

# PUGET SOUND COASTAL CLEANUP 2019



Published by  
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## WHAT IS THE ICC?

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

Globally, over 800,000 volunteers participate in ICC annually and remove millions of pounds of debris.

At each cleanup, information on the amount and type of debris collected is recorded on detailed data cards or through the CleanSwell app. These data are compiled into a global report that shows trends in data accumulation and can inform specific solutions to protect our waterways. Visualizing cleanup data also helps educate the public about the pervasive problem of marine trash.

Puget Soundkeeper is the regional coordinator for cleanups that occur 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 2019.

For help organizing a cleanup near you, please contact us:

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

ALKI BEACH

CARKEEK PARK

SAN JUAN ISLANDS

LINCOLN PARK

SEAHURST PARK

POINT DEFIANCE  
MARINA

SOUTH LAKE UNION

DES MOINES

GOLDEN GARDENS

1<sup>ST</sup> AVENUE

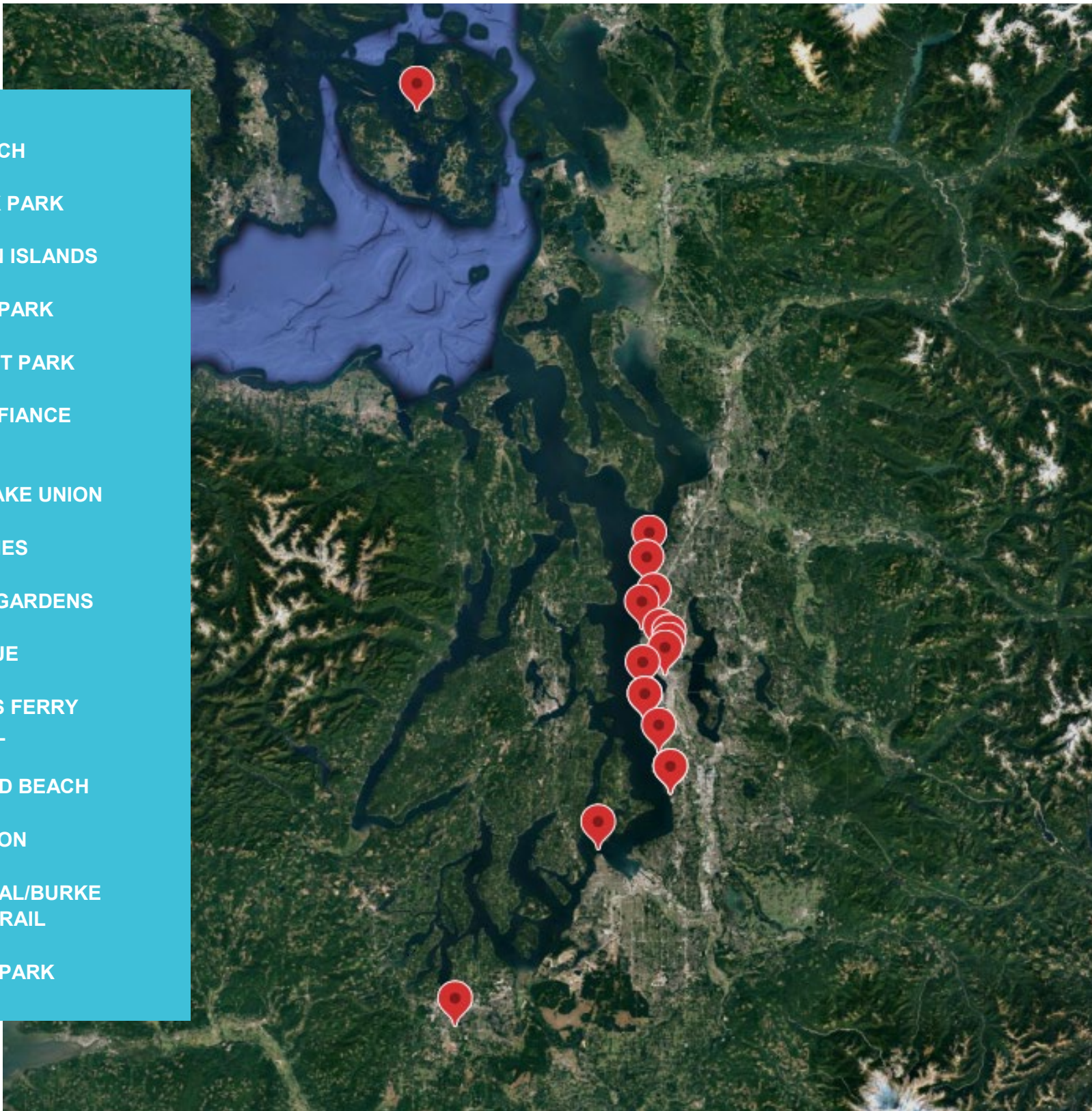
EDMONDS FERRY  
TERMINAL

RICHMOND BEACH

LAKE UNION

SHIP CANAL/BURKE  
GILMAN TRAIL

PIONEER PARK





## CLEANUPS BY THE NUMBERS



97 MILES  
CLEANED



2,476 LBS  
OF  
TRASH



761  
VOLUNTEERS

## CLEANUP HIGHLIGHTS: SAN JUAN ISLANDS

San Juan County includes 172 named islands and reefs. The islands are host to abundant biodiversity, stunning views, and a few well-known animal characters. Orcas reside in these waters, ranging from our local Southern Resident Orcas to transient orcas who occasionally pass through. Whether it be a majestic humpback whale, a bald eagle or a playful Pacific Harbor Seal, the San Juan Islands are home to a diverse ecosystem that is a unique treasure to Puget Sound.

This year, there was an ICC cleanup in the San Juan Islands where Aquatic Research & Monitoring and Puget Soundkeeper teamed up to pick up marine debris on remote beaches by boat. With a team of six and only six hours, over 900 pounds of debris was collected! Items included creosote treated wood, docks, tires and fishing net. They also

had some unusual finds like a basketball headboard, a plastic gutter and a barge light.

Beginning March 2020, Puget Soundkeeper will be going out twice a month with the Aquatic Research & Monitoring vessel and continue this excursion to remote beaches to collect debris. Winter storms bring in this debris from the ocean and washes them up on the island shores. More information about volunteering for this will be available in the coming months. It is a wonderful and unique opportunity to keep these islands clean, improve aquatic habitat and water quality and lessen the harm that this debris has on the marine life of the San Juan Islands.



