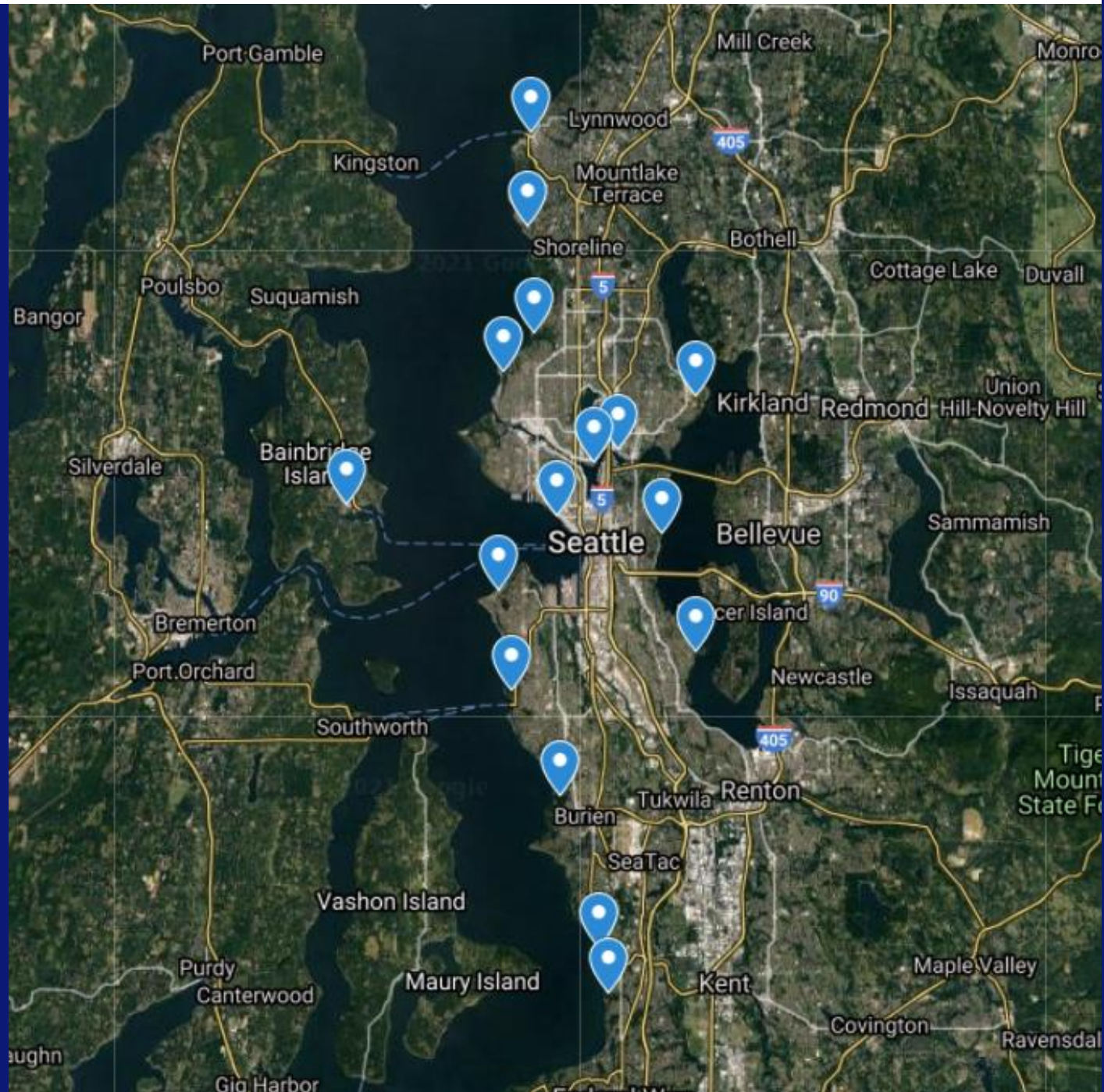
If you would like to organize a cleanup near you, please contact us:

