

CHARTING A COURSE TO

Plastic Free Beaches

An Ocean Conservancy Policy
Report Informed by 35 Years of
International Coastal Cleanup® Data

Contents

REDUCE	1
Items and Recommendations	3
Cigarette Butts	3
Plastic Bags	5
Plastic Straws	7
Foam Foodware	9
Plastic Cutlery	12
Let's Take Action to Reduce Plastics	15
Appendix	16
Table of Existing Bans	16

This report was made possible through the support of the **Hollomon Price Foundation**.

Cover Photo Credit: Mario De Moya / Getty Images

About Ocean Conservancy

Ocean Conservancy is working to protect the ocean from today's greatest global challenges. Together with our partners, we create evidence-based solutions for a healthy ocean and the wildlife and communities that depend on it.

Ocean Conservancy has led the fight for a clean, healthy ocean free of trash since 1986, when the U.S.-based nonprofit launched its annual International Coastal Cleanup® (ICC). Since then, Ocean Conservancy has mobilized millions of ICC volunteers to remove trash from beaches and waterways around the world while pioneering upstream solutions to the growing ocean plastics crisis. Ocean Conservancy invests in cutting-edge scientific research, implements on-the-ground projects, and works with conservationists, scientists, governments, the private sector and members of the public to change the plastics paradigm.

To learn more about our Trash Free Seas® program visit oceanconservancy.org/trashfreeseas.

REDUCE

Photo Credit: Madief Parahoy

Since 1986, International Coastal Cleanup® (ICC) volunteers have removed over 381 million pieces of trash from beaches and waterways, all the while collecting data on the kinds of items found. Across the world and over the course of nearly 40 years, many of the same plastic items consistently top the list of what ICC volunteers collect.

This list includes the **five items** covered in the “REDUCE” section of this report: *cigarette butts, plastic bags, plastic straws, plastic foam foodware, and plastic cutlery.*

If there were bans on just these five single-use plastic items—cigarette butt filters, straws, cutlery, bags, and foam foodware—across the United States, plastics usage would drop by about 450 billion pieces each year. That would be equivalent to eliminating roughly 1.4 million tons of plastics, or approximately 1,000 fewer single-use plastic products and packaging for each person in the United States each year.¹

Eliminating these items will help reduce the amount of plastics we use each year and prevent more from entering our ocean.

These single-use plastic items are not only pervasive, but they also pose major challenges for recycling. Due to their sizes and shapes, these items can slip through recycling sorting systems, which can lead to contamination of other materials and can clog up or damage machinery.

Plastics and Chemicals

Plastics contain a cocktail of chemicals. On average, plastics contain about 7% chemical additives by weight, which means that a sizeable portion of typical plastic packaging or a plastic product consists of chemical additives.² These additives are used to help in plastics manufacturing (e.g., plasticizers that make it easier to shape and form products) or to improve certain qualities of plastics (e.g., flame retardants, stabilizers, and colorants). Many of these additives are toxic and are known to be associated with negative and severe human health impacts. Beyond the chemicals they already contain, plastics can adsorb other harmful chemicals in the environment. When plastic enters the marine environment, it can serve as a vehicle for these chemicals to enter the food web and be taken up by aquatic life.^{3,4}

Many jurisdictions around the world are taking steps to reduce single-use plastic items.

Over 30 countries—including India, Chile, Rwanda and Canada—have enacted nationwide bans on some of these five single-use plastic items, including bags, straws, and cutlery. In the U.S., state and local action has led to hundreds of municipalities and at least 13 states and Washington, D.C. banning various single-use items.⁵ For more information on bans in the U.S., see “Table of Existing Bans” on page 16.

By banning or significantly limiting the use of these single-use plastics, we can keep them off of our beaches and out of our ocean. Another goal of these bans or limits is to help plastic producers and ultimately, consumers, rethink their relationship to single-use items more broadly, not just to move from single-use plastics to other single-use materials. The items discussed in this report can be effectively banned because they are not needed (e.g., straws, in many instances) or because they can be easily replaced with reusable options (e.g., bags).

At a Glance

Item	Recommendations
Cigarette Butts	Ban plastic cigarette filters. Location specific smoking bans.
Plastic Bags	Ban single-use plastic bags. Add a fee to other disposables bags.
Plastic Straws	Pass by request laws. Bring your own.
Foam Foodware	Ban foam foodware.
Plastic Cutlery	Pass by request laws. Bring your own.

TOP TEN Plastic Items Collected by ICC Volunteers (1986-2021)

1

59,398,908
Cigarette Butts

2

28,445,467
Food Wrappers
(Candy, Chips, etc.)

3

21,810,732
Beverage Bottles

4

21,538,520
Plastic Bags
(Grocery and Other)

5

16,903,325
Bottle Caps

6

14,643,574
Straws, Stirrers

7

7,951,707
Foam Foodware
(Take Out Containers and Cups, Plates)

8

7,278,840
Cups, Plates

9

6,736,583
Lids

10

6,343,756
Forks, Knives, Spoons

Excluding cigarette butts, these ten items make up one out of every six plastic items used each year in the United States.⁶

Cigarette Butts

Recommendations

- 1 Ban plastic cigarette filters.
- 2 Location-specific smoking bans.