# CHINA'S BAN ON PLASTIC WASTE IS A WAKE-UP CALL

The dawn of recycling was not very long ago. As disposable, single use items became widely available after the 1950s, landfills were quickly overcrowded. Municipal recycling services gained momentum in the 1970s to recover these otherwise wasted materials. Cities like Seattle went a step further and implemented "single-stream" recycling. No need to sort paper, glass, plastic and aluminum; combine it in one bin and local sorting facilities will take care of the rest! This convenience, combined with a mandatory recycling law, has resulted in one of the highest recycling rates in

the country.

Recycling has obvious environmental benefits. However, the discussion around the economics of recycling remains complicated.

In the Puget Sound area and around the globe, many recyclables are shipped to China for repurposing. High labor costs and environmental regulations have made it prohibitive to recycle most materials domestically. However, once overseas, these products enter a complex system of small-scale operators who sort, grind and melt plastics and other goods into usable forms for manufacturers. This has resulted in serious water and air pollution problems, and workers are often exposed to dangerous chemicals and working conditions without proper protection.

Starting in January 2018, China stopped accepting many imported recyclables due to high levels of contamination.

The country hopes to improve air quality and protect natural resources by reducing pollution from plastics recycling. Imported bales of recycled plastic often contain other unwanted materials, or pathogens from leftover food waste, dirty diapers, and other hazardous material.

In addition, the fluctuating price of oil and other raw materials for plastic production often makes it cheaper to manufacture new materials. As a result, it is often more cost effective to focus on manufacturing virgin plastic

rather than relying on an uncertain supply of recycled materials that need intensive processing.

Cities around the world are scrambling to find new markets and implement better sorting practices to achieve the 0.5%

contamination limit now required for imports to China. While this has caused serious disruption to an already volatile industry, it is also an opportunity to rethink responsible waste management.

At the individual level, you can do your part to lower recycling contamination by making sure items are empty, clean, and dry before they are placed in your recycling bin. Ultimately, it is also important to reduce consumption of single use items to curb the amount of waste we collectively generate.