Puget Soundkeeper  
psa@pugetsoundkeeper.org  
206-297-7002



# CLEANUP LOCATIONS

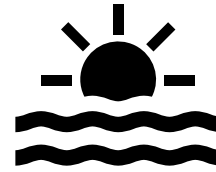
ALKI BEACH  
BAINBRIDGE  
ISLAND  
BRACKETT'S  
LANDING  
CARKEEK PARK  
DES MOINES  
MARINA  
FRITZ HEDGES  
WATERWAY  
GAS WORKS  
PARK  
GOLDEN  
GARDENS PARK  
LINCOLN PARK  
MADRONA PARK  
MAGNUSON  
PARK  
MYRTLE  
EDWARDS PARK  
RICHMOND  
BEACH  
SALTWATER  
STATE PARK  
SEAHURST PARK  
SEWARD PARK







## **CLEANUPS BY THE NUMBERS**



**19 CLEANUPS**



**33 MILES CLEANED**



**1,270 LBS OF TRASH**



**552 VOLUNTEERS**



# CLEANUP HIGHLIGHTS: DES MOINES MARINA



When staring out across the boundless ocean, it's easy to forget the dynamic ecosystems and creatures that live beneath the surface. Fish, crabs, kelps, corals, and more litter the ocean floor. And so does, well, actual litter (AKA marine debris). That's why Washington's SeaLife Response, Rehabilitation, and Rescue (SR3) works with partners to organize an annual underwater and beach cleanup for ICC.

In 2021, SR3 partnered with Seattle Dive Tours, Highline MaST Aquarium, Washington Scuba Alliance, the Des Moines Marina, and the City of Des Moines to cleanup Des Moines Marina. This popular local spot is home to SR3's new marine animal hospital, making it the perfect cleanup locale. For the cleanup, SR3 and partners brought together 41 volunteers for a six-hour cleanup for ICC. Together, they collected almost 500 lbs of marine debris from the beach and marina bottom.

"Beach cleanups open the eyes of those who participate, but also of those who stop by to see what is going on," said Casey McClean, SR3's Executive Director and Veterinary Nurse. "The underwater component is important because what is out of sight is out of mind. We forget about how much trash is under the surface and how much harm it is causing marine wildlife."

Unfortunately, SR3 has direct experience with the harms marine debris can cause. "SR3 responds to marine wildlife that are entangled in debris," elaborated McClean. "We also see the secondary impacts of disease and declining general health it can cause."

But, as McClean reminds us, marine debris is preventable. We need societal change that acts on behalf of the environment and animals we love. PSK works to provide such opportunities to our members and volunteers through advocacy, community science and engagement, education, and more.



**41 VOLUNTEERS**



**6 HOURS**



**497 LBS OF TRASH**

# MICROPLASTICS: A NOT-SO-MICRO PROBLEM

The durability of plastic is a double-edged sword. It's cheap and available, but its long-term health and environmental consequences are dire. That toothbrush you threw away seven years ago is still in a land fill, or worse, in the ocean. In fact, every piece of plastic ever made still exists in some shape or form.

A 2015 study published in *Science* estimated that [4.8–12.7 million metric tons of plastic waste enter the world's oceans every year](#). That's equal to over one dump truck per minute. Unfortunately, plastic does not biodegrade. When exposed to the sun and ocean currents, plastic breaks up into smaller and smaller pieces that stay in marine ecosystems for centuries.

Plastic fragments and fibers smaller than five millimeters are called microplastics, and they do not just come from larger debris breaking up. Research has found that car tires, latex paint, and synthetic fibers (e.g. polyester) are all major sources of microplastic pollution.

Plastics can contain harmful additives like phthalates (used to make plastic more flexible) and PBDEs (flame retardants). Plastics can also adsorb toxic compounds already present in a polluted waterway, including pesticides like DDT, PCBs (a group of industrial chemicals), pathogens like *E. coli*, heavy metals such as arsenic, and more. Organisms may mistake microplastics for food and ingest these harmful toxins. Toxins can build up in an organism's tissues and enter the food chain, possibly resulting in negative health effects.

Separate studies have found microplastics in fish, salt, honey, drinking water, and even human stool and placenta. A [2017 international study](#) by Orb Media found that [94% of U.S. tap water samples had microplastic contamination](#), the highest rate globally. A 2020 study from the University of Newcastle, Australia, estimates that humans [consume up to 5 grams of plastic every week](#), equivalent to a plastic credit card.