Photo Credit: ikenyphoto / Adobe Stock

Cigarette butts have been referred to as the last socially acceptable form of litter. These ubiquitous bits of trash found around the world are the unsightly remnants of cigarettes after smoking. For nearly all cigarettes, the butts are comprised of a plastic filter, meaning they do not biodegrade in the environment if they become litter, and instead break up into thousands of plastic microfibers over time. The butts often are littered on the ground and washed into storm drains, where they end up on local coastlines and waterways. They consist of multiple materials that need to be separated and disposed of in different ways, meaning cigarette butts cannot be recycled. The only viable option for dealing with cigarette butts is to send them to landfills, which means policies are needed to eliminate or reduce cigarette butts in the first place.

Facts About Cigarette Butts

In the U.S. alone, people smoke more than 200 billion cigarettes each year.⁷ Each cigarette butt contains more than 15,000 strands of plastic microfibers. Global cigarette

butt pollution from about 4.5 trillion littered butts accounts for approximately 300,000 tons of potential plastics microfibers released into the environment every year.^{8, 9} That is equivalent to the weight of 45 billion plastic bags, or nearly 650 billion plastic straws.

In addition, cigarette butts contain more than 4,000 toxic chemicals, including tar, arsenic, lead, heavy metals, polycyclic aromatic hydrocarbons (PAHs), and other substances known to cause negative health impacts. At least 70 chemicals in cigarette butts are known to be carcinogenic to both animals and humans.^{10, 11}

Although many people may believe that filtered cigarettes are safer to smoke than unfiltered ones, cigarette filters are not protective of human health. In fact, they actually have contributed to the rise in specific types of lung cancers known as adenocarcinomas.¹² Plastics microfibers from cigarette filters have been observed in the lungs of smokers.¹³ They have also found their way into far-flung places such as deep-sea sediments.¹⁴

International Coastal Cleanup Data

Cigarette butts are the single most collected item in the nearly 40 years of the ICC.



Cigarette butts make up about **one-quarter** of the most commonly found items that litter beaches globally.

60
Million

Nearly 60 million cigarette butts were collected from 1986 to 2021.

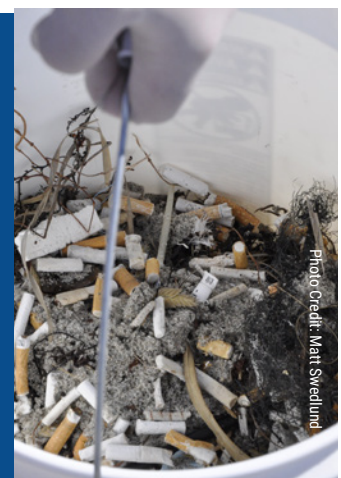


Photo Credit: Matt Swedlund



Policy Actions

One of the most effective ways to reduce cigarette butt pollution in the ocean is to ban cigarette smoking on public beaches and in parks. Enforcing these types of policies reduces cigarette smoking in those areas, which in turn can significantly reduce the amount of pollution left behind from littered cigarette butts. Another approach to reducing plastic pollution from cigarette butts is to ban single-use filters, which are the plastic components of cigarettes.

These types of restrictions can be enacted at the local level through city ordinances, at the state level through legislation, and at the federal level through legislation or executive action.

Getting Butts Off Florida Beaches

In June 2022, Florida enacted a [law](#)¹⁵ that authorizes county and municipal governments to restrict smoking on public beaches and in public parks. Previous state law preempted this level of regulation. This is an important step that allows local governments to pass ordinances protecting their beaches, parks, and communities from cigarette butt pollution. Since the law went into effect in July 2022, at least four cities already have proposed ordinances to ban cigarette smoking on their beaches. Ocean Conservancy has developed [model language](#)¹⁶ for other cities that want to pass bans on cigarette smoking. Although this language is specific to Florida, it can be easily adapted to other states.

California Attempts to Ban Plastic Filters

In 2022, California legislators introduced a bill ([California Assembly Bill 1690](#)^{17, 18}) to prohibit the sale of cigarettes and cigars with single-use plastic filters. Although the legislation was supported by environmental and public health advocates, it has not been passed. However, the effort to prohibit these highly polluting single-use cigarette butts started an important conversation to address this issue head-on and is likely to prompt additional legislative efforts.



Plastic Bags

Recommendations

- 1 Ban single-use plastic bags.
- 2 Add a fee to other disposables bags.

Photo Credit: Troy Mayne

The polyethylene plastic bag, patented in 1965, rose to popularity over the next several decades. Initially, the plastic bag was not envisioned as a throw-away: it was designed to be used multiple times as a way to reduce waste, cut down on paper bags, and save trees.¹⁹

Now ubiquitous, many people dispose of plastic bags after just one or a few uses. As with other plastic waste, these thin and lightweight bags can travel far and wide if they end up as litter. Marine species can ingest the plastics to their detriment. This phenomenon has been most commonly observed by sea turtles who mistake floating bags for their natural prey of jellyfish. In addition, plastic bags break up over time, turning into smaller and smaller bits of microplastics which then become available for ingestion by even smaller animals.

Plastic bags and other thin plastic film items consistently rank as the top contamination in the recycling stream.

Plastic bags are not recyclable via *curbside recycling*. They can clog up and contaminate the mechanical machinery used in recycling facilities, which can lead to delays in recycling and increased costs.²⁰ Some areas offer specific drop-off collection programs to enable recycling, but they are limited in availability and have been met with mixed outcomes,²¹ leading the California Department of Justice to send letters to seven top plastic bag manufacturers in the state asking them to substantiate claims that their bags are recyclable.²² Fortunately, with the right policies and incentives in place, plastic bags are readily replaceable with reusable options.