**Cities around the world are scrambling to find new markets and implement better sorting practices to achieve the 0.5% contamination limit now required for imports to China.**



**790,000  
METRIC TONS**

of recyclables were shipped to China through the ports of Seattle and Tacoma in 2017. That is equal to more than 238 pounds of recyclables from every person in the State of Washington.

# MICROPLASTICS: A NOT SO MICRO PROBLEM

The durability of plastic is a double-edged sword. It works for as long as we need it, but remains long after we toss it in the trash can. That toothbrush you threw away seven years ago is still out there, as is that granola bar wrapper. In fact, every piece of plastic ever made is still in existence in some shape or form.

Each year, over 8 million metric tons of plastic waste enter the world's oceans. That's equal to one dump truck every minute. Unfortunately

for our oceans, plastic does not biodegrade. When exposed to the sun's rays and strong ocean currents, it breaks up into smaller and smaller pieces that persist in the marine environment for centuries.

Plastic fragments and fibers 5 millimeters in size and smaller are called microplastics, and they don't just come from the breakdown of larger debris. Research has found that car tires, latex paint, and fibers from synthetic clothing are all major contributors to microplastic pollution.

Plastics can contain harmful additives like phthalates

(used to make plastic more flexible) and PBDEs (flame retardants). Even more concerning, plastics can adsorb toxic compounds already present in a polluted waterway, including DDTs, PCBs, nonylphenols (industrial detergents), heavy metals, pesticides, and pathogens. If an organism consumes contaminated plastic, these toxics may transfer to the organism's tissues.

Separate studies have found microplastics in fish, shellfish, salt, honey, beer, and even drinking

water. An international study completed in 2017 found that the U.S. had the highest microplastic contamination rate in our drinking water, detecting plastic fibers in 94 percent of tap water samples from sites including Congressional buildings, the

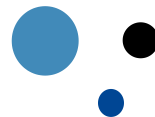
US Environmental Protection Agency headquarters, and Trump Tower in New York.

We are just beginning to understand the magnitude of the microplastics problem. In the winter of 2018, Puget Soundkeeper and the University of Puget Sound coordinated the collection of water samples from 72 sites across Puget Sound, from the San Juan Islands to Olympia. Throughout the winter, volunteers took to local shorelines with sample jars and data sheets.

**The durability of plastic is a double-edged sword. It works for as long as we need it, but remains long after we toss it in the trash can.**

## Amount of small pieces found:

**plastic: 3,471**



**styrofoam: 5,724**

l  
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f

o  
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m



We are currently analyzing these 72 samples and plan to analyze them all by March 2020.

Puget Soundkeeper seeks to document the extent of microplastic pollution in Puget Sound in order to educate the public on this microplastic issue and we are currently strategically planning to implement microplastic findings for future policy work. We are also currently seeking volunteers for the remaining microplastic analysis. To participate in this exciting community science project, contact us at [psa@pugetsoundkeeper.org](mailto:psa@pugetsoundkeeper.org).

We all have a role to play in the movement toward a plastic-free

Salish Sea. The solution involves a commitment from all of us to reduce plastic consumption, strengthen scientific understanding of the effects of plastic on human health and the environment, and develop sound policy that engages individuals, governments, and industry.

The first and most basic step you can take as a consumer is to

reduce your reliance on plastic! Ask your local grocer, café, or retailer if they have plastic-free packaging options. Repair plastic items like hair dryers or TV remotes when they break instead of throwing them out. Invest in reusable alternatives such as glass or metal water bottles, utensils, and food containers.

To learn more about what you can do to help in our efforts to fight marine debris, take the plastic pledge (<https://pugetsoundkeeper.org/plastic-pledge/>) to get updates and action alerts related to microplastics.



Car Tire Dust



Larger Plastic Waste



Paint from Boats,  
Buildings, and Roads



Clothing



Cosmetics

## WHERE DO MICROPLASTICS COME FROM?

## WHERE DO THEY END UP?



Microplastics have been found in fish destined for human consumption.



A 2017 study found that the U.S. had the highest microplastic contamination rate in our drinking water out of fourteen countries.