## WHAT ARE MICROPLASTICS?

TINY PLASTIC PIECES THAT ARE LESS THAN 5 MILLIMETERS, ABOUT THE SIZE OF A SESAME SEED.

**FILAMENTS**, ALSO CALLED PLASTIC FIBERS, COME FROM WASHING SYNTHETIC CLOTHING LIKE FLEECE.



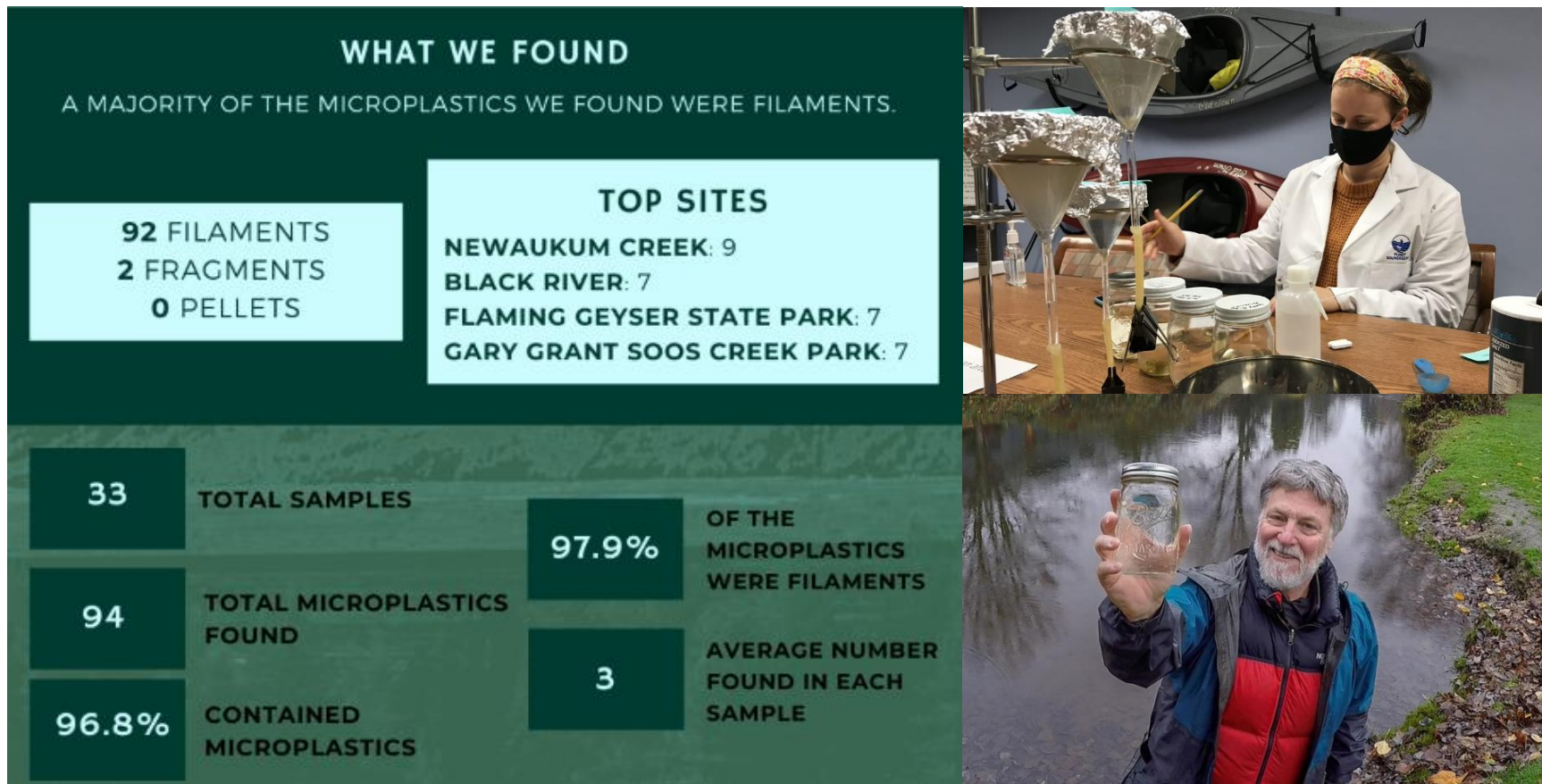
**FRAGMENTS** ARE SMALL PIECES OF LARGER PLASTIC BROKEN DOWN OVER TIME.