Facts About Plastic Bags

Americans use an astounding 100 billion plastic bags each year.²³ Plastic bags are used for an average of just 12 minutes before being thrown away, according to the [New York State Plastic Bag Task Force](#).²⁴

International Coastal Cleanup Data

Since 1986, ICC volunteers have collected over 11.5 million grocery bags and nearly 10 million other plastic bags, totaling to over **21 million plastic bags**.



Photo Credit: Isaac Mead Long

Policy Actions

In recent years, state and local governments have begun to take action to reduce plastic bags through bans and fees.

The most effective legislative efforts combine a ban on plastic carryout bags with a fee on all single-use or non-reusable bags. This encourages the use of reusable bags rather than simply replacing single-use plastic bags with single-use paper bags.

Eleven states and Washington, D.C., so far have enacted bans on plastic bags. In 2019 alone, nearly 100 bills were introduced in the U.S. to address plastic bags.²⁵

Chicago Takes Multiple Approaches to Ban Bags

In November 2016, Chicago repealed a plastic bag ban that would have taken effect on January 1, 2017. Instead, the city replaced the ban with a seven-cent tax on all single-use paper and plastic bags, effective February 1, 2017.

Research shows that the law has led to a significant decrease in the likelihood of consumers using disposable bags. Prior to the tax, about 80% of Chicago consumers used disposable bags and fewer than 10% used no bags at all. In the year after the law went into effect, about half of consumers switched to reusable bags while the rest opted to not use any bags. This is an almost 30% decrease in the use of disposable bags. During the same time period, the use of reusable bags nearly doubled.²⁶

San Jose Calls on Residents to “Bring Your Own Bag”

San Jose, California enacted its Bring Your Own Bag ordinance in 2011, banning single-use plastic bags and imposing a ten-cent fee on other take-away bag options. The result is that plastic bag litter decreased by 89% in the city’s storm drain system and by 60% in creeks and rivers within 1-2 years.²⁷



Plastic Straws

Recommendations

- 1 Pass by request laws.
- 2 Bring your own.

Photo Credit: Troy Mayne

Plastic straws gained popularity during the 1960s, replacing paper straws that already were in widespread use at the time.²⁸ In recent years, however, straws have become a hot-button environmental villain. Ever since a video of a Ridley sea turtle with a four-inch straw in its nose [went viral](#)²⁹ in 2015, calls to “skip the straw” have swelled. Yet, plastic straws remain ever-present in our lives. According to a 2016 estimate by a food service industry specialist, Americans use about 64 billion straws—an average of about 200 straws per person, or a total of 29,500 tons—each year.³⁰

Facts About Plastic Straws

Straws are often made from polypropylene—a plastic with low recycling rates compared to other resins. U.S. recycling rates of polypropylene in 2018 were lower than 1%.³¹

Because of their odd tubular shape and light weight, straws cannot be sorted in recycling plants and therefore are not accepted by recycling programs. When straws are mistakenly recycled, they can fall into the cracks and crevices of recycling machinery, which can lead to contamination or even damage to the machinery.

Straws rank as one of the most harmful forms of plastics to marine life, according to data from a survey of scientists presented in a 2015 study co-authored by Ocean Conservancy.³² Scientists rank straws, stirrers, food packaging, and plastic utensils as high in terms of the negative impact posed to seabirds, sea turtles, and marine mammals and because of the high likelihood of creatures encountering these items in the marine environment.

International Coastal Cleanup Data

ICC volunteers globally have collected nearly 15 million straws and stirrers from beaches and waterways since 1986.



Photo Credit: Marvivo Onlus

Policy Actions

Nearly all the legislative bans for straws have been what is known as “by request” laws. These laws put in place policies that prevent restaurants and other food establishments from providing plastic straws unless a customer specifically requests them. The goal is to significantly reduce the number of plastic straws used while allowing for some flexibility. “By request” policies recognize that some people—including members of the disability community and people with certain medical conditions—may need straws and allow them to access them by simply asking.

As of 2021, 89 regulations on straws are in place around the U.S., predominately in coastal states.³³ California became the first state to ban plastic straws through legislation that took effect in January 2019, eight states have followed since then.³⁴

The regulations appear to be working. Business analysis of the drinking straw market has forecast a decrease in plastic straws, in no small part because “by request” laws are decreasing the use of straws across the U.S.³⁵ This is a start, but it is not enough, because plastic straws used throughout the country can continue to contribute to litter and pollution in our ocean and contaminate our recycling system.

While some people have turned to disposable paper straws as an alternative to plastics, the broader goal of these bans, like the other bans discussed in this report, is to reduce our dependence on single-use products in general. Better alternatives to plastic straws include reusable straws or simply skipping the straw altogether.