## CLEANUP HIGHLIGHTS: POINT DEFIANCE MARINA

Marinas and boating facilities play a critical role in maintaining water quality. They are in a unique position to do so as they provide direct access to the water and interface with boaters who are responsible for proper

waste disposal from boats and vessels. Not only can marinas help to reduce marine trash, but a well-managed facility also prevents oil spills, sewage discharges, and other pollutants from entering the water.

Point Defiance Marina, located in Tacoma, organizes a monthly cleanup to remove debris from their surrounding shoreline. The marina, along with local sailing clubs, community boating centers, and many other Puget Sound

marinas, have removed hundreds of pounds of trash through the International Coastal Cleanup and other cleanup projects.

**Clean Marina is a voluntary certification and technical assistance program to help marinas assess their operations and make improvements that better protect the marine environment.**

Point Defiance Marina is

also a member of the Clean Marina program, which Puget Soundkeeper administers for the state of Washington. Clean Marina is a voluntary certification and technical assistance program to help marinas assess their operations and make improvements that

better protect the marine environment.

As of December 2019, 81 marinas have been certified in Washington. Find out more at [www.cleanmarinawashington.org](http://www.cleanmarinawashington.org).



# ITEMS OF LOCAL CONCERN



CIGARETTES



STRAWS



PLASTIC BOTTLES

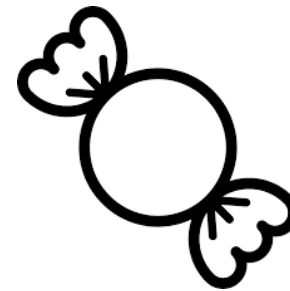




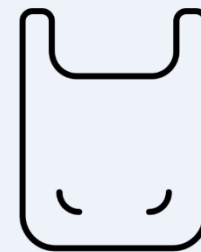
## TOP ITEMS FOUND



7,667  
cigarette butts



2,384  
food wrappers



612  
plastic bags

# CIGARETTE BUTTS

Cigarette butts are the number one item collected at International Coastal Cleanup events. In 2019, 5,716,331 cigarette butts were collected worldwide, a fraction of the trillion that pollute our waterways every year.

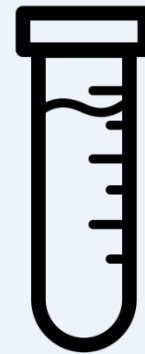
These small pieces of debris are deceptively toxic. The majority of filters are made from cellulose acetate, a plastic that does not biodegrade. In addition, they serve as a pathway for multiple toxic compounds to enter aquatic ecosystems.

Nearly 7,000 chemicals are present in cigarette tobacco, including ammonia, arsenic, formaldehyde, lead and tar.

These chemicals accumulate in cigarette filters, which then leach into the water and have harmful effects on aquatic wildlife. Keep cigarettes off the ground by properly disposing them in the garbage or cigarette butt receptacles.



## MOST UNUSUAL FINDS



TEST TUBE



BASKETBALL  
HEADBOARD



FINGER PUPPET



BARGE LIGHT

## CLEANUP HIGHLIGHTS: WASHINGTON COASTSAVERS

Washington CoastSavers is a coalition of nonprofits, community groups, corporations, and public agencies united to protect Washington's Pacific Coast from marine debris. CoastSavers acts as the regional coordinator for the International Coastal Cleanup for activities along the outer coast of Washington State and along the Strait of Juan de Fuca.