**PLASTIC PELLETS**, ALSO CALLED NURDLES, ARE USED IN THE MANUFACTURING OF LARGER PLASTIC OBJECTS.







Puget Soundkeeper volunteers and staff collect and analyze annual water samples from our local waterways. We aim to better understand the extent of microplastic pollution in the Puget Sound and educate the public on this critical issue. Additionally, our microplastics findings strategically inform ongoing policy work.

In the fall of 2020, Puget Soundkeeper volunteers collected watersamples from 33 sites within the Green-Duwamish Watershed. Due to Covid-19, we could not have volunteers analyze the samples in our office, so Puget Soundkeeper staff took on the task. The results were sobering and indicate pervasive microplastic pollution in the Puget Sound.

We found microplastics in 96.8% of the water samples. Of these, 97.9% were filaments. Filaments often come from synthetic textiles, such as polyester. Previous studies have shown that [synthetic textiles are the largest primary source of microplastic pollution](#). Synthetic textiles shed microplastics when washed. These microplastics are discharged in sewage water and can end up in the ocean.

We all have a role to play in a plastic-free Salish Sea. The solution involves a commitment from all of us to reduce plastic consumption, strengthen scientific understanding of the environmental and health effects of plastic pollution, and develop policy that engages individuals and governments in holding the plastic industry accountable. PSK works on all these components and strives to provide meaningful ways for community members to get involved, from beach cleanups to community science projects, to Lobby Week at the state capital.



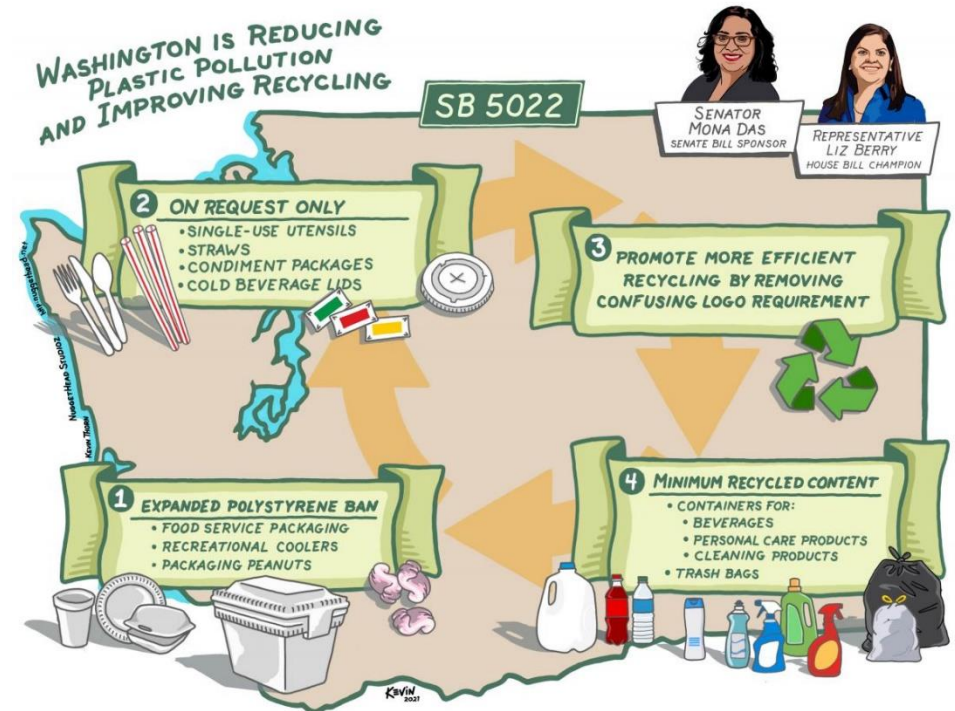
# PASSING PLASTIC POLICY

PSK pursues policy that holds plastic and packaging producers accountable for the negative impacts of their products, including plastic pollution, excess waste, and marine debris. The last couple of years have brought some wins, but there is still work to do.