Straw Bans in Seattle

Seattle banned plastic drinking straws in 2018, becoming the first major U.S. city to do so. The result was that the number of straws collected in the city during the annual ICC decreased by 62% after the first year of the ban.³⁶ Washington state then passed a “by request” law for straws as well as other items such as utensils, stirrers, and beverage lids for cold containers ([WA Senate Bill 5022](#)).³⁷





Photo Credit: sofirajna / Getty Images

Foam Foodware

Recommendation

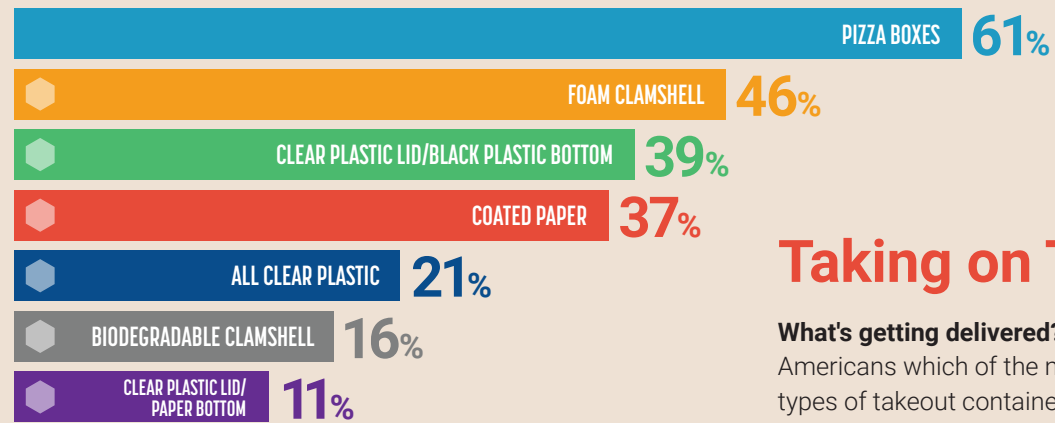
1 Ban foam foodware.

One of the most insidious forms of plastics is foam, or expanded polystyrene (EPS). This material is frequently and mistakenly referred to by the brand name Styrofoam®, which is a foam material primarily used in non-foodware formats, such as shipping packaging, construction, and floating infrastructure such as docks, which we do not cover in this report.

Facts About Foam

EPS is made by trapping tiny air bubbles inside plastic. EPS is about 95% air by volume, which makes it a lightweight and easily transportable insulator for food and other products.³⁸ However, these same

qualities also mean that foam is a low value item for recyclers. It takes up a lot of space in collection trucks and recycling centers, but results in very little actual material recovered. In addition, foam foodware is often contaminated because of its contact with food, adding to the challenges of recycling the material. These challenges mean that very few recycling systems accept foam foodware. Combined with the lack of a recycling end market to reprocess and effectively turn this material back into new products, foam foodware is widely considered non-recyclable. It is also used frequently: 46% of Americans receive takeout food in foam clamshell containers, according to a 2021 Ocean Conservancy survey about food delivery and takeout consumption.³⁹



= Not recyclable

Taking on Takeout

What's getting delivered? We asked Americans which of the most common types of takeout containers they received in the last month.



Photo Credit: Emily Brauner

Another problem with foam's light weight is that the wind can easily blow these products around and disperse them as pollution. Foam products are particularly pernicious because they can easily break up into thousands of pieces of microplastics if they are lost or littered. The term "microplastics" describes tiny plastic particles that either have degraded from larger plastic products or were intentionally manufactured at a very small size (< 5 mm). Microplastics have been found in some of the most remote places in the world and are dangerous to the health of our ocean and the marine life that inhabit it.⁴⁰ Foam microplastics can lead to beaches and waterways appearing speckled with what looks like white snow but what are actually foam fragments that can harm birds and other animals when they ingest them.

A wide range of marine animals have been found to ingest foam often due to mistakenly identifying it as food. These animals include birds (albatrosses, petrels, gulls, and fulmars), marine mammals (seals, sea lions, and porpoises), and turtles (green and loggerhead) as well as commercially important seafood such as fish and shellfish.⁴¹ When animals consume foam, they may be subjected to internal injuries and the harmful chemicals known to be associated with this type of plastic.⁴² In addition, animals can experience false satiation, or a feeling of fullness despite being full of non-nutritional plastics and not the actual food they depend on for sustenance.

International Coastal Cleanup Data

Globally, ICC volunteers have collected 3,746,966 foam take out/away containers and 4,202,741 foam cups and plates.

In the nearly 10 years that microplastics have been recorded as part of the ICC, more than 5.7 million pieces of foam have been collected from U.S. beaches and waterways. In 2021, foam topped the list of trash items collected by the [International Trash Trap Network](#), with almost 18,000 tiny pieces of foam collected by just 63 waterway devices.⁴³

Policy Actions

Banning or phasing out the use of foam foodware is the single most effective policy to deal with this material.

Since 2012, 15 countries around the world have banned EPS. Haiti was among the first countries to take this bold action, followed by Australia, Germany, India, and others.

In the U.S., 10 states and Washington, D.C. already have passed legislation to ban or phase out foam foodware. In addition, as of December 2019, bans are now in effect in nearly 250 U.S. cities, towns, and counties covering nearly 13% of the nation's population.⁴⁴

Maryland was the first state to ban foam foodware with House Bill 109⁴⁵ in May 2019. The law has prohibited the sale of foam foodware products since October 2020 (after a three-month delay due to the COVID-19 pandemic).