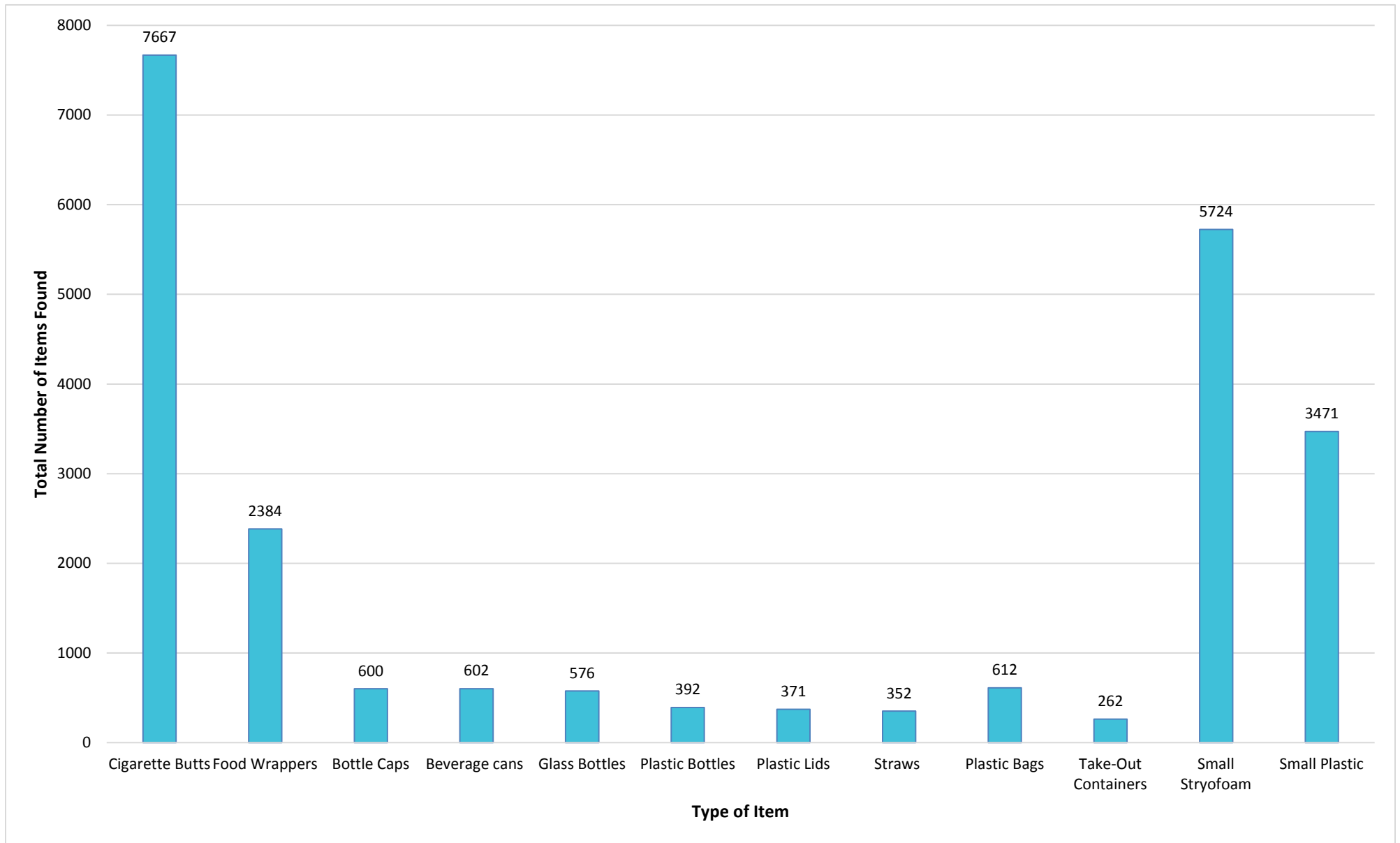
On September 16th, 2019, CoastSavers organized over 800 volunteers to remove over 12,000 pounds of debris. They cleaned more than fifty beaches, covering more than 200 miles! As if that wasn't impressive enough, many of the beaches that CoastSavers cleans are only accessible by trail and the trash collected must be hauled out using only human power.

Not all of the results from CoastSavers' cleanups are included in this Puget Sound report, but the data is viewable online at [www.coastalcleanupdata.org](http://www.coastalcleanupdata.org).

CoastSavers organizes beach cleanups in the fall, and then again in April of each year. Join a cleanup by visiting [www.coastsavers.org](http://www.coastsavers.org).



# 2019 DATA





## THANK YOU TO OUR PARTNERS!

WASHINGTON COAST SAVERS  
BALLARD WINDERMERE REAL ESTATE  
CO.  
BANK OF AMERICA  
AT&T  
RENA WARE INTERNATIONAL  
WOODLAND PARK ZOO  
POINT DEFIANCE MARINA  
SR3

ENVIRONMENTAL SCIENCE CENTER  
MaSt  
STARBUCKS  
DTG RECYCLING  
WOODLAND PARK ZOO  
SEATTLE ZERO WASTE  
AQUATIC RESEARCH AND MONITORING





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## JOIN SOUNDKEEPER

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

<http://bit.ly/joinsoundkeeper>