Along with partners on the Plastic-Free Washington/Washington Sin Plástico Coalition, Puget Soundkeeper helped pass Washington's Plastic Bag Law (SB5323) in 2020, and a Plastics and Recycling Law (SB5022) in 2021. Both laws help reduce our reliance on single-use plastic products and lay the framework for an Extended Producer Responsibility (EPR) system for packaging and printed paper products.

Our communities continue to bear the environmental impact of excessive packaging and producers who are not accountable for the full life cycle of their products. EPR for Washington could make the producers of all packaging and printed paper products responsible for the full life cycle of their products.

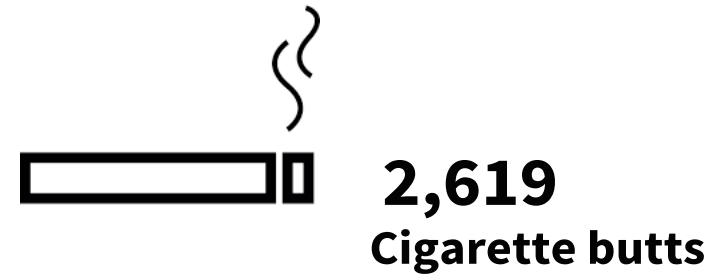
Puget Soundkeeper and its partners know that Washington has the potential to revolutionize its waste management system through EPR. We will continue to address plastic pollution on all fronts, including EPR and legislative priorities.







## TOP ITEMS FOUND





# FOOD WRAPPERS

The 2020 ICC report showed that, for the first time in 33 years, [food wrappers surpassed cigarette butts](#) as the number one item collected at ICC events. Worldwide, volunteers collected 4,771,602 food wrappers, a fraction of the billions that pollute our waterways. Cigarette butts came in second with 4,211,962 collected.

Food packaging's rise to the top spot can be credited to both a decline in smoking and an increased dependence on single-use plastics. Nicholas Mallos, senior director of the Ocean Conservancy's Trash Free Seas program, told Fast Company that [food wrappers present a unique problem](#):

*"We can recycle plastic bottles, we can bring our own bags to the supermarket, and many of us skip the plastic straw altogether, but when it comes to keeping food fresh, safe and accessible. . . manufacturers have put most of their research and energy into the food wrapper [in its] disposable plastic form. We really need to think about accelerating research and development of packaging that isn't destined for landfills and that keeps both people and our oceans safe and healthy."*

Like other plastics, food wrappers are a hazard to aquatic ecosystems. As they degrade, food wrappers can break up into microplastics. The plastics release toxins like phthalates into the environment while absorbing other toxic chemicals present (e.g. DDT, PCBs). Marine organisms can consume contaminated plastic pieces, allowing the plastics and associated toxins to enter the food chain and make their way up to seafood-eating humans.

In the 2021 ICC report, [cigarette butts once again surpassed food wrappers](#). Volunteers collected 964,521 cigarettes, 627,014 plastic beverage bottles, and 573,534 food wrappers.