These bans are extremely effective in curbing production and resulting pollution of EPS. In the four years between 2017 and 2021, foam used in food packaging and foodware in the U.S. decreased 14%, with increased regulations and prohibitions on EPS at the state and local level being significant factors for this decline.⁴⁶

California's De Facto Foam Ban

California is among the most recent U.S. states to limit foam foodware. California's Senate Bill 54⁴⁷ prohibits the sale of EPS foodware after January 1, 2025, unless the state meets a 25% EPS recycling rate. That rate is unlikely to be met, especially considering that Los Angeles County, the largest county in the state, reports an EPS foodware recycling rate at below 1%. Since EPS foodware is currently not economical to recycle and the material is already banned or restricted in over [129 jurisdictions](#)⁴⁸ in California, including the state's two largest cities, this provision is a de facto statewide ban of EPS foodware.





Plastic Cutlery

Recommendations

- 1 Pass by request laws.
- 2 Bring your own.

Photo Credit: Isaac Mead-Long

Single-use plastic cutlery is predominately made out of polystyrene or polypropylene,⁴⁹ two plastics with very low recycling rates.⁵⁰ And like so many other items with odd shapes and sizes that are discussed in this report, plastic cutlery cannot be effectively sorted and recycled, which means it ends up as contamination if it winds up in the recycling bin. Plastic forks, knives, and spoons are among the most common items collected by ICC volunteers each year. In addition to not being recyclable themselves, plastic cutlery are often packaged in additional single-use plastic—such as a thin film—which is similarly non-recyclable. In a June 2021 survey conducted by Ocean Conservancy, 40% of Americans reported receiving cutlery wrapped in plastics with their delivery orders. In addition, one-quarter of Americans reported disposing of plasticware from takeout and delivery orders without ever using the cutlery.⁵¹

Facts About Plastic Cutlery

Every day, Americans use more than 100 million disposable forks, knives, and spoons.⁵²

As with nearly all plastics, potential chemical exposure from plastic cutlery and other single-use plastic foodware is a cause for concern. Plastic cutlery contain chemicals to help them achieve their desired material properties. Some of these chemicals have been found to migrate from plastic foodware directly into foods, and consequently into us as consumers. Many of these chemicals are not assessed for their impacts on human health, although some chemicals that are used in plastic cutlery are known to be hazardous.⁵³

Plastic cutlery is also a significant threat to marine life. In a 2015 study co-authored by Ocean Conservancy, cutlery ranked as one of the top two plastic items posing the greatest threat when ingested by seabirds, turtles, and other marine life.⁵⁴

International Coastal Cleanup Data

In 2018, plastic cutlery first made it to the top ten list of items collected by volunteers around the world in the ICC. That year alone, volunteers collected two million pieces of plastic cutlery!⁵⁵

Globally, ICC volunteers have collected nearly 6.5 million plastic forks, knives and spoons since 1986.



Photo Credit: Michael Parafin



Photo Credit: CleanSwell

Policy Actions

As with straws, nearly all of the legislative bans on plastic utensils have taken the form of “by request” laws. These policies prevent restaurants and other food establishments from providing plastic cutlery unless a customer specifically requests them. Again, the goal of these policies is to significantly reduce the amount of plastic cutlery used by making customers intentionally request only what they need.

France became the first country to ban plastic cutlery along with several other ICC top ten items including plastic cups and plates.⁵⁶ The ban in France, which was enacted in 2016 and went into effect in stages in 2020 and 2021, paves the way for other countries to follow.

Several states have passed measures to reduce plastic cutlery. Washington, California, and Hawaii have enacted laws limiting the use of plastic cutlery.

These legislative efforts, along with public pressure, have resulted in many food delivery apps now including a built-in feature that allows customers to opt in or out of receiving plastic cutlery with their deliveries. These apps, which have increased in popularity since the pandemic, are one of the top ways consumers order food.⁵⁷

In addition to legislation to ban or significantly reduce the use of plastic cutlery, policies can also require dine-in establishments to use reusable cutlery. These policies can be paired with incentives to help small businesses, school cafeterias, and other establishments invest in dishwashers and other infrastructure needed to make it easier and more practical to switch to reusables.

Two Washingtons Quit Cutlery

Washington, D.C.’s Zero Waste Omnibus Amendment Act,⁵⁸ which took effect in March 2021, requires that all food service entities provide disposable foodware – including cutlery, chopsticks, napkins and straws - only upon a customer’s request or at a self-serve station. In addition, the law requires that take-out or delivery orders not include disposable foodware unless a customer specifically requests it. Likewise, the law requires that third-party food ordering platforms such as apps make disposable cutlery, straws, and other items available only by an opt-in request.

Washington state took a similar approach by requiring customers to request any disposable plastic foodware—including straws, cutlery, cups, and lids—and food sauce packets . To further cut down on plastic use and waste, Washington’s Senate Bill 5022,⁵⁹ enacted in May 2021, also prohibits the bundling together of disposable plastic cutlery; this lets customers take only the cutlery they need.

California Reduces Plastics at the Source

California's Plastic Pollution Prevention and Packaging Producer Responsibility Act is the strongest piece of plastics legislation the U.S. has ever seen. The law, known as Senate Bill (SB) 54, is the first enacted legislation in the U.S. to tackle the plastics crisis at the source by requiring an overall reduction in single-use plastic used. Passed in June 2022, SB 54 requires producers of plastics to use 25% less single-use plastic packaging and foodware in the state by 2032. Ocean Conservancy scientists estimate that this source reduction policy alone will eliminate 23 million tons of single-use plastics over the next 10 years. That is about 26 times the weight of California's Golden Gate Bridge!

The law established a new model for comprehensive plastics legislation. It reduces single-use plastics across the board, invests in our growing reuse and refill economy, and holds producers financially accountable for their packaging through extended producer responsibility. It also allocates funding for cleanup efforts - \$5 billion over 10 years paid for by plastics producers and resin manufacturers - and provides hundreds of millions of dollars in funding to support communities most impacted by plastic pollution.

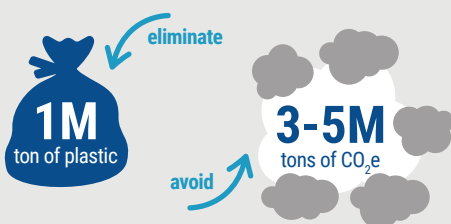
As the largest state economy in the U.S. and the fifth largest economy in the world, the impacts of this law will ripple throughout the country - and the globe - leading to less single-use plastic, more reuse and refill infrastructure, and better upstream designs of products. As impactful as this new law is, California cannot solve this problem alone. To address our growing plastic pollution crisis, the rest of the country needs to follow suit in becoming part of the solution.

Photo Credit: blueap/photo / Getty Images

Plastic Action is Climate Action

Reducing plastic production also helps fight climate change. As plastics are made from and powered by fossil fuels, this policy will also have major benefits to achieving a livable climate. This reduction of plastics will result in avoiding approximately 115 million tons of CO₂e emissions over ten years, the equivalent of shutting down 28 coal-fired power plants.

For every **1 million ton of plastic** eliminated through SB54, **5 million fewer tons of CO₂e** will be emitted into the atmosphere.



In total, SB54 will lead to **115 million fewer tons of CO₂e** emitted.



That's the equivalent of shutting down **28 coal-fired power plants**.



Photo Credit: Emily Deumer

Let's Take Action to Reduce Plastics

Cutting our reliance on single-use plastic is the first and most important step we can take to address the plastic pollution crisis. This must be coupled with the development of reuse systems and strong investments in plastics collection and recycling systems. Ocean Conservancy will be releasing reports with guidance on how to redesign some of the most common plastic items collected from beaches and how to revamp our recycling system in the coming months.

The scope of the plastic waste and pollution problem is enormous, and our waste management system has not kept pace with this exponential growth in plastics waste. While we cannot recycle our way out of this problem, it is clear that recycling needs to be part of the solution. By banning some of the most common, unrecyclable plastic items that clog our waste management systems, our recycling system can become more efficient and focus on the items that could be part of a circular economy.

The nearly 40 years of the ICC have shown us that everybody has an important role to play in stopping plastic pollution. You can do your part by joining cleanups and by cutting out single-use plastic items when possible.

But we also need transformational changes from governments and corporations. That's where policy comes in. This roadmap provides the background you need to call for bans and other actions on some of the most common items in your community that pollute our ocean.

Want to take action? Start with these steps.

Stay informed. Find your local, state, and federal representatives. Tools such as [USA.gov/elected-officials](https://www.usa.gov/elected-officials) can help get you started.

Act locally. This report provides examples of effective local bans and regulations that have led the way toward larger state, federal, and international actions. Read up on the laws governing plastics in your community, [find out from the ICC](#) what types of plastics items are common in your area, and call on your local representatives to pass legislation to tackle the most prevalent trash found on our beaches.

Visit [Ocean Conservancy's action center](#) and add your voice to the chorus of people calling for change from governments and corporations alike.

Together we can put an end to plastic pollution.

Appendix

Table of Existing Bans

This list was last updated in June 2023

State	Plastic Item(s) Banned	Year Passed	Date Effective	Policy & Source
California	plastic bags	2014	July 1, 2015	S.B. 270
	straws	2018	January 1, 2019	A.B. 1884
	utensils, stirrers, straws	2021	June 1, 2022	A.B. 1276
	foam	2022	January 1, 2025	S.B. 54
Colorado	plastic bags	2021	January 1, 2024	H.B.21-1162
	foam	2021	January 1, 2024	H.B.21-1162
Connecticut	plastic bags	2019	August 1, 2019	H.B. 7424 (Sect. 355)
Delaware	plastic bags	2019	January 1, 2021	H.B. 130
Maine	plastic bags	2019	July 1, 2021	H.P. 1115
	foam	2019	July 1, 2021	H.P. 213
Maryland	foam	2019	October 1, 2020	H.B. 109
New Jersey	plastic bags, foam, straws	2020	May 4, 2022	S. 864
New York	plastic bags	2019	March 1, 2020	A02008C
	foam	2020	January 1, 2022	Title 30
Oregon	plastic bags	2019	January 1, 2020	H.B. 2509
	straws	2019	January 1, 2020	S.B. 90
	foam	2023	January 1, 2025	S.B. 543
Rhode Island	plastic bags	2022	January 1, 2024	H.B. 7065
	straws	2021	January 1, 2022	S. 0155A
Vermont	foam, straws, stirrers, plastic bags	2019	July 1, 2020	Act 69
Virginia	foam	2021	Restaurants: July 1, 2023 All other vendors: July 1, 2025	H.B. 1902
Washington	foam	2021	June 1, 2024	S.B. 5022
	plastic bags	2020	January 1, 2021	S.B. 5323
	straws, stirrers, utensils	2020	January 1, 2022	70A.530 RCW
Washington, DC	foam	2014	January 1, 2016	D.C. ACT 20-385
	straws, utensils	2014	January 1, 2019	D.C. ACT 23-542

Endnotes

ICC data reports from 1986-2021 can be found by visiting oceanconservancy.org/trash-free-seas/international-coastal-cleanup/annual-data-release. ICC data can also be found by visiting coastalcleanupdata.org.