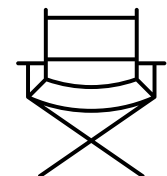


## **MOST UNUSUAL FINDS**

**CLOTH  
DOLLS**

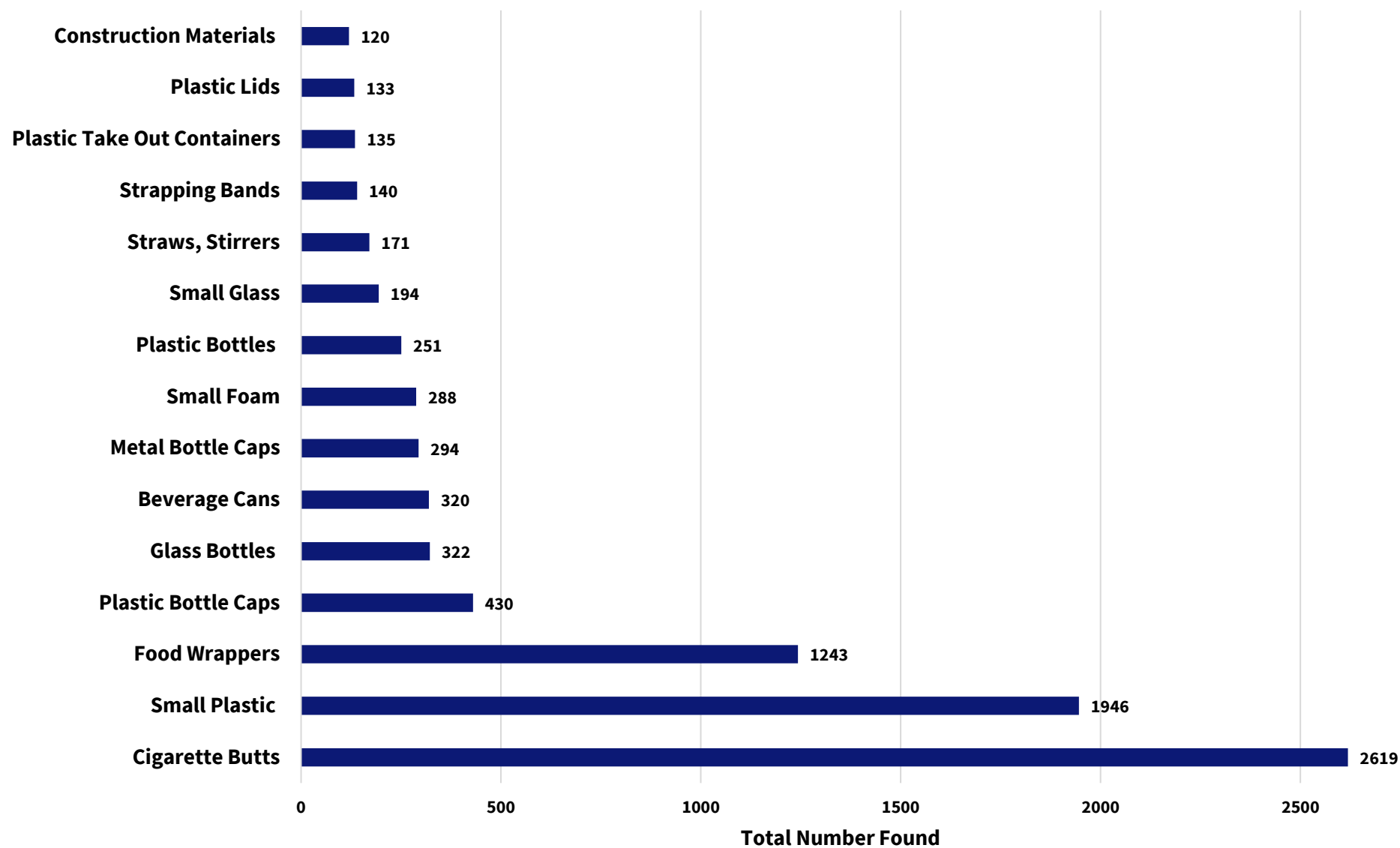
**SILVER RING**

**FOLDING  
CHAIR**





## 2021 PUGET SOUND ICC DATA





## **THANK YOU TO OUR ICC PARTNERS!**

**Bainbridge Island Cleanup**

**DWT**

**Emerald Water Anglers**

**Expedia**

**International Rescue Committee**

**Jconnect Seattle**

**Northwest Danish Association**

**Parker, Smith & Feek**

**Seattle Zero Waste**

**SR3**

**Starbucks**

**Turning Point**

**YP Impact**





SWIRE COCA-COLA, USA

#### IMAGE CREDITS

- 4: Google Maps
- 5: Starbucks, DWT
- 6: SR3
- 8: Puget Soundkeeper, Otto
- 9: San Juan Journal, Surfrider
- 10: Puget Soundkeeper, Starbucks
- 12: Starbucks
- All other photos: Puget Soundkeeper
- Icons: The Noun Project
- Online Web Fonts

## JOIN SOUNDKEEPER!

Join the community protecting the waters of Puget Sound for future generations. Become a Soundkeeper member today!

<https://pugetsoundkeeper.org/donate/membership/>