- 1 DSM Environmental Services, Inc. (August 2022). [“Top Ten Plastic Items Found on US Beaches: Estimating US Consumption of Beach Litter Items.”](#)
- 2 Gibbens, S. (August 15, 2019). [“See the complicated landscape of plastic bans in the U.S.”](#) *National Geographic*.
- 3 Geyer R., Jambeck, J. R., & Law, K. L. (2017). [“Production, use, and fate of all plastics ever made.”](#) *Science Advances*, 3(7):e1700782.
- 4 Jang, M., Shim, W. J., Han, G. M., et al. (2016), [“Styrofoam Debris as a Source of Hazardous Additives for Marine Organisms.”](#) *Environmental Science & Technology*, 50, 10, 4951–4960
- 5 Van, A., Rochman, C. M., Flores, E. M., et al. (2012). [“Persistent organic pollutants in plastic marine debris found on beaches in San Diego, California.”](#)
- 6 DSM Environmental Services, Inc. (August 2022). “Top Ten Plastic Items Found on US Beaches: Estimating US Consumption of Beach Litter Items.”
- 7 Ibid.
- 8 Belzagui, F. Buscio, V. Gutiérrez-Bouzán, C., & Vilaseca, M. (2021). [“Cigarette butts as a microfiber source with a microplastic level of concern.”](#) *Science of The Total Environment*, 762, 144165.
- 9 Shen, M., Li, Y., Song, B., et al. (2021) [“Smoked cigarette butts: Unignorable source for environmental microplastic fibers.”](#) *Science of The Total Environment*, 791, 148384.
- 10 Kurmus, H. & Mohajerani, A. (2020). [“The toxicity and valorization options of cigarette butts.”](#) *Waste Management*, 104, 104-118.
- 11 Hoffmann, D., Hoffmann, I., & El-Bayoumy, K. (2001). [“The Less Harmful Cigarette: A Controversial Issue. A Tribute to Ernst L. Wynder.”](#) *Chemical Research in Toxicology*, 14, 7, 767–790.
- 12 Song, M.-A., Benowitz, N. L., Berman, M., et al. (2017). [“Cigarette Filter Ventilation and its Relationship to Increasing Rates of Lung Adenocarcinoma.”](#) *Journal of the National Cancer Institute*, 109, 12.
- 13 Pauly, J. L., Allaart, H. A., Rodriguez, M. I., & Streck, R. J. (1995). [“Fibers Released from Cigarette Filters: An Additional Health Risk to the Smoker?”](#) *Cancer Research*, 55 (2): 253–258.
- 14 Belzagui, F. et al. (2021). [“Cigarette butts as a microfiber source with a microplastic level of concern.”](#)
- 15 Florida House Bill 105, [“An act relating to the regulation of smoking by counties and municipalities; revising the title of part II of ch. 386, F.S.; amending s. 386.201, F.S.; revising a short title; amending s. 386.209, F.S.; authorizing counties and municipalities to further restrict smoking within the boundaries of public beaches and public parks under certain circumstances; providing an exception; amending ss. 381.84 and 386.211, F.S.; conforming provisions to changes made by the act; providing an effective date.”](#) Florida House of Representatives.
- 16 Brooker, J. P. (August 16, 2022). [“Florida Model Cigarette Ordinance.”](#) Ocean Conservancy.
- 17 California Assembly Bill 1690, [“AB-1690 Tobacco products: single-use electronic cigarettes.”](#) California Legislative Information.
- 18 Martinez, C. (January 25, 2022). [“No ifs, ands or butts: California bill would ban single-use smoking products like cigarette filters.”](#) *Los Angeles Times*.
- 19 UN Environmental Programme (December 20, 2021). [“From birth to ban: A history of the plastic shopping bag.”](#) *UNEP.org*.
- 20 Rachelson, D. (December 4, 2017). [“What is Recycling Contamination, and Why Does it Matter?”](#) Rubicon Blog.
- 21 Vedelago, C. & Dowling, J. (November 8, 2022). [“Coles, Woolworths recycling scheme collapses after secret stockpiles revealed.”](#) *Sidney Morning Herald*.
- 22 [“Attorney General Bonta Demands Manufacturers of Plastic Bags Substantiate Recyclability Claims.”](#) (November 2, 2022). State of California Department of Justice Press Release.
- 23 Clapp J. & Swanston, L. (2009). [Doing away with plastic shopping bags: international patterns of norm emergence and policy implementation](#), *Environmental Politics*, 18:3, 315-332.
- 24 [“An Analysis of the Impact of Single-Use Plastic Bags: Options for New York State Plastic Bag Legislation.”](#) (January 13, 2018). New York State Plastic Bag Task Force Report.
- 25 [“State Plastic Bag Legislation.”](#) (February 8, 2021). National Conference of State Legislatures.
- 26 Homonoff, T., Kao, L.-S., & Seybolt, C. (September 2018). [Skipping The Bag: Assessing the impact of Chicago’s tax on disposable bags.”](#)
- 27 [City of San Jose Releases “Bring Your Own Bag” Ordinance Implementation Results](#), (January 20, 2013). City of San Jose Blog.
- 28 Gibbens, S. (January 2, 2019). [“A brief history of how plastic straws took over the world.”](#) *National Geographic*.
- 29 Lee, J. (August 17, 2015). [“How Did Sea Turtle Get a Straw Up Its Nose?”](#) *National Geographic*.
- 30 DSM Environmental Services, Inc. (August 2022). “Top Ten Plastic Items Found on US Beaches: Estimating US Consumption of Beach Litter Items.”

- 31 United States Environmental Protection Agency. (December 2020). [“Advancing Sustainable Materials Management: 2018 Tables and Figures.”](#)
- 32 Wilcox, C., Mallos, N. J., Leonard, G. H., et al. (2016). [“Using expert elicitation to estimate the impacts of plastic pollution on marine wildlife.”](#) *Marine Policy*, 65, 107-114.
- 33 Neto, A. M., Gomes, T. S., Pertel, M., et al. (2021). [“An overview of plastic straw policies in the Americas.”](#) *Marine Pollution Bulletin*, 172, 112813.
- 34 California Assembly Bill 1884, [“Food Facilities: single-use plastic straws.”](#) California Legislative Information.
- 35 [“Drinking Straw Market.”](#) Data Intelligence. Accessed December 13, 2022.
- 36 [“Puget Sound Coastal Cleanup 2017.”](#) Puget Soundkeeper.
- 37 State of Washington Senate Bill 5022, [“Concerning the management of certain materials to support recycling and waste and litter reduction.”](#) Washington State Legislature.
- 38 [“Polystyrene.”](#) ChemicalSafetyFacts.org. Accessed December 13, 2022.
- 39 Black, M. (September 13, 2021). [“35 Years of International Coastal Cleanup Data Demonstrate a Recyclability Crisis.”](#) Ocean Conservancy Newsroom.
- 40 Baechler, B. (January 11, 2021). [“Microplastics Are Found at the Earth’s Deepest Trough and Highest Peak.”](#) Ocean Conservancy Blog.
- 41 Turner, A. (2020). [“Foamed Polystyrene in the Marine Environment: Sources, Additives, Transport, Behavior, and Impacts.”](#) *Environmental Science & Technology*. 2020, 54, 17, 10411–10420.
- 42 Van, A., Rochman, C. M., Flores, E. M., et al. (2012). [“Persistent organic pollutants in plastic marine debris found on beaches in San Diego, California.”](#) *Chemosphere*, 86, 3, 258-263.
- 43 De Frond, H. (March 30, 2022). [“How Much Trash Can a Trash Trap Trap?: Reflecting on the International Trash Trap Network’s accomplishments, one year in.”](#) Ocean Conservancy Blog.
- 44 Wagner, T. P. (2020). [“Policy Instruments to Reduce Consumption of Expanded Polystyrene Food Service Ware in the USA.”](#) *Detritus* 11–26.
- 45 Maryland House Bill 109, [“Environment – Expanded Polystyrene Food Service Products – Prohibitions.”](#) LegiScan.
- 46 DSM Environmental Services, Inc. (August 2022). “Top Ten Plastic Items Found on US Beaches: Estimating US Consumption of Beach Litter Items.”
- 47 California Senate Bill No. 54, [“An act to amend Section 41821.5 of, to add Chapter 3 \(commencing with Section 42040\) to Part 3 of Division 30 of, and to repeal Section 42064 of, the Public Resources Code, relating to solid waste.”](#) California Legislative Information.
- 48 [“List of California Jurisdictions with Polystyrene Ordinances.”](#) Californians Against Waste. Accessed December 13, 2022.
- 49 Tan, J., Tiwari, S. K., & Ramakrishna, S. (2021). [“Single-Use Plastics in the Food Services Industry: Can It Be Sustainable?.”](#) *Materials Circulation Economy*, 3, 7.
- 50 United States Environmental Protection Agency. (April 2023). [“Facts and Figures about Materials, Waste and Recycling – Plastics: Material-Specific Data.”](#)
- 51 Mallos, N. (November 15, 2021). [“Debunking Foodware Myths on America Recycles Day.”](#) Ocean Conservancy Blog.
- 52 Overbrook Foundation. (February 2020). [“The Dirty Truth about Disposable Foodware.”](#)
- 53 Muncke, J., Andersson, A. M., Backhaus, T., et al. (2020). [“Impacts of food contact chemicals on human health: a consensus statement.”](#) *Environmental Health*, 19, 25.
- 54 Wilcox, C., Mallos, N. J., Leonard, G. H., et al. (2016). [“Using expert elicitation to estimate the impacts of plastic pollution on marine wildlife.”](#) *Marine Policy*, 65, 107-114.
- 55 Ocean Conservancy (2019) [“The Beach and Beyond: 2019 International Coastal Cleanup Data Report.”](#) Ocean Conservancy.
- 56 McAuley, J. (September 19, 2016). [“France becomes the first country to ban plastic plates and cutlery.”](#) *Washington Post*.
- 57 Mallos, N. (November 15, 2021). [“Debunking Foodware Myths on America Recycles Day.”](#) Ocean Conservancy Blog.
- 58 [“D.C. Law 23-211. “Zero Waste Omnibus Amendment Act of 2020.”](#) Council of the District of Columbia.
- 59 [State of Washington Senate Bill 5022.](#)